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Mediterranean Archaeology and Archaeometry
Vol. 22, No 2, (2022), pp. 67-96
Open Access. Online & Print.



DOI: 10.5281/zenodo.6576818

EARLY BRONZE SNAKE MOTIFS ON POTTERY VESSELS AND THEIR SYMBOLISM IN SOUTHERN LEVANT

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Received: 04/05/2022

Accepted: 31/05/2022

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ABSTRACT

Snake symbolism is prevalent throughout recorded history and is seen in cultures vastly separated by distance and time such as from Ancient Egypt to modern Jordan. In the Southern Levant (present day Jordan and Palestine), many objects with snake appliques have been discovered during excavations. Twenty five pieces of pottery sherds and vessels decorated with snake appliques were recorded during various excavations of Early Bronze Age sites in Southern Levant. Ten sherds with snake appliques belonged to unidentified pottery vessels, seven sherds with the appliques were identified from bowls, four appliques were found on storage jars, three appliques were found on jugs, one from a cooking pot and one appliquéd chalice. The greatest number of pieces comes from Khirbet ez-Zeraqon, followed by Bab Edh Dhra', Jebel Al-Mutawwaq, Khirbet Ras Ed Daliya, Khirbet el Kerak, Khirbet al-Batrawy, 'Arad, and Tel el-Qadi respectively. This study aims at examining the pieces to try to get a deeper understanding of how these separate sites had represented the image of the snake and where they typically place the snake on the object and with what behavior the snake is exhibiting in order to understand how these jars may have been used or what may have been placed inside the vessels or objects. A catalogue is included herein with 25 documented snake appliques with an overview of the sites they were recovered from, their type, their archaeological context, and references. Since most of these pieces were either found in temples or religiously related places in private houses, they were most probably used in certain cultic rituals or in activities relates to cultic beliefs. In conclusion, the preponderance of evidence suggests that some vessels may have been used for cultic purposes while others may have been used to hold things of value.

KEYWORDS: Early Bronze Age, snake appliqué, snake motifs, jars, snake deity, serpent, symbolism, magic creature, snake cult, Khirbet ez-Zeraqon

1. INTRODUCTION

Decoration of pottery vessels by various techniques like painting, incising or by adding appliqués has a long tradition in the world. Decorations may cover the whole vessel or merely a part of the vessel. They may be applied before or after firing in an oven. Besides decorations, some additions are made for structural support or to add functionality to the vessel (i.e. handles and spouts). So decorations of a pottery vessel was defined as any addition to a pottery vessel that is not for the purpose of adding any functional or structural support (Rice 1987, 144-148). One decoration techniques is the use of Appliqué. Appliqués are made from clay like the pottery vessel they will be attached to and become a part of the vessel after firing (Al Daire 2011, 7). They can be added to the exterior of the vessel or to the interior. Different anthropomorphic or zoomorphic types of motifs have been added to vessels by ancient peoples. In the Early Bronze Age in the Southern Levant many examples of snake, animal heads and anthropomorphic applications have been recovered (Fig. 1 and 2). Snake appliqués constitutes the most numerous group (Al Ajlouny 2000).

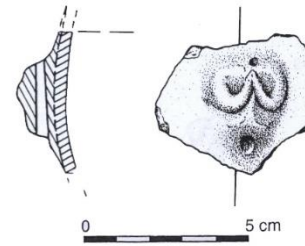


Figure 1. Anthropomorphic appliqué from Khirbet Ez Zeraqon (Al Ajlouny 2000, Tafel 20:22.39)

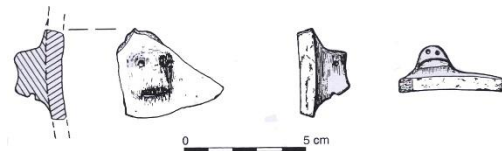


Figure 2. Bull's head appliqué from Khirbet Ez Zeraqon (Al Ajlouny 2000, Tafel 20:22.38)

Snake appliqués recovered from the Southern Levant have been discovered on pottery sherds or vessels from different archaeological sites including 'Arad, Tel el-Qadi, Khirbet el Kerak, Khirbet Ras Ed Daliya, Bab Ed Dhra' Khirbet ez- Zeraqon, Jebel al-Mutawwaq, and Khirbet al-Batrawy (Fig.3).

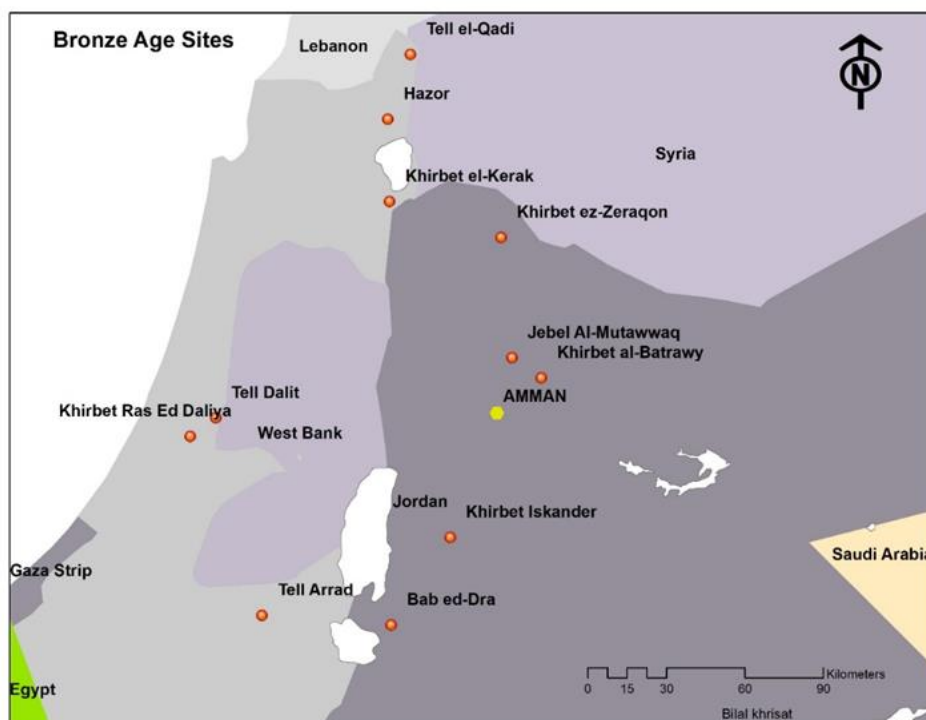


Figure 3. The Early Bronze Age sites where pottery sherds and jars with snake appliqués were found (map made by Dr. Bilal Khrisat).

Most of the sherds or vessels with snake appliqués have been recovered in shrines or related religious

areas (McDonald 1989, 119). That is to say, some of the domestic locations where snake appliqués have

been recovered were cultic in nature. For example, in Khirbet ez Zeraqon and in the lower city, the domestic area, a number of unique figurative pieces were recorded together with a cooking jar decorated with snake appliqué (Catalogue no.11; see **APPENDIX** for the CATALOGUE). The room (see **Figure 5**) (R2 in B1.3), was considered by excavators as a part of private cult house. It was larger than the adjacent rooms and has some remarkable features like a bench (Al Ajlouny *et al.*, 2011, 103-106).

This phenomenon raises several questions related to the meaning of the snake:

- 1) *What symbolism could have the snake represented?*
- 2) *Could the vessels with snake appliqués have been intended for use in ritual practices or ceremonies?*
- 3) *Was the snake symbolism a widely-recognized cultic phenomenon or was it localized to a small region?*

An accomplishment of this study is the publishing of the catalogue containing the eight heretofore unpublished pottery sherds and vessels decorated with snake appliqués from the Early Bronze Age site of Khirbet ez-Zeraqon in the north of Jordan. In total, 25 objects with snake appliques have been organized and recorded in the catalogue. Khirbet ez-Zeraqon is an Early Bronze Age settlement in North Jordan, some 13 kilometers northeast of the current city of Irbid. During the second phase of the Early Bronze Age, the site was erected as a fortified site, and by the end of the third phase, it had grown into a great city (Mittmann 1994, 10). The site, as compared to other Early Bronze Age sites, produced the greatest number of figurative miniature pieces (Al Ajlouny *et. al.* Al 2011, 89).

These eight pieces with snake appliqués were studied together with similar sherds and vessels from the Early Bronze Age sites in Southern Levant. This was the first endeavor to bring together contemporary artifacts with snake appliqués from the Southern Levant. A catalogue of twenty-five pieces has been presented to provide an overview of the sites they were recovered from, their type, their archaeological context, and references. Therefore, this article is an attempt to study the function of these vessels and to highlight some of the religious aspects of the lives of dwellers of the third millennium BC in the Southern Levant. This collection of remarkable pieces shares traits with other pieces from the Near East. It must also emphasize that the snake has played a very important role in religion and rituals in the whole world and through different ages. Similar pieces from other sites in Iraq and other sites globally have been depicted on pottery sherds in similar ways and this is a result of the break of isolation between people of the third millennium. Trade started to flourish on large scale in the Early Bronze Age and as a result of the acceleration of commercial

relations, new types of pottery and decorations were common over geographically extended areas. For example, the existence of the Canaanite vessels in Abydos which were later known as Abydos ware revealed the relations between Egypt and the Southern Levant (Bentor 1992, 119-120).

The inhabitants of the third millennium BC established commercial relations with Egypt, Mesopotamia, Syria and even farther regions, like Anatolia, Caucas and Armenia. The People of Southern Levant exported different kinds of goods to Egypt, like Dead Sea products, copper from Finan, olive oil and pottery vessels. Southern Levant played the role of commercial mediator between Syria, Egypt, Mesopotamia and Anatolia (Weippert 1988, 174-176). The paper also deals with the development of the image of the snake in different civilizations.

2. THE DUALISTIC IMAGE OF THE SERPENT ACROSS CULTURES AND ITS USE IN HEALING

Human animal interaction has always been an important subject for many scholars. Animals have played an important role in the lives of human-beings both in positive and negative ways. Reptiles and amphibians are and have been among animals that were considered fundamental in affecting human health and wellbeing in positive and negative ways. They have been used in private and public realms (Demetrioff 2020, 4). Animals have been regarded as symbolic or anthropomorphized in Northeast America or considered as gods in animal form in Ancient Egypt, and snakes have been used in different cultures symbolizing religious or social powers (McDonald 1989, 2).

Snakes have always been regarded as one of the most ambiguous and impressive creatures. Küster the German scholar, for example, started his book about snakes in Greek art and religion by citing the famous quote of the 19th century classicist F.G. Welcker, who said that snake is the most ambiguous animal (*das vieldeutigste*). Küster continued saying that the uniqueness of the snake can never be seen in any other creature in the whole world. These characteristics, that evoked fear and mystery, have not only bewildered the most primitive societies, but have also done the same with highly civilized societies and snakes still play roles in the lives of people to this day (Küster 1913, 1).

A snake can be a most unusual creature because it moves along the ground despite the fact that it has no legs to run with, yet the black mamba can slither at speeds reaching 19 km per hour or faster than some men can run (*britannica.com*). It is more than capable to swim in water though it has no fins and

can travel from branch to branch through trees without wings (Lawrence 1978, 134). They have no arms or limbs, yet they can choke their prey to death. Snakes have teeth and fangs, yet they swallow their prey whole without chewing. The body of the snake is long and slender; plain to see, yet those same traits are why they become so difficult to see in the brush. They have eyes, but they 'see' with their tongues and their pits. Some lay eggs, yet some give live birth. Their slithery behavior belies their muscular strength. They are treacherous; even the severed head of a snake can still bite up to 90 minutes after decapitation (Peterson & Talcott 2013, 784).

Snakes can perform duties as the attendant spirit of the dead, as a fertility symbol, as a friend of a person in a house, as grandfathers of legendary figures, as custodian of healing processes and they have often been associated with healing gods like Asclepius. They were used for rodent control and have served as guardians of tombs (Kitchell 2014, 173). The dualistic nature of the snake was also clear in the field of medicine. Their toxins can deprive people of life and yet can bring recovery. One of the ancient Egyptian papyrus called Ebers talked about a fat removed from black snakes used as a part of *materia medica* (Lawrence 1978, 134).

Theriac is a medicinal compound used as antidote to snake venom or other poisons and is a very important compound in medicine. Anytime a poisoning is involved, theriacs are used to reverse the poisoning, and most are derived from snake venoms. Many of the vessels that had snake appliques, contained a concoction of viper flesh or what evolved into Theriac (McDonald 1994, 21).

Throughout time, cultures have dealt with the representations of the snake in different ways even within homogenous cultures. Some have represented the snake as energy because of its wave-like movements (Stewart 1998, 348) and therefore many of the traits of the snake have become endowed with deep and great mysteries. Still others regard the snake as evil because it brings death and destruction through its deceitful nature. Societies of the ancient Near East have attributed two different symbolic roles to them; serving both as negative and positive symbols. The following are some brief examples of where snakes have been included in myths and cultures.

2.1 Egypt

In ancient Egypt, snake symbolism demonstrates the most apparent contrasts between worship on the one hand and abhorrence on the other. Its rapid movements, beauty, danger and mystery summoned worship and hatred at the same time. As cosmic animal it was considered as one of the great powers of

creating. Ogdoad for example are the eight deities who represented the primordial chaos before the emergence of the sun-god. The male deities have frog-like heads, whereas the four goddesses have snake-like heads. These divinities can appear as baboons greeting the rising sun when the sun-god is represented as being created. The Egyptian understanding of the creative force as parthenogenetic is revealed by the concept of these deities in pairs. The Ogdoad are envisioned as cosmic beings. The serpent ken-pervasive Atef's creative power provides the impetus for this event. Kem-Atef is the form of the deity Amun as ancient snake deity whose name means "he who accomplished his moment". At the end of one's life he reinvents himself and starts new cycle as the snake sheds its skin. Their main cult where the sun-god is worshipped was founded on the island of Khemu today known as Al Ashmunein (Hart 2005, 20-21, 113). During the season of harvesting the wheat and pressing the wine, sacrifices were offered to the goddess of harvest Thermuthis which was represented as a woman with snake's head (Lurker 2000, 96). Amun appeared in the form of the snake Kemtaf. One of the most venerated goddesses was Wadjet which was the general Egyptian term for cobra, and in that form she became the symbol of royalty and unification. Cobra or Uraeus became the Egyptian ideograph for the concept of immortality (Karen 1974, 19). In some literary resources dated to 2300 B.C. Ouroboros is an ancient symbol depicting the cycle of nature. It is an emblematic serpent with its tail in its mouth, continually devouring itself and being reborn from itself (Lawrence 1978, 134).

The Egyptian book of the dead contains many serpent demons winged or rearing up and spitting up fire. One of the vilest demons, or evil powers was the snake Apophis. He was one of the greatest enemies of the great son God Re. Apophis was the serpent of darkness. At the same time, the coiled serpent Mehen was helpful attendant of the sun God Re (Lurker 2000, 96-97). Concerning the use of the snake in medical world, there has always been a relationship between snakes and healing. For example, a workman on the Necropolis of Thebes had the goddess coming to him in the form of the snake to cure his illness (Bunn 1967, 617). Thebes, the totem of which was snake, was the most famous health center in ancient Egypt (Güner *et. al.* 2019, 172).

2.2 Mesopotamia

In Mesopotamia, the image of the snake also served for both the negative and the positive aspects. The Sumerian god of spring vegetation, Tammuz, was linked with the image of the snake. Tammuz and his mother were called great serpent of heaven (Langdon 1964, 78). The negative side of the snake

was presented in the Babylonian creation epic (the *Enuma Elish*). Primeval monster serpents caused a great chaos in heaven. They are headed by a female serpent called Tiamat. At the End the chaos declined as Tiamat is killed by Marduk, the champion deity, and her body is cast out of the presence of gods. Half of her body formed the seas and the other half forms the sky (Jacobsen 1977, 175).

The snake, in the form of the God Ningizzidia, is linked with fertility, rejuvenation healing. The God Ningizzidia, whose characteristics sometimes changed through different periods due to political or some other reasons, was the protector of Gudea. His position declined after the death of Cudea. However, his cult remained at least till the end of the third Dynasty of Ur. Later, he was known as the deity of healing with exceptional magical powers. In some astrological texts his name was identified with other gods like the Sherah. Both of them inhabited the underworld and had ophidian characteristics. Ningizzidia was normally known as the son of Ninanzu and his wife Ningirida. Ningirida and her husband Ninanza were both related to the underworld. He was known to cure diseases and drive out evil (Van Buren 1934, 60-64).

2.3 Phoenicia

In Phoenicia, Ugaritic texts like UT 607 and UT 608 do not indicate that snake was a deity or cultic symbol. However, there is a deity whose name is *Ušharais* attested in the Ugaritic pantheon. This might be identified as a snake goddess. This goddess was said to receive offerings in some Ugaritic texts. This deity with different roles ranging from love and war goddess in Alalakh and mother goddess for Hurrians attested across wide geographical areas in ancient Near East (Koh 1994, 4-6).

2.4 Greek and Roman cultures

Concerning Greek and Roman cultures, snakes were very often used in different spheres. They were frequently depicted in art and myth. The snake seems to have played multiple roles related to good and evil. Snakes were seen as enemies or opponents of heroes and gods. They can guard the whole city as the divine snake of Athenian Acropolis (Rodríguez Pérez 2021, 1). The snake has been associated with divinity, fertility, and death. One of the most famous figures of Greek mythology is Medusa. The head of Medusa used to be one of the most important decorative elements not only in Greek and Roman Art, but also in Near Eastern artistic works and monumental architecture in Nabataean, Palmyrene, and Hatra Kingdom in Arabian world. It has been depicted in various carved facades at Nabataean sites,

such as Petra, Hegra, Khirbeth al-Dharih, Khirbet Tannur and Hauran (Almasri et. al., 2018, 95).

Medusa carries in its representation the greatest paradox. The abstract ideas of beauty and horror can be combined in its image. What cannot be denied is the power of the image of Medusa to fascinate over time. It attracts people and it causes feeling of disgust at the same time. She is also called Gorgon and was one the three monstrous Gorgons, normally depicted as winged human female with living venomous snakes in place of her hair (Lazarou 2019). Those who gaze into her eyes would turn into stone. Diverse mythological stories and a great number of ancient artistic works had Medusa as a common symbol since prehistoric ages. However, it reached high point in archaic period Greek period. It is one of the three sisters of Gorgons. Gorgonians is the decapitated head of Medusa. Her looking into somebody can change him into stone. Medusa was mortal whereas her sisters were immortal. (Lazarou and Liritzis, 2022). Medusa was beheaded by the Greek hero Perseus, who used her head, which has the power to petrify people, as a weapon. He gave it to the goddess Athens to place it on her shield. Therefore, she caused fear and protection at the same time. Today, the global fashion icon, Versace uses this iconography as their logo.

Asclepius is also a main representative of divine healing throughout antiquity. He was highly appreciated as a significant part of ancient medical healing. He has not only been accepted by all physician in ancient antiquity, but was worshipped as a god. His story as a god starts in the 6th century BC as a minor deity serving needs of travelling Greek physicians. His power developed until he was appointed as Zeus Asclepius and his cult was predominant. His cult declined in the 5th and 6th centuries A.D. as a result of conversion into Christianity. However, he is still the main symbol of medicinal healing today (Hart 1965, 232). It is probably the most enduring iconography of snakes from the Greek period is the snake accompanying Asclepius the Greek God of Medicine, which is still use to this day in the field of medicine as a symbol of healing (Lawrence 1978, 134-135). The Caduceus is also an ancient Greek wand with two serpents entwined around it and it was carried by the God Hermes. However, Hermes may have negative some connotation since he was protector of thieves. Some have wrongly used the symbol of the Caduceus in pharmacy and healing sciences (Retief, 2010).

2.5 Old Testament

Koh cites at least six references in the Old Testament of a snake or snake iconography in Israelite religion-cultural milieu: *Genesis* 3:1-6; *Exodus* 4:3-4 and 7; *Numbers* 21:6-9; *2 Kings* 18:4; *Isaiah* 6:1-7. According

to him, at least three of them have possible connections with a snake cult in Canaan. Genesis 3 speaks about the condemnation of the serpent because he appeared to Eve to entice her to break God's command. It shows how cursed the snake is in the eyes of the God of the Bible. However, in other areas of the text like that found in 2 Kings 18:4, it records that the Israelites were burning incense to the bronze snake that was made by Moses. This is a form of idol worship during the reign of Hezekiah of the Kingdom of Judah. King Hezekiah, rightly-guided, ordered the destruction of bronze snakes to which the Israelites made incense offerings. Finds in the Iron Age II like the horned stone altar with decoration of a twisting snake in Beer Saba', attest the veneration of the snake in Jewish traditions (Koh 1994, 7-11). Therefore, the snake represented both a cursed symbol to a people and a deity to be worshipped by another people.

2.6 Jordan

Within our modern culture in Jordan, the general impression about snakes is to a great extent negative. However, there are some proverbs that show the opposite. For example, People usually say:

Don't come close to the place of the scorpion, but in the place of the snake, spread your bed and sleep comfortably'. On the other hand, they say: A snake beneath the hay' (Farghal 2019, 16)

The first proverb has positive connotation since it suggests that a snake won't disturb a person if the person is calm and doesn't bother it. The second indicates that the snake is lying in hiding waiting for his opportunity to strike. Etymologically, the Arabic word 'Hayyeh' is derived from the root of 'Hayyat' which means 'life'. In the Arabic text *Lisan Al Arab*, Ibn Manzur says, the word Hayyah is the same as serpent and it is derived from the word Hayyah which means life. The word is also derived from 'Hawayat' (meaning encircles in English) and this is taken from the movement of the snake (Ibn Mandhour, 1980, 220-222). Another commonly used phrase in Arabic is 'hayyat al wadi', which is used metaphorically to describe a smart or cunning person, but it really means 'a snake in the valley (Al Bustany 1987, 211)

To conclude, the image of serpent in the different cultures has implied both a cursed symbol and as a symbol associated with worship; renewal and destruction; life and death. The snake serves as a portal between two polar opposites: a line, which if crossed, leads to a destructive path. Reflections of all of these meanings can be found in the world of mankind

which is full of love, hate, sympathy, and malice. The ability of the snake to cause fear and intimidation by crawling on its belly, flicking its sharp tongue and shedding its skin has attracted people since ancient times. Therefore, the snake is an impressive creature to mankind and as a result has become a part of our ritual ceremonies.

3. THE DEVELOPMENT OF SNAKE APPLIQUÉS IN THE NEAR EAST AND SOUTHERN LEVANT AND THEIR RELATION TO ARCHAEOLOGICAL CONTEXT

Ceramic Vessels decorated with snake appliquéés have been recorded in different sites in the Near East since the manufacture of pottery in the Neolithic period. The following examples provide a brief example of the objects encountered.

In the **Diyala** region in Mesopotamia, a great number of pottery fragments and few whole vessels decorated with ophidian motifs were recovered. Some were applied on single or double spouts from Khafagi and Tell Asmar. Many of them were representing snakes moving in wavy lines towards the top of the vessels as if they were drinking some liquid. These types of decorated vessels were not unique to Diyala region. Similar finds were unearthed in Tell ed-Der, Tell Brak, Tepe Jawara, Nuzi, Telloh and Uruk. A pottery jar with a snake appliqué was found in Umm Dabaghiyah in a Neolithic stratum (Kirkbride 1972, Pl. XI :21). These fragments were also found in Iranian sites and Palestinian sites in wide-ranging times (McDonald 1994, 21).

In **Uruk**, in one of the cultic buildings belonging to the Obaid period, a number of pottery sherds decorated with snake applications were recovered (Boehmer 1972, 40F, Pl.51: 190.214-256). They represent snakes in motion. In Tepe Gawra different sherds with snake applications in different periods were unearthed. One of the snakes on a decorated jar belonging to Jemdet Nasr period has a head that is similar to a wheat plant. Three waving snakes decorate the inner part of a lid dated to early Dynastic period. Two rim pieces belonging to the Akkadian period are decorated with snakes in moving action (Speiser 1935, 46, Pl. LXXXVI: 7; Pl. LXXV: 208; Pl. LXXVI: 12).

In **Byblos**, Lebanon a vessel decorated with a snake was recovered. The snake is represented as crawling up on the handle and moving towards the rim. The tongue of the snake comes out from its mouth (Montet 1929, Pl. CLIV: 995). Three beautiful vessels with snake applications come from Tell Brak in the Akkadian-Ur III periods. The snakes in stylized motion depictions found on two of the vessels

were accompanied with scorpions and plants (Malloyan 1947, 230, Pl. LXX). In Jerablus, Tahtani a snake with the appearance of motion decorates the exterior part of the body of a pottery vessel dated to the Early Bronze Age (Peltenberg 1995, 7, FIG. 6). The body of the snake is decorated with small incised circles.

The earliest ceramic sherds or vessels decorated with snake appliqués in Southern Levant came from Chalcolithic period. In fact, studies concerning vessels with applications are few in Southern Levant. Prior to the doctoral dissertation of Diana Macdonald 1989, doctoral dissertation of Sejin Koh 1994, the master dissertation of Wendy Golding in 2013 about snake cult and snake imagery and the paper written by Dr. Andrea Polcaro 2019, there were very few individual studies dealing with snake motifs in Southern Levant. Some sherds with snake appliqués were documented through the archaeological reports and together with some other finds from Early Bronze Age in Southern Levant. Macdonald has made a comprehensive study of serpent imagery of ancient Near Eastern pottery presenting examples from Mesopotamia, Palestine and Iran. Interestingly her study included examples from geographically extended area. Her dissertation investigates the appliquéd serpent imagery found on pottery vessels in Mesopotamia and surrounding areas from approximately 3100 BC to the mid-second millennium BC.

Wendy Golding in her dissertation that was confined to the Bronze Age in ancient Egypt, Mesopotamia and Syria-Palestine, examined the role played by the ancient Near Eastern serpent in apotropaic and prophylactic magic. Utilizing textual and pictorial evidence, as well as artifacts (such as jewelry, pottery and other amulets) bearing serpents, she came to the conclusion that serpents have positive and negative roles as well as roles in healing and protection where magic is often employed (Golding, 2013). A recently published study on snake appliqués in Southern Levant was done by Andrea Polcaro in the book entitled as *Pearls of the Past*. The book, which was written in the honor of Frances Pinnock, contained different articles on Studies on Near Eastern Art and Archaeology. In his study on pots and serpents, Andrea Polcaro gave an excellent analysis of vessels with serpent figurines. He came to the conclusion that these vessels were cultic in nature based on the archaeological context they were recovered from, the iconographic traits and comparative data from neighboring lands. He summarized the development of plastic decoration in Southern Levant during the third and fourth millennium B.C. that is to say in the Chalcolithic and Early Bronze Age periods. Based on the way in which the snakes were depicted on the vessels, he distinguished two types of motifs: the first

one (Type A) with spotted skin, the second one (Type B) with striped skin. According to his study, he suggested that Type A was applied on storage jars and Type B was applied on tableware vessels like jugs (Polcaro 2019). This classification cannot be confirmed completely since the snake appliqué on Arad Jar (Catalogue No. 1 in our study) depicted a moving snake with striped skin.

In the Southern Levant, the earliest examples of snake appliqués come from Chalcolithic contexts. Two snake applications were recovered from the middle levels at Tell Abu Hamid, a site located in the Jordan Valley: one sherd had an applied snake with incised circles on it. The second example was of a snake crawling on the upper part of the body from the shoulder of the jug down to the base (Dollfus and Kafafi 1993, 248, fig. 2: 10-11). These sherds were found in a multi cellular building complex probably with domestic use. Due to the presence of a platform, some distinguished installations, hearth, and traces of wall paintings, one can think of it as a cultic building (Dollfus and Kafafi 1993, 244-245). In Tuleilat Ghassul, a site located north east of the Dead Sea, a number of sherds with snake applications have been unearthed in the sanctuary area of the settlement (Area E) belonging to the Chalcolithic periods. Most of these pieces were concentrated in the two main temples (Temple A and B building). Different kinds of motifs were shown on the body of the snakes. Sometimes the snake body was decorated with small incised circles or circular impressions or reed incisions (Mallon et al., 1934, Pl. 52). A vessel with snake application representing a way snake was recovered in Hujairat al Ghuzlan a few Kilometers north of Al-Aqaba (Al Daire 2011, 47, fig. 46: 8).

Concerning the Early Bronze Age, 25 examples have been recorded (see catalogue). The earliest examples of snake appliqués come from the Jebel Al-Mutawwaq. It is an Early Bronze Age I site, dating to the second half of the fourth millennium B.C. and it is located along the Wadi Az-Zarqa valley. The site dates to the first phase of the Early Bronze Age (EBI). Since 1989, Juan Fernandez-Tresquerres Velsaco has excavated there for more than twenty years and one of the most important discoveries there has been the Temple of Serpents. It is a cultic complex consisting of different structures. In house 76, (the main house of the building) a number of vessels and sherds with snake applications was recovered (Catalogue No. 22-25) (Polcaro *et. al.* 2014, 4-5). Of note, the structure where the sherds with serpents came from possesses special features. The building is placed on the slope of a mountain. It had a covered area with a slab that was used as an altar. A large jar with two serpents was found near it. According to Polcaro, the presence

of large flint scrapers near the slab implied a sacrificial element (Polcaro 2019, 777-778).

In the next two phases of the Early Bronze (EBII-III) and after transition into fully urbanized city states the serpent decorations on pottery were attested in different places in the Southern Levant. The closest place to Jebel Al-Mutawwaq is Khirbet Al Batawry in which we find pottery sherds. This Early Bronze Age site has been excavated since May 2004 by the Rome "La Sapienza" University and the Department of Antiquities of Jordan. It is situated in the Zarqa River Valley, the easternmost river of the Levant, in a strategic position on the ancient road-network. The site was inhabited from 3000 BC to 2000 BC, and then completely abandoned (Lorenzo & Sala 2012, 45-44). One of the outstanding monuments of the site, where pieces with serpents were discovered, was the so-called palace of copper axes. The palace was originally divided into two main wings: the western pavilion and the eastern pavilion. A special room in the western Pavilion with remarkable features and finds is the Pillared Hall L.1040. Two distinguished appliqués attached to two jars of medium size were found in this hall (Catalogue No. 20 and 21). On Catalogue No. 20, the application decorates the shoulder of a rounded medium sized storage jar

with low neck. The body of the snake slithers up with wavy lines towards the rim. The head of the snake with open mouth rests on the shoulder of the jar. The eyes are represented by two deep gouges. The skin is decorated with by pitted incision. On Catalogue No. 21, there are two applied motifs: a scorpion and a snake are attached to the opposite sides of a medium sized jar. The two applications are divided by a wheat spike motif. The presence of the jar with serpent motifs and other objects like axes indicates a cultic usage of the space (Lorenzo, 2016, 142-146).

The site that has the greatest assemblage of snake motifs is **Khirbet ez-Zeraqon** in north Jordan (Catalogue No.s 7-14). It is an Early Bronze city-state of medium size ca. 8 ha. It is located on the eastern slope of a flat hilltop on the western edge of Wadi esh-Shallalleh. It was first identified by Siegfried Mittmann in the early sixties (Mittmann 1970). Three main building complexes of Khirbet ez-Zeraqon are significant to our current research: The first is the temple complex with a temonos wall where five sherds of pottery with snake applications have been recovered (Al-Ajlouny 2000, 129). The second is the palace complex where two pieces with snake applications were unearthed (Fig. 4).

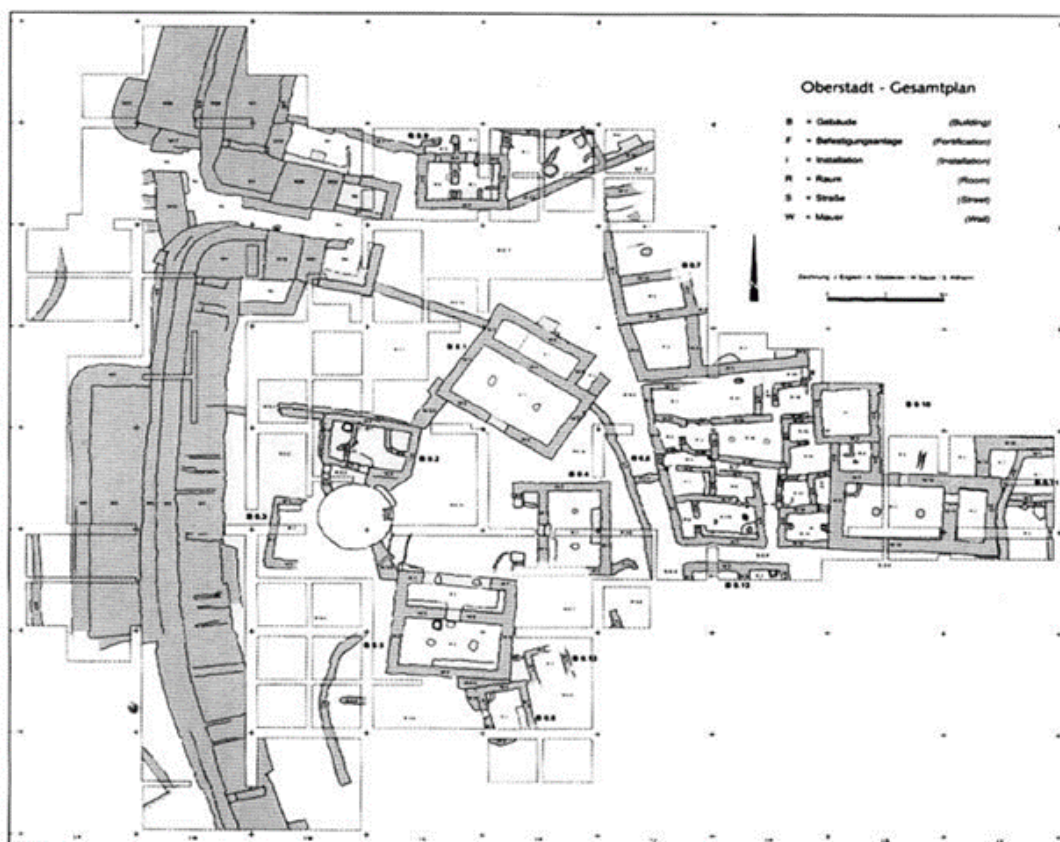


Figure 4. The upper city in Khirbet ez-Zeraqon showing the temple and palace complex (Al Ajlouny *et. al.*, 2011, 94).

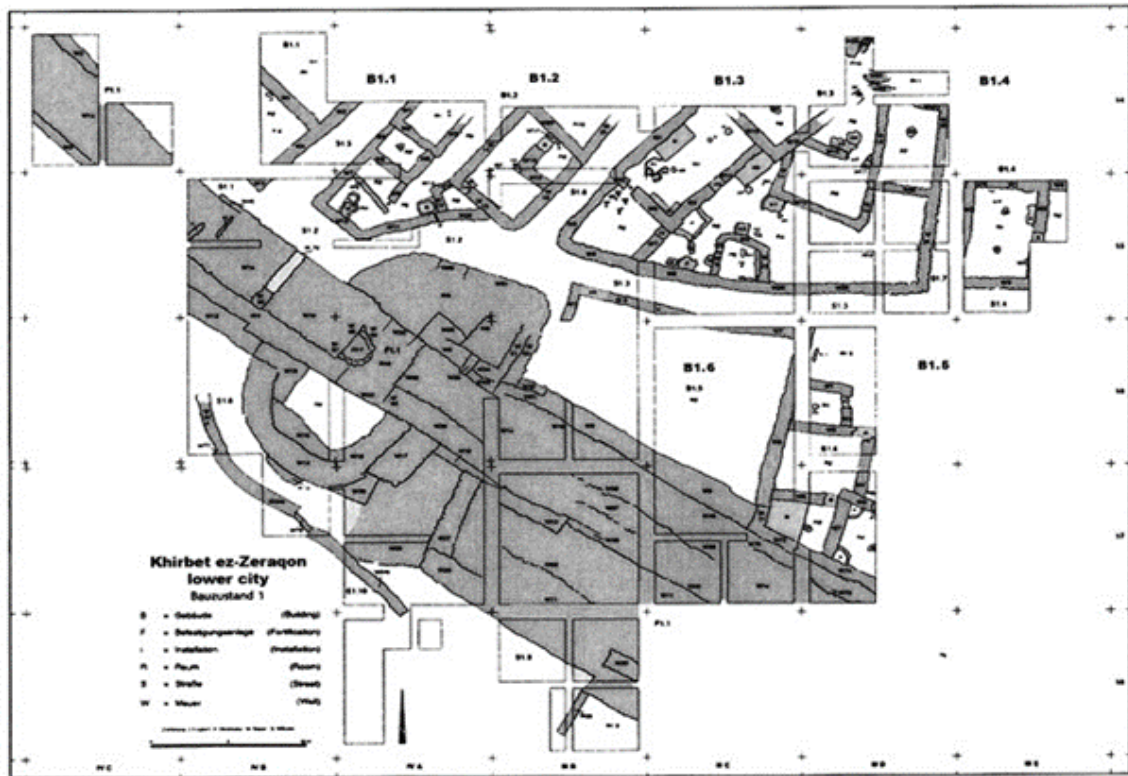


Figure 5. Part of the lower city of Khirbet ez-Zeraqon showing the complex building B1.3. The Discovery of these pieces in these buildings emphasizes the cultic nature of the snake applications (Al Ajlouny et.al., 2011, 95)

The third is a unique building in the lower city of Khirbet ez-Zeraqon called B1.3 (Fig. 5). This building yielded a number of distinguished figurative pieces. Among these pieces is the cooking pot with a snake application (Catalogue No.11, Fig.6). A total number of twenty figurative miniature pieces were recovered in the Lower city in Khirbet ez-Zeraqon. Twelve pieces were discovered in B1.3 building. Among them is the unique piece representing a sacrifice scene (Fig. 7). The special assemblage and some special architectural installations like a bench in this building indicates a kind of private cult (Mittmann 1994; Al-Ajlouny et. al. 2011, 102-107).



Figure 6. The cooking pot with the snake appliqué (© by author)

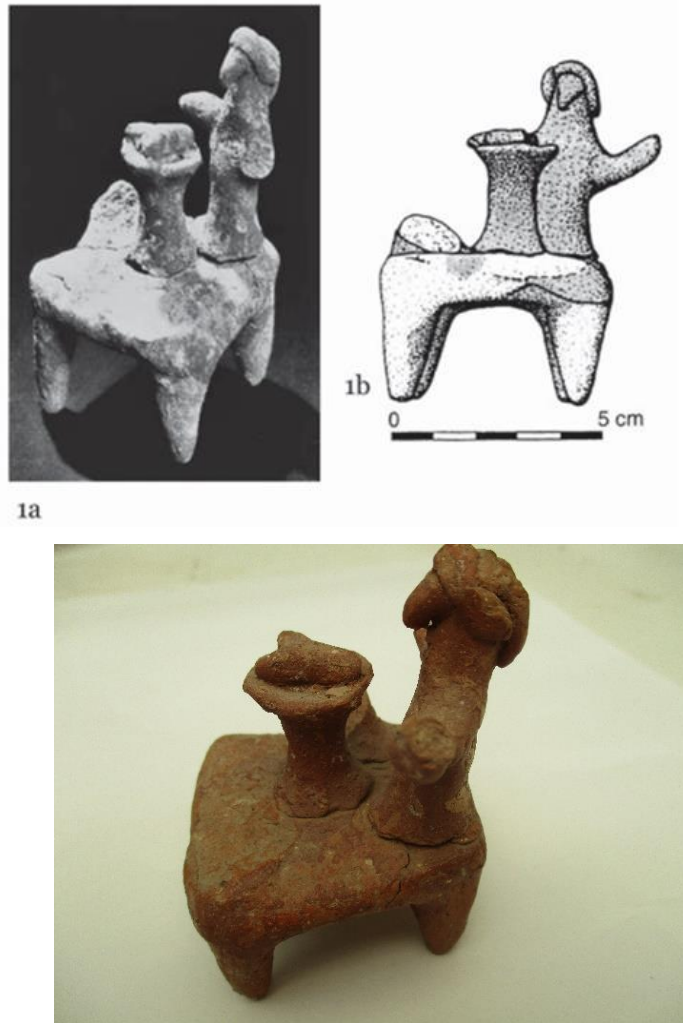


Figure 7. The sacrifice scene figurine from Khirbet ez-Zeraqon (Al Ajlouny *et al* 2011, 114: fig.24.1a & 1b)

Bab Edh-Dhra is another Early Bronze Age site that produced five pieces of pottery sherds with snake applications (Catalogue No. 15-19). Bab Edh-Dhra is located on the eastern coast of the Dead Sea on the edge of Al-Lisan Island. During the 1975-1981 excavations at the town site, five pieces of pottery with snake applications in Area XVI, stratum II were recovered. The building was identified by scholars as cultic (Rast & Schaub 2003, 387-388).

In Khirbet Ras Ed Daliya, two pieces of pottery with snake appliqués were discovered (Catalogue No.s 2-3). Both of the pieces belong to the second phase of the Early Bronze Age (EBII) and were recovered in domestic areas. The site is located in the central coastal area of Palestine approximately 20 km east south of Tell Aviv (Gophna Iron-Luben 1996, 103-108).

In 'Arad, a very distinguished jar with snake application was found (Catalogue No. 1). The site is located approximately 25 km west of the Dead Sea in the eastern part of Beer Es-Saba'. A snake relief that

encircles an entire jar from the shoulder down to the base was found in a large room, considered cultic in nature. The head of the snake sits on the shoulder and its tail ends near the base. The snake body is decorated with straight incised lines (Amiran *et al.*, 1993, 91, Fig. 89).

In Khirbet el-Karak, near the southern coast of Tiberiyya Sea, two pottery sherds with snake application were unearthed (Catalogue No 4-5) (Paz 2014, 252, Fig. 6.10: 45, 46). Catalogue No. 4 is a snake application with its head, which broadens to the top, on the rim as if it wanted to drink or bite from the vessel. Both applications were found in contexts belonging to EBII-III phases (Paz 2014, 252).

In Tell Al-Qadi (Dan), a pottery sherd with snake appliqué was discovered (Catalogue No. 6). It is a site located in northern Palestine, astride the border of Palestine with Syria and Lebanon. It dates to the Early Bronze Age II -III (Greenberg 1996, 142, Fig. 3.38:14).

The provenience of the above mentioned objects clearly reflect a direct connection with cult. Most of the pieces were found in or near to cultic spaces:

Catalogue No.s 7-10 were found in the Temple area of Khirbet ez-Zeraqon (Al Ajlouny *et al.*, 2011).

Catalogue No. 11 was found together with a sacrifice figurine in Building B1.3 in the Lower city of Khirbet ez-Zeraqon, a cultic space (Al Ajlouny *et al.* 2011). This was in the building, which was different in plan from the other buildings in the Lower city and yielded some of the most interesting figurines such as the sacrifice scene (Fig. 7).

Catalogue No.s 12-13 were found in the Palace in Khirbet ez-Zeraqon, a cultic space (Al Ajlouny *et al.* 2011).

Catalogue No.s 14-19 were found in a cultic room in Bab ed Dhra (Rast & Schaub 2003, 387-388).

Catalogue No.s 20-21 were found in the so-called Pillard hall in Khirbet Al-Batrawy, a cultic space (Lorenz, 2016, 142-146).

Catalogue No.s 22-25 All the pieces from Jebel Mutawwaq were found in the Temple of Serpents (Polcaro 2014, 4-5).

The rest of the Catalogue items were found in domestic places.

In addition to the archaeological context of the figurative pieces with snake appliqués, their association with other significant objects might give some hints about ritual ceremonies practiced by ancient people. For instance, the Temple of Serpents in Jebel Al-Mutawwaq produced some artifacts reflecting sacrifice activities (Polcaro 2019, 778). This example together with the remarkable sacrifice scene from Khirbet ez-Zeraqon reflect a strong connection between sacrifice and snake appliqués. The same room in Khirbet ez-Zeraqon has distinguished architectural features and produced other significant pieces together with the cooking pot decorated with snake motif (Al Ajlouny *et al.* 2011 103-106). The pillared hall L. 1040 in Khirbet Al-Batrawy also yielded a number of outstanding objects besides the two jars with snake appliqués. A cache of four copper axes were found in the same place (Nigro 2016, 143).

4. DISCUSSION AND CONCLUSION

There are too many snake mythologies globally to write an in depth assessment here. Presently, the focus on this paper will be narrowed down to discuss the 25 pieces and how they may apply to snake symbolism in the Southern Levant. All of the snake appliqués we examined in this collection were, slithering, winding or straightened. But what does the orientation of the snake reveal to us? If you consider the snake as a layered metaphor; the snake is a master of dualities. Most literature will reveal as much. But other than making an antidote from venom (health

as opposed to death), why have different cultures throughout time considered the snake as a metaphor for duality?

A number of significant points must be taken into consideration to understand the function of the vessels with snake applications. First, is the provenience, the find context of the pieces; 19 of the 25 pieces (76%), were recovered either in temples or in structures that were identified as being most-likely cultic in nature. Secondly, the image of the serpent in all cultures and in many literary resources is mythical, either by accompanying a god, being sent by God (the Old Testament) or because it symbolized the Divine (Ancient Egypt).

The third point is how the snake was shaped or its position on the vessel. The way the snakes were shaped can also give hints about meaning and symbolism. For instance, the appliquéd snake on the 'Arad storage jar (Catalogue No. 1) was formed very carefully. It encircled the jar which implies a kind of protection. The jar may have held valuable contents.

Before we can address these 3 points, we must reconsider another aspect of the snake. Snakes have multiple modes of locomotion of which they rely upon according to the terrain they are traversing such as side winding or slithering (among others). They flick their tongue to catch particles of the air as they slither through their surroundings searching for their prey (Gray, 1946, 101). The mouth of a snake is its only active offensive weapon against predators. The coiled position is a defensive position because the snake maximizes the placement of its mouth nearest to every other part of its body, but just as quickly, the snake can switch from the defensive to offensive with a lightning quick strike at its opponent because the coiled position also maximized the potential energy of the coil. A corollary is that when a snake is fully extended they are most vulnerable at their tails where they have no defenses. For this reason snakes may coil up when basking and resting in the open (Carl 1970, 82). However, when a snake's behavior switches from defensive to aggression, the snake might begin to flatten itself (in an attempt to make itself appear larger), and at the same time, it might raise its head into the air (up to a third of its body length). Thus, when a King Cobra is threatening to lounge at a man, it might meet him eye-to-eye prior to the attempt (www.californiaherps.com).

Now we can analyze four of the snake appliqués which depict snakes slithering towards the rim of the vessel as if the snake were drinking from the contents of the vessel. Drinking serpents were found in Khirbet ez-Zeraqon (Al Ajlouny *et al.*, 2011, 104), Khirbet el Karak (Paz 2014, 252, Bab Edh Dhra' (Rast and Schaub 2003, 291- 294).and Jebel Al-Mutawwaq (Fernandez-Tresguerres 2005, 21-31). The snakes in these

cases were applied in an interesting way crawling from the exterior part on the vessel and looking curiously with staring eyes to the rim of the vessel. The most remarkable among these is the jar from the temple of serpents from Jebel Al-Mutawwaq Catalogue No. 24. What is impressive about this jar is the combination of two types of motifs: the snake and the trees. The motifs were depicted in a complicated way producing a work of art with great symbolism.

For the following set of appliqués, we will consider these three concepts (slithering, coiling, and flattening of the neck while raising its head), we can now focus on our present assemblage. Three of the pieces exhibit a snake in an aggressive position (Catalogues No. 4, 10, 24) (Potentially Catalogue No. 14), with its head reared and its mouth open facing the opening of the jar indicating an aggressive position. The snake is putting its head into the jar as if to partake of what is in it. Or protecting the contents of what is in the jar. On another jar, the slithering or open position of the snake reflects that they have nothing to be defensive against, or on the contrary, they are in a hunting position (Catalogues No. 11 and 20). Which can be interpreted as the snakes are hunting what is inside of the vessels, or said in another

way, the snakes want what is inside the vessels, or said in a third way, the contents of what is inside the vessels is valuable. This could indicate that these vessels are used for ritual or cultic purposes because the attendees may have put precious items within the vessel that were to be shared with others. Catalogues No. 16 – 19 are located in the interior of the vessel uncoiled are presented in the same way as the others; slithering and winding.

Regarding our three questions set forth in the introduction: We have shown that the symbolism of the snake represents protection and for marking something valuable. From the orientation of the snake, the movement of the snakes and the provenience where the objects were collected; these snake appliqués appear to be cultic in nature and especially in consideration with the special places they were recovered from (76% found in Temples or private cultic places). Each of the sites (distributed evenly across the Southern Levant) shows that the potters were using the symbolism of the snake in similar way over a large area. And so study should be conducted which compares these vessels to vessels from Mesopotamia or Egypt for comparison.

CONTRIBUTIONS OF AUTHORS

Conceptualization, F.A. and B.K.; methodology, F.A., B.K., E.M., H.A., A.M. and D.K.; validation, F.A., and H.A.; formal analysis, F.A. and E.M.; investigation, F.A., B.K., E.M., H.A., A.M. and D.K.; resources, F.A. and B.H.; data curation, F.A.; writing – original draft preparation, F.A., E.M, H.A. and A.M.; writing – review and editing, F.A., B.K., E.M., H.A., A.M. and D.K.; visualization, F.A., B.K. and H.A.; supervision, F.A., B.K., E.M., H.A., A.M. and D.K.; project administration, F.A., E.M. and B.K.; funding acquisition, F.A. and B.K. All authors have read and agreed to the published version of the manuscript.

ACKNOWLEDGMENT

The authors would like to express their immense gratitude to the directors of the excavation of Khirbet Ez Zeraqon: the deceased prof. Siegfried Mittmann and Prof. Dr. Moawiyah Ibrahim for their permission to publish the eight pieces with snake appliqués unearthed at the Early Bronze Age site. We thank the anonymous referees for constructive comments.

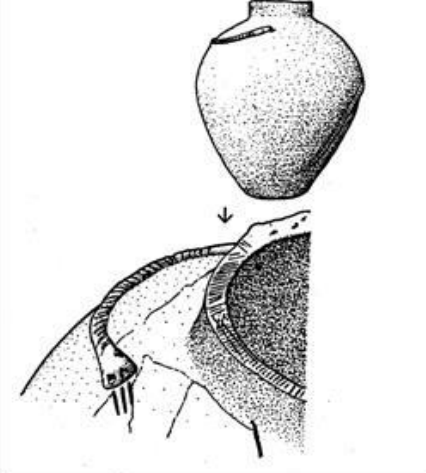
REFERENCES


- Al-Ajlouny, F. (2000). *Die Figürlichen Tonplastiken der frühen Bronzezeit in Palästina*. PhD Dissertation, Department of Sustainable Tourism, Queen Rania Faculty of Tourism and Heritage, The Hashemite University (unpublished) (unpublished).
- Al-Ajlouny, F.; Douglas, K., Khrisat, B. (2011). Spatial Distribution of the Early Bronze Clay Figurative Pieces from Khirbet ez-Zeraqon and its Religious Aspects. *Ancient Near Eastern Studies (formerly AbrNahrain)* vol.48, p. 88-125.
- Almasri, I., Mustafa, M. Bala"awi, F. & Al Rousan, R. (2018). Medusa in Nabataean, Hatran and Palmyrene Cultures. *Mediterranean Archaeology & Archaeometry*, 18(3), pp.89-102
- Al-Bustany, B. (1987). *Muhheet Al Muheet. A Prolonged Dictionary for Arabic Language*. Lebanon. MaktabitLubnan. (Arabic).
- Al-Daire, J. 2011. Pottery Decoration from its beginning in the Neolithic Period to the End of the Early Bronze Age III in Jordan. *Ugarit* -Verlag, Münster.
- Amiran, R., O. Ilan, M. Sebane. (1993). Ancient Arad. An Early Bronze Age Community on the Desert Fringe. *Israel Exploration Society* (Tel Aviv) in Hebrew.

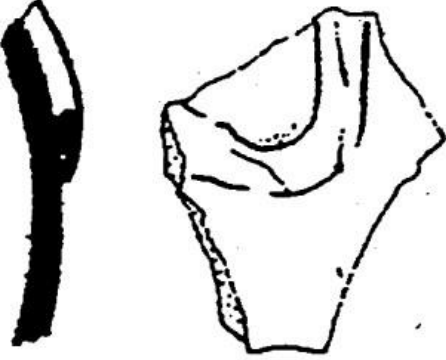
- Anati, E. (1963). *Palestine before the Hebrews. A History, from the Earliest Arrival of Man to the Conquest of Canaan*. New York.
- Andrew, C. (1994). *Amulets of Ancient Egypt*. University of Texas Press.
- Baldwin, M. (1995). The Snakestone Experiments. An Early Medical Debate. *ISIS*, Vol. 863, pp. 394-418.
- Bent-Tor, A. (1992) The Early Bronze Age. In: A. Ben-Tor (ed.), *The Archaeology of Ancient Israel*. The Open University of Israel, pp. 81-125
- Bunn JT. (1967). Origin of the caduceus motif. *JAMA*. 1967 Nov 13;202(7):615-9. PMID: 4863068.
- Boehmer, R.M. (1972). *Die Keramik Funde im Bereich des Steingebäudes*. In: Jürgen Schmidt, Jürgen and Deutsches Archäologisches Institut Abteilung Baghdad (1972). XXVI. und XXVII. Vorläufiger Bericht über die von dem Deutschen Archäologischen Institut und der Deutschen Orient-Gesellschaft aus Mitteln der Deutschen Forschungsgemeinschaft unternommen Ausgrabungen in Uruk-Warka : 1968 und 1969, p. 31-43. Berlin. Gebr. Mann Verlag.
- Carl, G. (1970) How Snakes Move. *Scientific American*. 222 (6), pp. 82-99.
- Demetriooff, J (2020). Ambiguous Snake Manipulation: The “Powers” and Entity of Health in Antiquity. *Electra. A publication of the centre for the Study of Myth and Religion in Greek and Roman Antiquity. Department of Philology, University of Patras, Greek*. No. 5. P. 4-29
- Dollfus, G. & Z. Kafafi. (1993). Recent Researches at Abu Hamid. *Annual of Department of Antiquities of Jordan XXXVII*, pp. 241-255
- Fernandez-Tresguerres, J.A. (2005). El “Templo de las Serpientes”: Unsantuario del Bronce Antiguo I en poblado de Jebel al-Mutawwaq (Jordania). *ISIMU* 8, pp. 9-34.
- Gans, C (1970) How Snakes Move. *Scientific American*, vol. 222, no. 6, pp. 82–99., www.jstor.org/stable/24925828. Accessed 8 May 2020.
- Genz, H. (2002). *Die frühbronzezeitliche Keramik von Hirbetez Zeraqon Mit Studien zur Chronologie und funktionalen Deutung frühbronze zeitlicher Keramik in der südlichen Levante*, (Dissertation, Tübingen), Harrassowitz Verlag (Wiesbaden)
- Golding, W. R. J. (2013). *Perceptions of the Serpent in the Ancient Near East: Its Bronze Age Role in Apotropaic Magic, Healing and Protection*, Unpublished M.A. Dissertation, University of South Africa
- Gophna, R. (1996). *Excavations at Tel Dalit. An Early Bronze Age Walled Town in Central Israel*. Tel Aviv, Ramot Publishing.
- Gray, J. (1946). The Mechanism of Locomotion in Snakes. *Journal of Experimental Biology* 23. pp. 101-120.
- Greenberg, R. (1996). The Early Bronze Age Levels. In: A. Biran, D. Ilan & R. Greenberg (eds.), Dan I, *A Chronicle of the Excavations, the Pottery Neolithic, the Early Bronze Age and the Middle Bronze Age Tombs*. (Annual of the Nelson Glueck School of Biblical Archaeology, Jerusalem), pp. 83-160.
- Güner, Ekrem & Seker, Kamil & Guner, Sebnem. (2019). Why is the Medical Symbol a Snake?. *Istanbul Medical Journal*. 20. 172-175. [10.4274/imj.galenos.2018.65902](https://doi.org/10.4274/imj.galenos.2018.65902).
- Hart, G.D., (1965). Asclepius, god of medicine. *Canadian Medical Association Journal*, 92(5), p.232.
- Hart, G.D., (2005). *A dictionary of Egyptian gods and goddesses*. Routledge.
- Langdon, S, H. (1964). *The Mythology of all Races*. Volume V: Semitic, ed. John Arnott MacCullah. New York: Cooper Square Publishers.
- Ibn Mandhour, A. (1980). *Lisan Al Arab (Arab Tongue)*. Volume 14. Beirut, Lebanon. Dar Sadir (Arabic), pp. 220-222.
- Jacobson, T. (1977). *Mesopotamia: The Cosmos as a State, in The Intellectual Adventures of Ancient Man*. Chicago: University of Chicago Press.
- Karen, R. (1974). *Serpent Symbolism in the Old Testament: A Linguistic Archaeological, and Literary Study*, Hadenfield.
- Kirkbride, D. (1972). Um Dabaghiyah 1971: a Preliminary Report. An Early Ceramic Site in Marginal North Central Jazira, *Iraq* 34, pp. 3-15.
- Kitchell Jr., K. F., (2014) *Animals in the Ancient World from A-Z*, London & New York.
- Koh, S. (1994). *An Archaeological Investigation of the Snake Cult in Southern Levant: The Chalcolithic Period Through the Iron Age*. A Dissertation Submitted to the Faculty of the Division of Humanities in Candidacy for the Degree of Doctor of Philosophy. Chicago, Illinois.
- Lazarou, A., & Liritzis, I. (2022). Gorgoneion and Gorgon-Medusa: A Critical Research Review. *Journal of Ancient History and Archaeology* 9 (1), pp.47-62.
- Lazarou, A. (2019). Golden Gorgon-Medusa Art Work in Ancient Hellenic World. *Scientific Culture*, vol. 5 (1). 1-14
- Küster, E (1913). *Die Schlange in der griechischen Kunst und Religion*. Gießen: Töpelmann.

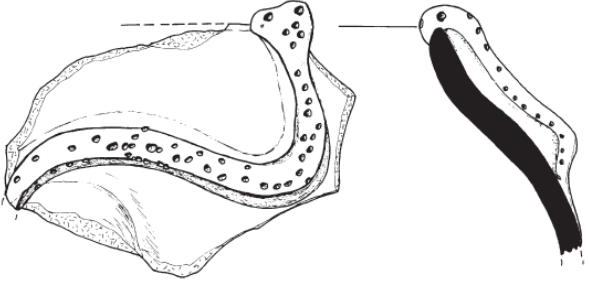
- Lawrence, Ch. (1978). *The Healing Serpent-The Snake in Medical Iconography*. Ulster Medical Society.
- Lurker, M. (2000). *The Gods and Symbols of Ancient Egypt. An Illustrated Dictionary*. Thames and Hudson. Translated by Salah Eddin Ramadhan and Mahmoud Mahir. MaktabtMadbulu (Arabic)
- Mallon A., R., Koepffel & R. Neuville, (1934). *Teleilat Ghassul*. I. Rome.
- Mallowan, M.E.L. (1947). Excavations at Brak and Chagar Bazar. *Iraq* 9: p. 1-266.
- McDonald, D. K. (1989). *Serpent Imagery on ancient Near Eastern Pottery*. Dissertation. Columbia University.
- McDonald, D. K. (1994). "The Serpent as Healer: Theriac and Ancient Near Eastern Pottery". Source: Notes in the History of Art 13.4 (1994): 21-27.
- Mittmann, S. (1970). *Beiträge zur Siedlungs- und Territorialgeschichte des nördlichen Ostjordanlandes*. Wiesbaden.
- Mittmann, S. (1994). *Hirbetez-Zeraqon: Eine Stadt der frühen Bronzezeit in Nordjordanien*, *Archäologie in Deutschland* 2/1994, pp. 10-15.
- Montet, P. (1929). *Byblos et L'Égypte. Quatre Campagnes de Fouilles A Gebeil 1921-1922-1923-1924*. Paris, Librairie-Orientaliste Paul Geuthner.
- Nigro, L. (2016). Khirbat al-Batrāwī 2012-2013: The City Defenses and the Palace of Copper Axes. *Studies on the History and Archaeology of Jordan*. Vo. 12: 135-154
- Nigro, L. Sala, M. (2012) Preliminary Report on the Seventh Season of Excavations by "La Sapianza" University of Rome at Khirbet al-Batrāwī, Upper Wadi az-Zarqa. *Annual of Department of Antiquities of Jordan* 56, pp. 45-53.
- Paz, S. (2014). The Small Finds. In: Greenberg, R. (ed.). Bet Yerah, The Early Bronze Age Mound II: Urban Structure and Material Culture, 1933-1986. *IAA Reports* 54, pp. 235-298.
- Pearn J. (2011) Agathos Daimon and the Asklepiian serpent. *Vesalius: Acta Internationales Historiae Medicinae*, 17(1), pp. 4-9.
- Peltenburg, E. J., S. Campel, P. Croft, D. Lunt, M.A. Murray, & M.E. Watt. (1995). Jerablus-Tahtani, Syria, 1992-4: Preliminary Report, *Levant* XXVII, pp.1-28.
- Peterson, M.E. & Talcott, P.A. (2013). *Small Animal Toxicology, 3rd Edition*. Elsevier Saunders.
- Polcaro A., Muñoz J., Alvarez V., & Mogliazza S. (2014) Dolmen 317 and its Hidden Burial: An Early Bronze Age I Megalithic Tomb from Jebel al-Mutawwāq (Jordan). *BASOR* 372, pp.1-17.
- Polcaro, A., Muniz, J., Alvarez, V. (2014). The New Spanish-Italian Expedition to the EB I site of Jebel al-Mutawwāq, Middle Wadi az-Zarqa, Jordan: Preliminary Results of the 2012-2013 Campaigns: In Rolf A. Stucky et al. (eds.). *Proceedings of the 9th International Congress on the Archaeology of the Ancient Near East, 9-13 June 2014, Basel*, Harrassowitz Verlag Wiesbaden.
- Polcaro, A. (2019). *On Pots and Serpents: An Iconographic and Contextual Analysis of the Cultic Vessels with Serpent Figurines in the 4th -3th Millennium BC Jordan: 775-793*. In Pearls of the Past Studies on Near Eastern Art and Archaeology in Honor of Frances Pinnock, D'Andrea, M., Gabriella, M., Nadali, D., Pizzimenti, S., Vacca, A. (eds.) Zaphon, Münster.
- Pritchard, J. (1943). *Palestinian Figurines in Relation to Certain Goddesses Known Through Literature*. New Haven, Connecticut: American Oriental Society
- Rast, W.E. & R.T. Schaub, (2003). *Bab Edh-Dhra Excavations at the Town Site (1975-1981)*. The Expedition to the Dead Sea Plain. Part 1: Text. Part 2: Plates and Appendixes, Eisenbrauns.
- Retief, F.P. and Cilliers, L. (2010). Snake and Staff Symbolism in Healing. *Acta Theologica*. Vol. 26(2), pp. 553-556.
- Rice, P. M. (1987). *Pottery Analysis. A sourcebook*. The University of Chicago Press.
- Rodríguez Pérez, D (2021). The Meaning of the Snake in the Ancient Greek World. *Arts*, 10, 2. pp.1-26
- Speiser, E.A. (1935). Excavations at Tepe Gawra I. Levels I-VIII. Philadelphia University of Pennsylvania Press.
- Stewart, W. (1998). *Dictionary of Images and Symbols in Counselling*. London and Philadelphia, Jessica Kingsley Publishers.
- Van Buren, E. D. (1934). The God Ningizzida. *Iraq* 1, pp. 60-89.
- Van Buren, E. D. (1935-36). Entwind Serpents. *Archiv für Orientforschung* 10, pp. 53-56.
- www.californiaherps.com cobra. Access date: 9/5/2020.
- Weippert, H. (1988). Palästina in vorhellenistischer Zeit. *Handbuch der Archäologie. Vorderasien II, Band I*. München.
- <https://www.britannica.com/animal/black-mamba>. Access date: 9/5/2020.

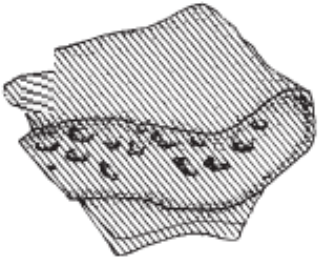
APPENDIX
Catalogue of 25 Snake Appliques

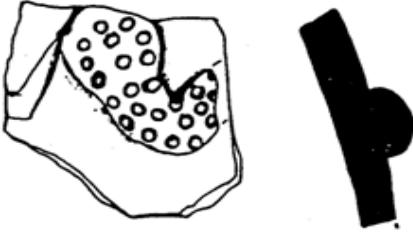
No. 1	
Site	'Arad
Find Context	Wide Room in Stratum III in Area K (suggested by some people to be a cultic room)
Date	Early Bronze Age II
Measurements	Length: 130 cm
Location of snake on the jar	Snake encircling the whole jar.
Orientation of snake	Body facing right-wards but head is facing up towards the rim (not coiled, not winding).
Decoration on body	Incised hatched-pattern.
Shape of head	wider than the body
Preservation	Complete
Additional details	The application of the snake decorates the exterior part of a large storage jar. The snake relief encircles the entire vessel from the shoulder down to the base. Its head sits on the shoulder and its tail ends on the same site near the base. The snake body is decorated with inclined or straight incised lines. The head of the snake broadens to the top and the eyes are represented by two small holes.
Citation	Amiran et al., (1993) 91, Fig. 89

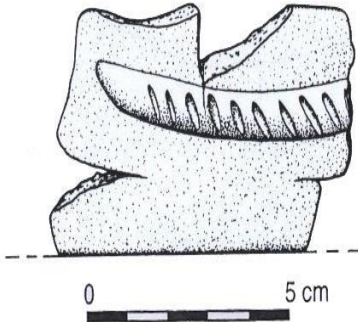
No. 2	
Site	Khirbet Ras edDaliya
Find Context	Area B, Stratum II, Locus 405
Date	Early Bronze Age II
Measurements	L: 10.7 cm; H: 7.1 cm
Location on sherd	Upper body of pottery vessel.
Material	Clay
Orientation of snake	Missing head. Could either be facing the mouth or the base (Not coiled). Winding.
Decoration on body	Unclear
Shape of head	N/A
Additional details	The application of the snake decorates the exterior part of a storage jar. The relief consists of wavy lines that depict the body of moving snake. May not be a snake.
Citation	Gophna (1996), 103, Fig. 49:3.

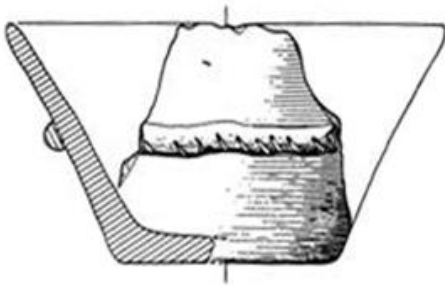
No. 3	
Site	Khirbet Rased-Daliya
Find Context	Area A
Date	Early Bronze Age II
Measurements	L: 10.7 cm; H: 7.1 cm
Location on sherd	Body of pottery vessel.
Orientation of snake	Winding or curving (not coiled). Facing rim
Decoration on body	Has some surface enhancement to it but it is unclear from the figure provided.
Shape of head	N/A
Additional details	The application of the snake decorates the exterior part of a storage jar. The relief consists of wavy lines that depict the body of moving snake.
Citation	Gophna (1996), 108, Fig. 53:11

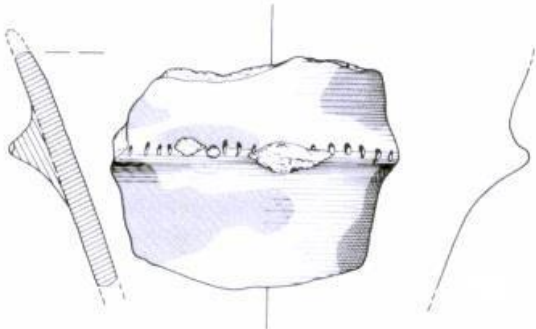
No. 4	
Site	Khirbet el Kerak
Find Context	South of W30,-198.20
Date	Early Bronze Age II-III
Measurements	-
Location on Sherd	On the outer rim of the jar with head positioned to see inside the pottery vessel.
Orientation of snake	Body facing right but curving left while head is facing upwards towards the rim (not coiled).
Decoration on body	Pitted
Shape of head	Shaped like a cobra.
Additional Details	The application of the snake decorates the exterior part of an open vessel of unknown type. The snake relief is wrapped around the curves and moves up to the rim. Its head, which broadens to the top, sits on the rim as if it wanted to drink or bite from the vessel. The snake body of the snake is pitted. The eyes of the snake are represented with two big holes the nose by two small holes.
Citation	Paz (2014), 525, Fig. 6.10 (46)

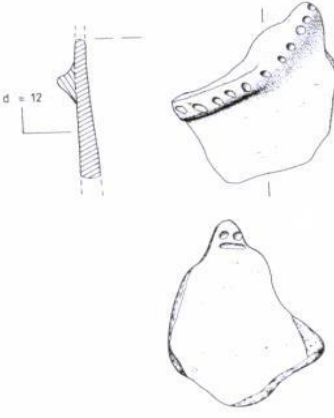
No. 5	
Site	Khirbet el Kerak
Find Context	Fill
Date	Early Bronze Age II-III
Measurements	-
Location on Sherd	Most likely on body
Orientation of snake	Either curved or winding (not coiled).
Decoration on body	Pitted
Shape of the head	N/A
Additional Details	The side of a red-slipped vessel is decorated with a snake appliqué. The curving body of the snake is pitted with circled holes. Incomplete figure appears to be partial body of snake.
Citation	Paz (2014), 525, Fig. 6.10 (46)

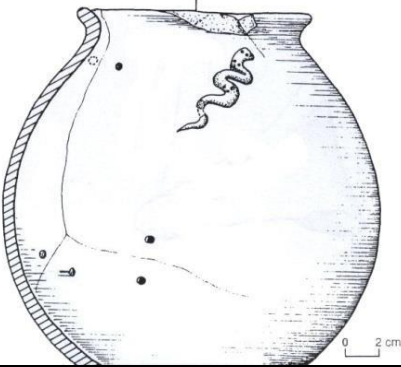
No. 6	
Site	Tell el Qadi (Dan)
Find Context	Area T, Filling layer in MBII-context
Date	Early Bronze Age II -III
Measurements	L: 4 cm; H: 4 cm (sherd)
Location on Sherd	Unidentifiable
Orientation of Snake	Either curved or winding (not coiled).
Decoration on Body	Pitted
Shape of the Head	Wider than body
Additional Details	The application decorates the exterior part of a pottery sherd. The part of the snake represented is most likely on the body of the vessel. The skin of the snake is pitted with circled holes. This snake head is wider than the body
Citation	Greenberg (1996), 142, Fig. 3.38: 14


No. 7	
Site	Khirbet ez-Zeraqon
Find Context	IM4; Locus 30: B0.3/R1 (Area west to the Southern Temple)
Date	Early Bronze Age II
Measurements	L: 6.4 cm (Application)
Location on Sherd	Near the base.
Orientation of Snake	Either curved or winding. Tail facing left (not coiled).
Decoration on Body	Incised hatched grooves across body.
Shape of the Head	N/A
Additional Details	The application decorates the exterior part of a small deep bowl with flaring rims and flat base. The body of the snake is relatively flat and is decorated band incisions. Portion of snake tail is approximately 6 cm long and 1.2 cm wide.
Citation	Genz 2002, 35, Tafel 17:14; Al-Ajlouny 2000, 105-106, Tafel 17: 22-30

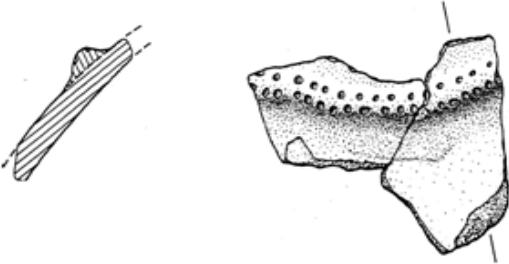
No. 8	
Site	Khirbet ez-Zeraqon
Find Context	IM5; Temple area
Date	Early Bronze Age II
Measurements	L: 7 cm (Application)
Location on Sherd	Near the base.
Orientation of Snake	Straight(not coiled). Cannot determine the direction the tail is facing left.
Decoration on Body	Incised hatched grooves across body.
Shape of the Head	N/A
Additional Details	The application decorates the exterior part of a small deep bowl with a flat base that is partially preserved to the rim (H: 6.9 cm). The body of the snake is represented through incised hatched grooves across body. The bowl was decorated with incised bands.
Citation	Genz 2002, 35, II. 9:10; Al-Ajlouny 2000, 106, Tafel 17: 22-31

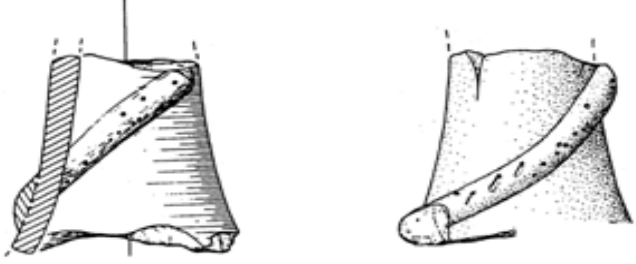
No. 9	
Site	Khirbet ez-Zeraqon
Find Context	IM5; Locus 95: Stone filling (between Round altar und Building B0.2); Location: R0.3
Date	Early Bronze Age II
Measurements	L: 10 cm (application)
Location on Sherd	Middle of body.
Orientation of Snake	Straight and possibly encircling the vessel (not curved, not winding, not coiled).
Decoration on body	Incised hatched grooves across body.
Shape of the Head	N/A
Additional Details	The snake application is placed on the exterior side of a small deep bowl. The body of the snake is represented through incised hatched grooves. The body in profile forms a triangular shape.
Reference	Genz 2000, 35, Tafel 15:10; Al-Ajlouny 2000, 106-107, Tafel 18: 22-32

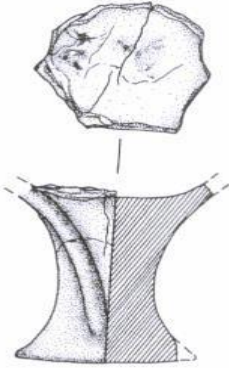
No. 10	
Site	Khirbet ez-Zeraqon
Find Context	IK3, Locus 4 (temple area; East of the Southern Temple)
Date	Early Bronze Age III
Measurements	L: 7 cm (Application)
Location on Sherd	Body
Orientation of Snake	Curving diagonally upwards towards the inner part of the bowl (or downwards to the left). Either curved or winding (not coiled).
Decoration on body	Straight line of pits along the center axis of the snake body from head to tail.
Shape of the Head	Has two pits representing eyes and a band representing the mouth
Description	The snake body is resting on the rim of a small deep bowl. Its head with large pitted eyes is looking over the interior of the bowl as if it were ready to drink from the bowl. The mouth is represented through a band mark.
Citation	Genz 2000, 35, Tafel 20:7; Al-Ajlouny 2000, 106-107, Tafel 18: 22-33

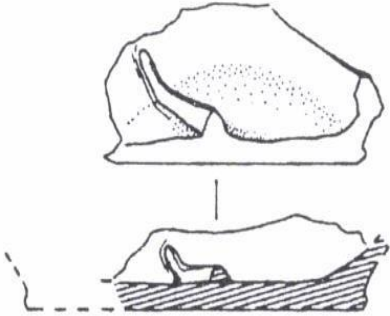
No. 11	
Site	Khirbet ez-Zeraqon
Find Context	IIIB15, Locus 35: B1.3:R2 (Domestic Building, perhaps intended for cultic use).
Date	Early Bronze Age III
Measurements	L: 6.5 cm (application)
Location on pot	On shoulder below neck.
Orientation of Snake	Curved or winding (not coiled).
Decoration on body	The moving body of the snake has three pairs of holes
Shape of the Head	It broadens at the end of the body shaping a trapeze with two dots representing eyes
Additional Details	The application decorates the exterior part of a spherical cooking pot with low neck and outwards curving rim. In addition to the application, there are three pairs of holes indicating a kind of restoration and emphasizing the significance of the pot. The snake body slithers in three rows along the axis of the body from head to tail. The head of the snake broadens at the end shaping a trapeze and the eyes are represented through incised dots.
Reference	Genz 2002, 35, Tafel 90:1; Al-Ajlouny 2000, 108, Tafel 18: 22-34

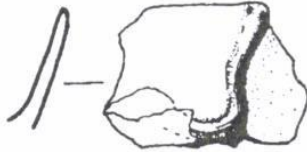
o. 12	
Site	Khirbet ez-Zeraqon
Find Context	IH5, Locus 7: surface (palace)
Date	Early Bronze Age II-III
Measurements	L: 9.2 cm (Application)
Location on Sherd	Body
Orientation of Snake	Curved or winding (not coiled).
Decoration on Body	Pitted regularly in three rows along the axis of the body from head to tail.
Shape of the Head	N/A
Description	The application decorates the exterior part of a jar. The body of the snake is through three pitted rows
Citation	Genz 2002, 35, Tafel 67:11; Al-Ajlouny 2000, 108-109, Tafel 19: 22-35

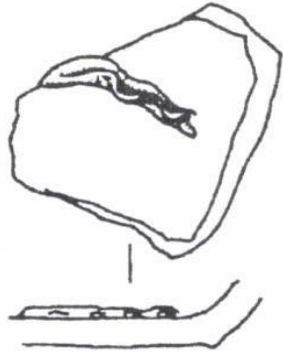
No. 13	
Site	Khirbet ez-Zeraqon
Find Context	IH5, Locus 55: B0.8:R11 (Palace)
Date	Early Bronze Age III
Measurements	L: 5.7 cm (Application)
Location on sherd	Shoulder.
Orientation of the Snake	Straight and possibly encircling the vessel (not curved, not winding, not coiled).
Decoration on Body	Two rows of regularly-spaced pits along the axis of the body from head to tail.
Shape of the Head	N/A
Additional Details	The application decorates the exterior part of a jar. The body of the snake is represented with two rows of regularly-spaced pits. The sherd may belong to the same vessel in the Catalogue No.12 for they are similar in representation and were recovered in the same place.
Reference	Genz 2002, 35, Tafel 40:8; Al-Ajlouny 2000, 109, Tafel 19: 22-36


No. 14	
Site	Khirbet ez-Zeraqon
Find Context	IL3, Locus 29: Filling layer; Location: B0.5:R2 (The main room of the southern temple)
Date	Early Bronze Age II
Measurements	L: 10 cm (Application)
Location on sherd	Neck of jug.
Orientation of snake	Curving diagonally upwards to the right (or downwards to the left). Either curved or winding (not coiled).
Decoration on body	Irregularly pitted.
Shape of the Head	N/A
Additional Details	The application encircles half of the neck of a bottle to the top of the broken rim. The body of the snake is not so carefully shaped that its width and thickness not the same in all places. The body of the snake is irregularly pitted.
Citation	GENZ 2002, 35, Tafel 12:3 ;AL-AJLOUNY 2000, 109-110, Tafel 19: 22-37


No. 15	
Site	Bab EdhDhra'
Find Context	Field XVI, Stratum II, the entrance of a room with plastered walls: Cultic Building.
Date	Early Bronze Age III
Measurements	-
Location on sherd	Base of chalice.
Orientation of Snake	Curving diagonally upwards to the left. Either curved or winding (not coiled).
Decoration on Body	Unidentifiable.
Shape of the Head	N/A.
Additional Details	The application decorates the sides of a chalice possibly used as incense stand.
Citation	Rast & Schaub 2003, Plate 67: 2


No. 16	
Site	Bab Edh Dhra'
Find Context	Field XVI, Stratum II: Cultic Building.
Date	Early Bronze Age III
Measurements	-
Location on Sherd	Interior base of bowl.
Orientation of Snake	Curved or winding (not coiled).
Decoration on Body	Unidentifiable.
Shape of the Head	N/A.
Additional Details	The application decorates the interior part of a small flat base bowl. The body of the snake is represented with curved lines.
Citation	Rast & Schaub 2003, Fig. 11.13.3


No. 17	
Site	Bab Edh Dhra'
Find Context	Field XVI,StratumII-I:Cultic Building .
Date	Early Bronze Age III
Measurements	-
Location on Sherd	Interior wall of bowl.
Orientation of Snake	Body facing right but curving left while head is facing upwards towards the rim (not coiled).
Decoration on Body	Unidentifiable.
Shape of the Head	The head has two small holes
Additional Details	The application decorates the interior part of a a bowl. The body of the snake slithers up with wavy line to the rim of the bowl. The eyes are represented through two small holes.
Citation	Rast & Schaub (2003), 388, Fig. 11.13.2


No. 18	
Site	Bab Edh Dhra'
Find Context	Field XVI,Stratum I:Cultic Building.
Date	Early Bronze Age III
Measurements	-
Location on Sherd	Interior base of bowl.
Orientation of Snake	Winding?
Decoration on Body	Unidentifiable
Shape of the Head	N/A.
Additional Details	The application decorates the interior part of a small flat base bowl. Though it is difficult to decipher this image, but the body of the snake might be slithering on the interior side.
Citation	Rast & Schaub (2003), 388, Fig. 11.13.4


No. 19	
Site	Bab Edh Dhra'
Find Context	Field IX, Stratum II- I
Date	Early Bronze Age III
Measurements	-
Location on Sherd	Interior base of bowl with head on the step.
Orientation of Snake	Winding (not coiled).
Decoration on Body	Unidentifiable.
Shape of the Head	same width as body.
Additional Details	The application decorates the interior part of a medium flat base bowl. The body of the snake slithers up with wavy lines to the rim with its head looking over the exterior side of the bowl. The head of the snake is round in shape. Snake is settled on inner base of vessel.
Citation	Rast & Schaub (2003), 388, Fig. 11.13.1

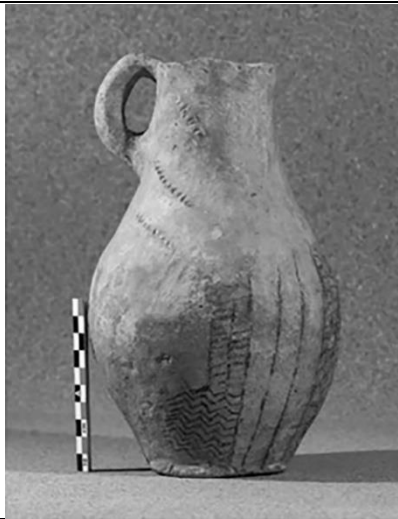
No. 20	
Site	Khirbet al-Batrawy
Find Context	Pillard Hall L.1040 in the palace of copper axis
Date	Early Bronze Age III
Measurements	-
Location on Vessel	On shoulder below neck.
Orientation of Snake	Winding upwards towards mouth of jar (not coiled).
Decoration on Body	Irregularly pitted.
Shape of the Head	Equal width as body.
Additional Details	The application decorates the shoulder of a rounded medium sized storage jar with low neck. The body of the snake slithers up with wavy lines up to the rim. The head of the snake rests on the shoulder with open mouth. The eyes are represented by two deep dots. The skin is depicted by incised small circles. Five bends visible.
Citation	Nigro & Sala (2012), Fig. 5 Polcaro (2019), Fig. 4(a)

No. 21	
Site	Khirbet al-Batrawy
Find Context	Pillard Hall L.1040 in the palace of copper axis
Date	Early Bronze Age III
Measurements	Length: 13.5 cm
Location on Vessel	Exterior body of jar.
Orientation of Snake	Curved or winding (not coiled) towards the shoulder.
Decoration on Body	Cross-hatched incised line
Shape of the Head	The head of the snake broadens at the end forming trapeze shape.
Additional Details	Two applied motifs one for a scorpion and the other for a snake are attached to the opposite sides of a medium sized storage jar. The two motifs are subdivided by wheat spike motifs that cover the whole body of the jar. The wheat spike motif comprises squares all over the external body of the jar. The snake is turning upwards in a single curve without any coiling or winding. Two eyes are represented by two big dots. The tail of the snake is damaged at a point where two sherds of the pottery were broken. The skin of the snake is cross-hatched. The snake appears to be heading towards the opening of the pot. The head of the snake broadens at the end forming trapeze shape.
Citation	Nigro, L 2016, 144, Fig.13

No. 22	
Site	Jebel al-Mutawwaq
Find Context	House 76 in the temple of serpents
Date	Early Bronze Age I
Measurements	-
Location on sherd	On body
Orientation of Snake	Winding laterally.
Decoration on Body	Incised grooved lines across body
Shape of the Head	N/A
Additional Details	The application decorates the exterior part of a pottery spouted bowl. The body of the snake crawls in a wavy motion and is represented by impressed vertical lines
Citation	Polcaro, A, Muniz, J., Alvares, V. 2014. Fig.6.5

No. 23	
Site	Jebel al-Mutawwaq
Find Context	House 76 in the temple of serpents
Date	Early Bronze Age I
Measurements	-
Location on sherd	Neck of the Vessel
Orientation of snake	Unidentifiable
Decoration on body	Impressed parallel vertical lines
Shape of the Head	N/A
Additional Details	The application decorates the neck of a pottery vessel. Two appliquéd snakes are attached on the neck of a whole mouth jar. The body of the two snakes is represented by impressed parallel vertical lines. The two appliqués are subdivided by parallel lines incised with circles.
Citation	Polcaro, A, Muniz, J., Alvares, V. 2014. Fig.6.6

No. 24	
Site	Jebel al-Mutawwaq
Find Context	House 76 in the temple of serpents
Date	Early Bronze Age I
Measurements	-
Location on Jar	Rim, neck, body, and handle.
Orientation of Snake	Winding upwards from center of jar handle to rim of mouth.
Decoration on Body	Irregularly pitted.
Shape of the Head	Wider than body, possibly cobra.
Additional Details	Two images are combined on the surface of the same vessel: two trees interweave with two serpents, the trees are large and cover the area between the two handles, coming from large incised zigzag lines that stem from both sides of a deep vertical incision. The serpents slither with wavy lines from the bottom of the handle towards the neck, rising up towards the inside of the vessel with their mouths open as if they were about to bite. The skin of the snake has spots with circular holes.
Citation	Fernandez-Tresguerres, J.A. 2005, Fig. 13, Polcaro, A 2014. Fig.7, Polcaro, A 2019. Fig.3.a

No. 25			
Site	Jebel al-Mutawwaq		
Find Context	House 76 in the temple of serpents		
Date	Early Bronze Age I		
Measurements	-		
Location on sherd	Stylized		
Orientation of snake	Unidentifiable		
Decoration on body	Incised grooves give the stylized appearance of a snake.		
Shape of head	N/A		
Additional Details	Three like-snake motifs decorate the exterior part of a handmade jug with a flat base and loop handle. The motifs are attached on the side of the jug rising from the middle of the vessel toward the rim. The snakes appear not to have heads and their skin is represented by striped vertical lines.		
Reference	Fernandez-Tresguerres, J.A. 2005, Fig. 13, Polcaro, A 2014. Fig.7, Polcaro, A 2019. Fig.3.b		