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RESEARCH ARTICLE

Are the Intertwining Snakes of the Caduceus the Nadis of Hindu Psychology?

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ABSTRACT

Objective of this paper is to discover the thinking behind the two snakes displayed in the Caduceus. The snake has been used as a symbol of healing over the last four millennia. The Caduceus with two snakes intertwining on a staff is used today by a number of medical practitioners and associations as their symbol. However, no credible explanation of the use of this symbol is forthcoming.

We aim to provide an explanation for the use of this symbol relying on Hindu psychology.

Our study design was to read the Western- and Hindu anatomical-, physiological- and psychological understandings of the spinal cord and ganglia side by side and lay out the similarities and differences. Then we examine how the understandings of the two systems concord with each other and to extract a possible understanding of the Caduceus from the common understanding.

We find that the physical dimension of the two ganglia of the Western system concord with two “tantrikas” of the Hindu system. The Western system considers the spinal cord to be a tube which concords with the sparse mention of the spinal cord in the Hindu system. Western system sparsely mentions the psychic dimension of the two ganglia and the spinal cord while the Hindu system mentions the same prominently as the three “nadis.” Thus, while both the systems recognize the existence of the three pathways, the Western system is focused on the physical dimension while the Hindu system is focused on the psychic dimension. It holds that the cleaning of these pathways leads to good health.

The Hindu system visualizes the psychic dimension of the three pathways together as a snake. Especially, it considers two nadis on the side to criss-cross and intertwine around the central nadi which concords with the Caduceus. The recognition of the psychic dimension of the three pathways as depicted in the Hindu system can provide a psychic method of treatment of various diseases.

We conclude that the Caduceus is correctly used as a symbol of healing or good health. The snake symbolizes the psychic dimension of the three pathways of the spinal cord and ganglion. Recognition of the psychic dimension and its symbolism embedded in the snake can provide a new meaning to the Caduceus and also a new line of treatment.

Keywords: Caduceus, Nehushtan, nadi, snake, spinal cord, ganglia, kundalini, chakras.

Introduction

The use of one- or two snakes coiled around a staff as a symbol of healing is an enigma. The snake is a venomous creature. Why should it be used as a symbol of healing? It is also a matter of curiosity that the use of this symbol has a history of at least four millennia—the snake in the Garden of Eden, Nehushtan, Asclepius and Caduceus. The resilience of this symbol suggests that it may have a deeper meaning that may have been lost. We unravelled this mystery by bringing the Hindu psychology of the spinal cord and ganglion into play. The psychic movements in the tankrikas—the Hindu parallel to the ganglion—is depicted as two snakes intertwining exactly as in the Caduceus. The cleaning-up of the psychic system leads to healing. Thus, Caduceus is rightly a symbol of the healing. The need is to discover and integrate this psychic system in the Western medicine.

The snake was used as a symbol of healing in the ancient Near East. It has a long Biblical history. Moses was leading the Hebrews on the Exodus from Mitsrayim to Israel. They became impatient and complained against God and Moses. Then God sent poisonous snakes that bit the people and many died. The people repented and, as directed by God, Moses made a bronze snake and put it on a pole, so that “if a snake had bitten someone, when he looked at the bronze snake he lived” (Num 21:4- 8).

A cult of Asclepius was established in the sixth century BCE in Greece. Asclepius was a great physician. Sanctuaries devoted to him, called asclepieia, were frequented by people who wished to obtain well-being or sought cures for various diseases.¹ A single snake curling about a staff was his mark.²

The messenger of the gods and the conductor of the dead to Hades was the Greek god Hermes in the 5th century BCE. His staff—the Caduceus—has two snakes winding around a staff.³ One legend has it that once he came across two fighting snakes and threw his staff at them. They became intertwined and stopped fighting. Since then, the Caduceus became his symbol.⁴

The Staff of Asclepius appeared in the coat of arms of the Medical Department of the US Army in 1818 CE, in the symbol of the US Army Medical Corps in 1856 CE, the US Air Medical Corps in 1902 CE and as the symbol of the American Medical Association in 1910 CE.⁴ None of these uses of the symbol provides a satisfactory explanation as to why a venomous creature would be used as a symbol of healing?

The “serpent” is a large snake and sub-family of the snake.⁵ We use the term “snake” since it is of wider application. Most species of snakes are not

poisonous, some are mildly poisonous, and others produce a deadly poison.⁶ None have healing qualities. The poisonous nature of the snake contrasts with other animals reported to have healing properties in the ancient Near East. The Egyptians believed that the skin of deer could cure gout if tied to a person's foot, a fried fish head could draw out a headache and a pig's eye prevented blindness.⁷ In folk medicine bird nests are used to prevent headaches, the tooth of a mole may be worn around the neck to prevent toothache and fresh muskrat skin may be used to prevent colds.⁸ In contrast, the primary characteristic of the snake is poisonous. Thus, the uses of the snake as a symbol of healing defies explanation. Yet the resilience with which this symbol has been used for more than four millennia suggests that there may be some explanation that has been lost. Rediscovery of that explanation may help advance the science of healing.

We provide an explanation for the use of the Caduceus as a symbol of healing based on Hindu psychology. We suggest that the two snakes represent the two ganglia and the rod around which they are intertwined represents the spinal cord. We briefly discuss the anatomy of the spine and ganglia, hereinafter mentioned as “three pathways”, and show the concordance with the Hindu system. We discuss the physiological-psychic functions of the three pathways in the two systems and show their concordance. Lastly, we explain how reading-in the Hindu understanding into the Caduceus and thereby into the Western system enable the use of psychic powers of the three pathways as a source of healing.

The Snake as Symbol of Healing

Examples of the snake as a symbol of healing are available across the ancient Near East much before the Caduceus came into vogue.

Egypt. At c. 1550 BCE the Theban cobra-goddess Mertseger was worshipped to remedy disease.⁴ The symbol of protection, “the Eye of Horus,” was depicted in the form of the cobra on the crest of the Pharaoh's royal headdress.⁹ The Egyptians saw the snake as “symbols of life, healing, and protection.”¹⁰

Mesopotamia. The snake had been used as a symbol of healing or divinity in Mesopotamia since 3000 BCE.¹¹ It symbolized fertility, life and resurrection.⁴ The single snake depicted the great earth snake, the primal embodiment of the mother goddess and the source of life. It symbolized fertility and, with its return in spring, life and resurrection.⁴ A Babylonian snake-god deity was a god of spring who presided over fertilization. He was a double snake—male and female.¹¹

Crete. At c. 1600 BCE, the earth's ability to renew and revive herself was worshipped in the form of Diktyнна, the Minoan "Great Goddess," who was represented with a snake in each hand.⁴

Palestine. Late Bronze Age (c. 1550-1200 BCE) excavations in Palestine have provided items that depict "a fertility goddess, perhaps Asherah, accompanied by serpentimages."¹⁰

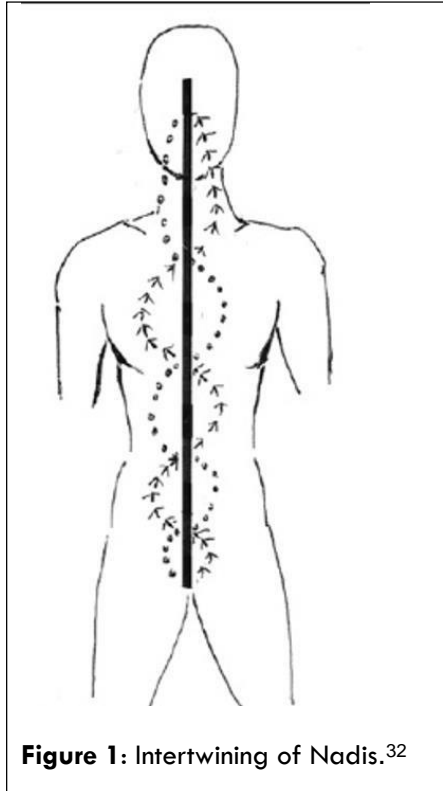


Figure 1: Intertwining of Nadis.³²

It is believed that the Biblical traditions of the Nehushtan, and the Greek traditions of the Staff of Asclepius and the Caduceus may be based on these traditions. Be that as it may, the abovementioned beneficent associations of the snake defy explanation. No wonder, numbers of scholars find these depictions to be unsatisfactory: the use of the Nehushtan as a symbol of healing "provides few definitive answers;"¹² the use Staff of Asclepius and Caduceus as a symbol of healing is an "history of errors;"¹³ the caduceus is often "incorrectly" used as an insignia of the medical profession.¹⁴

Possible Explanations

We now examine the explanations offered for the use of the snake as a symbol of healing. In order to do so we find two characteristics of the use of the symbol of snake for healing that underpin these explanations. First characteristic is that there is no administration of a physical part of the snake to the patient. It is purely a symbol. The second characteristic is that the symbol works

prophylactically against diseases generally rather than curatively against a specific disease.¹⁵ A caveat is required here regarding the Nehushtan. Looking at the Nehushtan cured the Hebrews of the specific disease of snake bite. However, there is no indication that it was restricted to the cure of that disease. In fact, the Nehushtan having become an idol at the time of Hezekiah indicates that the specific use of it for the cure of snake bite had been lost. It is for this reason that Hezekiah considered it to be an "empty" idol and destroyed the same (2Kings 18:4). We evaluate the offered explanations of the snake as a symbol of healing against the abovementioned two characteristics, namely, (1) it being a pure symbol with no physical administration; and (2) it being a prophylactic medicine of general applicability rather than curative medicine against a specific disease.

The first explanation comes from Egypt: "The ancient Egyptians perceived natural signs (the 'signature') of particular objects as indicative of their medicinal properties. For instance, yellow flowers were used to cure jaundice. Mandrake roots, perceived to resemble the human figure, were used to treat various ailments of the body."⁹ The author concludes that "the use of the form of a serpent to heal damage caused by a serpent may be categorized as a form of signature healing. In our reading, this description does not match with both the characteristics. The examples such as of yellow flowers indicate physical administration of the materials while the symbol of the snake involved no physical administration. Second, these examples refer to specific diseases and are not of general applicability.

The second explanation comes from homeopathy. The first principle in this system of medicine is that "like cures like"—that a substance that causes certain symptoms can also help to remove those symptoms. A second principle is that of dilution. Practitioners of this system believe that the more a substance is diluted, the greater its power to treat symptoms.¹⁶ For example, poison ivy causes a red, itchy rash. A homeopath would take the poison ivy and dilute it down repeatedly and use the diluted material as a treatment to treat the rash.¹⁷ This explanation too is not satisfactory because it involves physical administration of the medicine for the cure of specific diseases.

Building on the abovementioned second explanation, a third explanation is that venom of the snake may be used as an antibody hence its use as a symbol of healing.¹⁸ Antibodies made from injection of snake venom in horses, sheep and other animals are harvested and used for the treatment of snake bite.¹⁹ They can also neutralize the activity of the venom,²⁰ although the antibodies are unable

to reverse the damage that has taken place.¹⁹ This explanation is again not satisfactory because it requires physical administration of the antibodies for the cure of the specific disease of snake-bite. There are further problems with this explanation. One, the time taken for production of the antibodies was not available to the Hebrews who were bit by the snake and cured by the Nehushtan. Two, antibodies harvested from a particular species of the snake work only against that specific species of the snake. Even polyvalent antibodies are effective against the species contributing to the production of the polyvalent venom.^{21,22} Three, the first known production of antibodies is only from 1898—much after the use of the symbol of the snake for healing.²⁰ Four, the use of snake venom for the cure of snake bite is not attested in the ancient world. The traditional cure for snake bite was herbal in Colombia,²³ Ghana,²⁴ India,²⁵ Myanmar,²⁶ Uganda.²⁷ and Sri Lanka.²⁸

The only explanation that matches with the second characteristic is the use of snake venom in the ancient Indian medicinal system of Ayurveda. It uses snake venom for the treatment of large numbers of diseases like diabetes, high blood pressure, stroke, Parkinson's disease, Alzheimer's disease, cancer, aging, skin diseases, and excessive bleeding condition etc.¹⁵ However, such use still does not match with the first characteristic of the snake being a pure symbol.

In view of the inadequacy of these explanations, we propose to show that the snake is a symbol of the spinal cord based on the Hindu system. We begin by developing concordance between the systems. The idea is that we may read the Hindu understanding into the Western system if the understanding of the three pathways in the two system is in concordance.

Anatomical Concordance, Psychic Discordance The Three Pathways

The Western system considers the spinal cord to be a tube and flanked by two ganglia. The Hindu system visualizes these three pathways in terms of three psychic "nadis."²⁹ The physical dimension of the spinal cord is rarely mentioned in the Hindu texts. The physical dimension of the two nerves is mentioned as "tantrikas." The psychological dimension of the three pathways is mentioned as "nadis." Thus, we have the following anatomical concordance:

The central pathway: Western = tube, i.e., "empty;"
Hindu = sparse mention.

The two pathways on the side: Western = nerves;
Hindu = tantrika.

With this preamble we can trace details of the two systems. The great Yogi Aurobindo draws the

distinction between the two systems: "I must here warn you against stumbling into the error of those who try to harmonise Yogic Science with the physical science of the Europeans and search for the Yogic Nadis and Chakras in the physical body. You will not find them there."³⁰ Aurobindo is here speaking of the nadis that only have a psychic dimension. Naturally, these are not to be found physically. But the physical concordance as explained above is not denied.

The two nerves are identified as parasympathetic and sympathetic in the Western system. They are identified as ida and pingala tantrikas as well as nadis of the same name in the Hindus system. Both systems hold that the parasympathetic-ida runs on the left side and has cooling quality while the sympathetic-pingala runs on the right side and has heating quality.^{31,32}

Both systems also agree that the two nerves or tantrikas join together at the lower end near the coccyx.^{33,34} The psychic power called Kundalini is said to reside here in the form of a coiled snake.³⁴

Criss-crossing of Nadis

The Hindu system visualizes the ida and pingala nadis (not tantrikas) to criss-cross and intertwine around the central sushumna nadi as shown in Fig 1.^{32,35} However, it is also said that the ida nadi is situated on the left of the sushumna while the pingala nadi is located to the right of it.³⁴ It is beyond the scope of this paper to resolve this matter. It is sufficient to note that while reading a Hindu text one may use one's own discrimination to determine whether the nadi in that particular case runs in straight line or criss-crosses. The criss-crossing and intertwining of the nadis is of critical importance for our present endeavour, however, because this mirrors the Caduceus.

The Caduceus can be derived from the Western anatomy in the following steps:

- (1) The physical dimension of the spinal cord and two nerves is the beginning point.
- (2) We add from the Hindu system that the spinal cord and the two nerves have a psychic dimension known as nadis.
- (3) The two nadis on the side—ida and pingala—criss-cross and intertwine around the central nadi—sushumna—as in the Caduceus.

Thus, the Caduceus is derived by adding on the Hindu psychic understanding to the Western understanding of the spinal cord and ganglion.

Swellings and Chakras

The Western system holds that the two ganglia have 22 or 23 swellings that connect certain organs with the spinal cord.³³ In contrast, the Hindu system holds

there are six centres or “chakras” in the sushumna nadi or the spinal cord. These six chakras divide the sushumna nadi in five segments. The 22 or 23 swellings of the Western system can be clubbed

together to divide the spinal cord in five segments as shown in Table 1.³⁶ The Western system acknowledges these five segments.³⁷

Table 1: Organs Connected with the Swellings in the Ganglia in the Western system and Chakras in the Hindu system.

Segment No	Segment of the Spinal Cord	Organ ³³	Chakra	Organ ³⁸	Chakra No
1	Superior cervical ganglion	Eye	Ajna	Eyes	1
1	Superior cervical ganglion	Nose, mouth	Vishuddhi	Throat	2
2	T1-T4	Heart	Anahata	Heart	3
3	T6-T11	Stomach	Manipur	Stomach	4
4	L1-L2	Reproductive	Swadhishtana	Sex organs	5
5	L1-L2	Rectum	Mooladhara	Anal region	6

The number of chakras in the Hindu system is not fixed.³² Mostly, however, seven are said to exist. Among these, the seventh “Brahmarandhra” or the “crown” chakra is located at the centre of the skull above the six chakras and not mentioned in Table 1.³⁶ Nothing corresponding to this chakra is mentioned in the Western system. I understand this chakra to denote the cerebrospinal fluid in the skull. We shall discuss this in some detail subsequently. Only limited evidence of the physical existence of the chakras and nadis is available from modern psychology. Such is expected because the chakras are strictly psychic in nature. Yet some indirect evidence is available. In one study it was found that there were “significant difference in the physiological function of the organ associated with the chakra that the individual subjects claimed to have awakened.”³⁹ In another study a direct correspondence “between the distinctive wave form [recorded on electromyograph] and the psychic’s description of the colour emanating from the chakra” was found.³⁹

functions of the organs. Recently they have also been related to emotional functioning.^{33,40} A number of accounts predict emotional deficits in Spinal Cord Injury patients, particularly at the level of emotional feelings although evidence for such a deficit is unclear.⁴¹ It is reported that Spinal Cord Injury leads to more negative thinking.⁴² Thus, there is increasing acceptance that the ganglia have a psychic role. The Hindu system focuses on precisely this psychic function. The six chakras “are directly connected with the higher unilluminated centres of the brain... the six chakras serve as switches for turning on different parts of the brain.”³⁹ The word “unilluminated” is significant. It refers to psychic illuminance. Among Western psychologists Carl G. Jung has come close to the Hindu view. He says the chakras are symbols that have “a heap of material thrown together, which we... take as a whole.”⁴³ The “heap of material” refers to the psychic material deposited at the chakras or the part of the brain connected therewith. We give the Hindu psychic understanding and Jung’s understanding in Table 2.

Psychic Concordance

Western scholars previously saw the ganglia to be the link between parts of the brain and motor

Table 2: Psychic aspects of the chakras.

Sl	Chakra Name-Location	Hindu Psychic Aspect ³⁸	Western psychic aspect ⁴³
1	Brahmarandhra-Crown	Spiritual emancipation	“Not relevant”
2	Ajna-Third Eye	Control over everything	Receiving Command
3	Vishuddhi-Throat	Elixir	Spiritual
4	Anahata-Heart	Subtle sound	Consciousness
5	Manipur-Solar Plexus	Prosperity	Emotions, Passion
6	Swadhishtana-Sacral	Peace and comfort	Desire
7	Mooladhara-Root	Basis of life	Unconscious, Latent

We begin with the seventh Mooladhara-Root chakra. The Hindus call it the basis of life. The spinal cord and the two ganglia or the three nadis meet here. Thus, all organs are spontaneously connected

with this chakra hence the characterization “basis of life.” Jung calls it “unconscious, latent” because this chakra controls all unconscious psychic energy.

The second Swadhishtana-Sacral chakra is the seat of energy—both physical and psychic. A correct alignment of this energy provides peace and comfort. The same psychic power is depicted as desire by Jung.

The third Manipur-Solar Plexus chakra is the seat of the psychic trait of determination leading to physical activity and thus prosperity in the Hindu system. This is described as passion by Jung.

The fourth Anahata-Heart chakra is the seat, due to loss of a better word, of deeper psychic experiences and connections. This is mentioned as subtle sound by the Hindu system. My own experience is that a deep sound—the “Word” of John 1:1—first appears in the heart. This is described as consciousness by Jung.

The fifth Vishuddhi-Throat chakra is the seat of sub-conscious communications. It works as a psychic receptor and transmitter. A clear communication with the psychic noise around oneself provides a “high” as indicated in the word elixir in the Hindu system. Jung considers this communication to be spiritual because one connects with others subconsciously or spiritually.

The sixth Ajna-Third Eye chakra is the seat of our mind or conscious thinking. The Hindu system describes it as control over everything. This is described as receiving, presumably conscious, command by Jung.

The seventh Brahmaraandhra-Crown chakra is not connected with the spinal cord or the nervous system. However, it is located where the cerebrospinal fluid flows from all directions. The fluid circulates around the brain and the spine and is, therefore, connected with all the chakras. The psychic impressions at the six chakras are carried by the cerebrospinal fluid to- and from the crown. The crown chakra can be relaxed, quietened or controlled only if the other six chakras are relaxed, quietened or controlled. The quietening of the crown chakra is called spiritual emancipation in the Hindu system. Jung considers it to be “not relevant” for reasons not clear to the author.

Interaction between the Physical-Psychic Dimensions

We have mentioned above that Spinal Cord Injury impacts the emotional make-up of the subject. It also leads to inadequate nerve conduction leading to physical disorders.³⁷ Thus, the spinal cord simultaneously effects the emotional or psychic and physical dimensions,⁴⁴ and there is interaction between the two dimensions.^{32,36}

In the Hindu system, the six chakras control different organs of the body and also serve as switches for turning on different parts of the brain.³⁹ The latter may be considered to have a psychic dimension.

Thus, Aurobindo says that the physical- and psychic functions of the three pathways “are closely connected and almost always act upon each other.”³⁰

The interconnection between the physical and psychic aspects through the three pathways is accepted by both the systems. It gives us a method of treatment. For example, the ability of yogis to heal others through the laying of hands on the back and Christ’s healing practices are based on affecting the chakra at the psychic level which spontaneously brings forth physical healing.⁴⁵ Chakra therapy is based upon this idea.^{46,47,48}

This is the secret of the Caduceus. A subject who visualizes his three pathways by looking at the Caduceus activates them psychically and heals the connected organs physically.

Hindu Explanation

We now explain the Western imagery of the snake in the light of the Hindu understanding.

Garden of Eden

The earliest reference to the snake occurs in Genesis

3. Adam and Eve believed that God had prohibited them from eating of the tree of knowledge of good and evil and they did not eat of the tree. In this circumstance, the snake said to the woman, “Did God really say, ‘You must not eat from any tree in the garden? You will not certainly die for God knows that when you eat from it your eyes will be opened, and you will be like God, knowing good and evil’” (Gen. 3:4-5).

We know though that snakes do not speak. We suggest that the snake may here be a symbol of the spine—more specifically, of the unconscious thoughts reposed at the lower five chakras. Eve’s unconscious put a thought in her conscious mind that God may not have actually prohibited them from eating of the tree and she ate.

Rod and snake

God wanted to demonstrate His powers to Moses at Mount Horeb. He asked Moses to throw his staff to the ground and it became a snake. Then God asked Moses to grab the snake by its tail and it became a staff in his hand (Exodus 4:2-5).

The snake here is a symbol of the spine. Riddick explains, “The spine, as the representation of balance and spiritual alignment, is also symbolized by the rod, staff or mace... By seizing the serpent’s tail (Moses) evidenced control over the serpent— that is, control and awareness of the divine energy within him. This was indicative of his ability to communicate with God.”⁴⁵ The divine energy spontaneously appears once the six chakras are cleared up. The “tail” in the above description

refers to the lower end of the spinal cord—the coccyx. The Hindu and Western systems both hold that the three pathways join together at the lower end of the spine near the coccyx. The Hindu system holds that the spiritual powers known as kundalini reside in form of a coiled snake here. Thus, when God asked Moses to grab the snake by its tail, it meant that God asked Moses to unleash his kundalini or his nervous system.

Again, the Pharaoh would not let the Hebrews go to the desert to worship. Thereupon, as commanded by God, Moses and Aaron went to the Pharaoh and Aaron threw his staff in front of Pharaoh and it became a snake. Then the Pharaoh's men did the same. So, each one threw down his staff and it became a snake, but Aaron's staff swallowed up their staffs (Exodus 7:10-12). The staff becoming a snake could refer to the activation of the psychic powers of the six chakras. The swallowing of the Egyptian's staff by Aaron's staff could denote the subduing of the Egyptians' psychic energy by Aaron's psychic energy.

NEHUSHTAN

The Hebrews were traveling from Mitsrayim to Israel. They became discouraged on the way. They said to Moses: "Why have you brought us up out of Egypt to die in the wilderness? For there is no food and no water, and our soul loathes this worthless bread." Then God sent fiery snakes among the people, and they bit the people; and many died. Then God said to Moses, "Make a fiery serpent, and set it on a pole. So, Moses made a bronze serpent, and put it on a pole. Those who had been bit by the snake lived when they looked at the bronze serpent" (Num 21:4-9).

The people becoming discouraged signifies that their conscious mind froze. They were not able to think what to do. The control of the physical organs by the brain collapsed. The signals sent from the brain became disjointed. The biting by the snake could refer to the six chakras losing interconnection and each chakra going its own way—thus hurting. The coordination between the physical organs was lost and many died. Moses may have asked the Hebrews to look at the bronze serpent on the pole as a symbol of their spine and ganglia. The interconnection between the chakras could have been re-established by such looking, the flow of psychic signals in the spine was restored, the physical organs became synchronized and the subject lived.

The situation appears to have changed by the time of Hezekiah. As explained above, the healing power of the Nehushtan arose from the association of the snake with the spinal cord. In course of time, this connection may have been lost. The snake

became an "empty" idol without psychic understanding and Hezekiah destroyed it (2Ki 18:4).

Seraph with six wings

Prophet Isaiah had a vision. The Lord was sitting on a throne. Seraphim [snakes] were standing above Him, each having six wings: with two each covered his face, and with two each covered his feet, and with two each flew (Isaiah 6:1-2).

The Hebrew word *saraph* (Strong's 08314) means snakes. The root word, also *saraph* (Strong's 08313), means "to burn." The conventional interpretation is that these were angelic creatures.⁴⁹ The six wings, however, defy explanation. Why should there be six, not five, not seven? Also, angels are not depicted as snakes. We suggest the six wings of the snake refer to the nerves emerging from the six chakras in the spinal cord. The face, feet and flying could refer to the two upper-, two lower- and two middle chakras.

Asclepius

Asclepius the Greek healer is mentioned in the Iliad at approximately 8th century BCE.⁵⁰ His symbol was a staff with a single snake winding up.² He set up numerous healing temples throughout the Greek empire. The focus in these temples was on diet, exercise, and a healthy lifestyle, with an emphasis on the spiritual. These temples included facilities for drinking water with special properties, water for bathing, gymnasia, space for rituals, and special rooms for dreaming. The presence of dogs and nonvenomous snakes (Aesculapian snakes) was an essential part of the healing process; in fact, both dogs and snakes were present in many temples. These Aesculapian snakes are seen in the staff of Asclepius.⁵¹ The treatments were sometimes carried out by a sacred temple snake or dog licking the diseased part.²

This description does not explain why the snake should be adopted as his mark. The snake and dog appear to be have played only a minor role in the treatment process. Further, why was the dog was not taken as the mark? The reason may lie in the "spiritual" aspect of the treatment which may have included some practices to clear up the chakras that were symbolized as the snake hence the snake in the Staff of Asclepius.

CADUCEUS

The Greek god Hermes (Mercury) was the messenger of Zeus. He held a rod named Caduceus that had two snakes winding up a staff.⁵² The only association of the Caduceus with the snakes, however, appears to be established by the following legend: Hermes was journeying holding a

staff in his hands. He saw two snakes with bodies intertwined, apparently fighting, he put down the staff between them and they separated. So, he said that the staff had been appointed to bring peace. The legend holds that his staff, the Caduceus, shew two snakes intertwined on the rod because it only depicted Mercury as a bringer of peace.⁵²

If at all, then, the two snakes separated by a staff depicted peace. There is no connection with healing. We suggest that the rod and the two snakes may have been symbols of the spine and the ganglion which, when cleaned, provided both psychic power and good health to the subject.

Snake in the Indus Valley

We have discussed the Near Eastern antecedents of the snake as a symbol of healing in the introductory section of this paper. Then we have proposed that the use of the snake as a symbol of the spinal cord arose from the Hindu system. Question arises do we have evidence of the use of the symbol of the snake from the ancient Indus Valley Civilization?

An amulet from the Indus Valley Civilization depicts a figure seated in yogic posture surrounded by two crouching bodies and two snakes.⁵³ A pottery tablet from Harappa c. 2300–1750 BCE depicts two snakes poised behind two kneeling men, each flanking a seated figure. Other pottery pieces are painted with snakes, the carved figure of a snake, a clay amulet with a snake situated in front of a stool on which there appears to be an offering of some sort, and an amulet picturing two snakes and a bird.⁵⁴

The snake is a ubiquitous feature of the Indian religious landscape both past and present.⁵⁵ The contemporary Hindu religion portrays the snake prominently. Shiva has a snake coiled around his neck as a garland. Vishnu reclines on a 1000-headed cobra. Krishna danced on the head of the snake. The snake-god *naga* has many temples

dedicated to him across India.^{54,56}

Most frequently the worship of the snake is undertaken for the purposes of fertility and long life.^{54,57} However, like the Near Eastern antecedents, an etiological explanation for such powers of the snake is not clearly stated or understood in the Hindu system as well. That said, chakra therapy leads to all-round healing of which fertility and long life may be in the greatest demand hence may have been mentioned prominently.



Figure 2: Nagini⁵⁸

Less frequent depictions of the snake, however, provide a connection with the spinal cord. The most eloquent depiction is of Nagini (snake goddess) at the World Heritage site of Rudreshwara Temple in State of Telengana as given in Figure 2. The description by Archaeological Survey of India reads: “Nagini with two snakes... The coiled serpent at the Nagini’s feet is a symbol for kundalini force. When this serpent uncoils and ascends to reach the sahasraram [crown chakra] the head, siddhi, and spiritual enlightenment is achieved. It conveys Nagini is a yogini who has conquered the serpent power, symbolized by her holding the serpent in her arms.” The two snakes dangling like garlands from her two arms may depict the two tantrikas-nadis ida and pingala.⁵⁸

A picture of the “snake stones” at Bhramarāmbā temple complex at Srisaillam, Telengana shows a number of stones with two snakes intertwining—like the Caduceus (Figure 3).

These examples suffice to establish that the snake is a symbol of the spine in the Hindu religion.

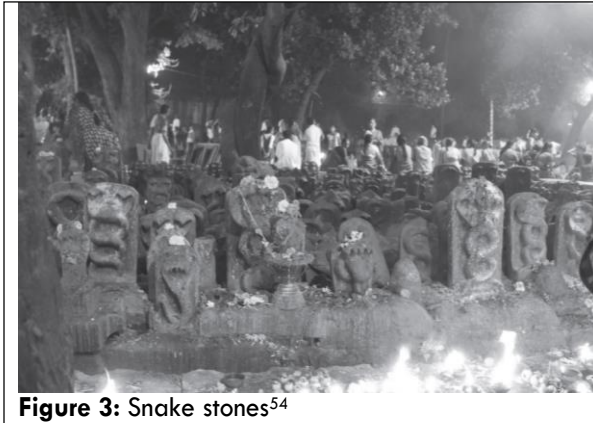


Figure 3: Snake stones⁵⁴

A separate study is required to discover how this symbol may have travelled from India to the Near East. We know that extensive trade took place between Indus Valley and Sumer and Egypt since the Bronze Age. In course of time, the association of the snake with the spine may have been lost in the Near East. It was kept alive in the yoga traditions though lost in the popular Hindu religion.

Discussion

No explanation is available as to the use of the venomous snake as a symbol of fertility and healing in the Near East, and in the Biblical and Greek traditions and the Indus Valley. The Hindu religion, however, provides a possible explanation. It holds that that the sushumna nadi is flanked by two tantrikas-nadis ida and pingala. The physical aspects of these three pathways concord with the spinal cord and the ganglion as described in the Western system. These three pathways carry the signals to- and from-various organs and the brain in both the systems. A clear transmission of these signals would enable the brain and the organs to function in synchrony leading to good health, fertility and healing.

Two snakes intertwined around a staff may symbolize the three pathways—spinal cord and ganglion; or sushumna, ida and pingala nadis. The visual impact of this image—when understood to represent these three pathways—may help clear these pathways and lead to good health. Thus, medical associations often correctly adopt the Caduceus as their symbol.

The ganglion and tantrikas run in straight line while the ida and pingala nadis are depicted as criss-crossing. This image of the nadis appears to have been adopted by the Caduceus.

Conclusion

The two snakes criss-crossing and intertwining around the staff depict the spinal cord and ganglion or the three nadis. A clear transmission of signals though these three pathways take place when one visualizes the three pathways in the Caduceus. These clear transmission of signals from the brain to the organs leads to good health. The recognition of the psychic dimensions of the three pathways depicted in the Caduceus opens up the possibility of harnessing the psychic domain for physical healing as done in chakra therapy.

Conflict of Interest

Author has no conflict of interest to report.

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