



## HISTORY OF MEDICINE

SNAKE AND STAFF SYMBOLISM,  
AND HEALING

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Since time immemorial the snake has been venerated as an enigmatic creature with supernatural powers. As a snake and staff symbol it is also traditionally associated with the healing arts, either as the single-snake emblem of Asklepios, or as the double-snake emblem (caduceus) of Hermes. The mythological basis for this symbolism is reviewed. The Asklepien emblem has been associated with health care since the 5th century BC, when Asklepios became accepted by the Greeks as the god of healing. Whether he was also an historical figure as healer in earlier ages is less certain. The origin of the double-snake emblem is shrouded in the mists of antiquity. In classical times it became the herald's wand of Hermes, messenger of the gods who guided departed souls to the underworld, and was seen as protector of travellers, shepherds and merchants. In the latter capacity Hermes also conveyed a negative connotation as protector of thieves. During the Middle Ages the caduceus became a symbol of the healing sciences (pharmacy and alchemy in particular), and today, although mythologically incorrect, it is in common usage in the health care field.

*S Afr Med J* 2002; 92: 553-556.

Probably more than any other animal the snake has been associated with religion and magical powers since time immemorial.<sup>1,2</sup> The snake and staff symbol, either with a single snake or two snakes, has traditionally also been associated with the art of healing.<sup>3</sup> In the present study the origin of these symbols is traced with particular reference to their significance in the field of health care.

## THE SNAKE IN ANTIQUITY

## General

From the earliest records of civilisation it is clear that the snake played a significant cultural role, as an enigmatic creature with

supernatural powers, alternatively seen (even in the same community) as benevolent creator and protector of wisdom and eternal life, or perpetrator of evil and agent of death.<sup>1,2</sup> Serpents are mythologically associated with the origin of the world and creation, with veneration of ancestors, bestowal of wisdom and power and as a symbol of mother earth and eternity.<sup>1</sup> In the Judaeo-Christian tradition<sup>4</sup> it was the snake that terminated life in Paradise by seducing Eve to eat from the tree of knowledge of good and evil. In ancient Greek mythology there were two classes of serpents — Agathodaemon (beneficent), and Kakodaemon (demonic).<sup>5</sup> Cretan, Mycenaean and Palestinian excavations have produced numerous snake goddesses.<sup>1,2,5</sup> In ancient Egypt the serpent was believed to be the first offspring of primeval earth, identified with the gods Set and Apophis, and in constant warfare against the sun-god, Ra.<sup>1,2</sup> The uraeus snake symbol worn on the forehead became the Pharaoh's sign of sovereignty.<sup>2,5</sup> In many Celtic and other Northern European sagas, and also elsewhere, snakes represented the underworld or the earth goddess (often associated with fertility and long life), and in African folklore snakes are associated with spirits of the ancestors to this day.<sup>1</sup> In the ancient Gilgamesh epic the snake steals the secret of eternal youth from the human hero — and it is probable that the snake's ability to shed its skin gave origin to the belief that serpents were capable of eternal life.<sup>1,4,5</sup> Also in India and the Far East snakes were considered to exercise supernatural powers over humans.<sup>1,2</sup> Snakes were often associated with transfer of wisdom, and as late as Graeco-Roman times domestic snakes were kept as pets, to bring good fortune to the household.<sup>1</sup>

## Healing

In early Egyptian civilisation there is already evidence of a supposed relationship between snakes and healing. In a hymn to the goddess Mertsger, a workman on the Necropolis of Thebes relates how the goddess came to him in the form of a snake to heal his illness.<sup>5</sup> In Hammurabi's Law Code (circa 1700 BC) the god Ninazu is identified as the patron of healing, and his son, Ningishzida, is depicted with a serpent and staff symbol.<sup>5</sup> In the Bible (Numbers 21: 4 - 9) Moses erected a copper snake to assist in delivering the Israelites from a plague of fiery serpents in the desert. However, it was made clear to the Jews that deliverance came from Yehowa and not from the symbol — and when the snake was later worshipped in the time of Hezekiah, it was destroyed.<sup>4</sup> The supernatural powers attributed to snakes by the ancient Hebrews, and the healing power of serpents in particular, are well summarised by Allan<sup>4</sup> and Wassermann.<sup>6</sup>

The Gnostic religious sect (250 BC - 400 AD) popularised the serpent god, Chnoubis, as a god of healing,<sup>5</sup> but it is the Greek hero-god, Asklepios, with his snake and staff symbol, who is today best remembered as antiquity's health divinity.<sup>3</sup>

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## THE SNAKE AND STAFF EMBLEM

Although a staff or rod was probably in common use in olden times as an aid in walking and as a weapon, it was also used by rulers in Egypt and Mesopotamia as a sceptre or symbol of absolute power. The vegetable nature of the staff symbolised the indestructible vitality of the earth as represented in its vegetation.<sup>24</sup> Imhotep, grand vizier of King Djoser (2600 BC), who was also deified as a healer, was always depicted holding a stout staff. In many old Egyptian representations, deities are shown holding erect serpents as staffs.<sup>5</sup> In Exodus 7: 8-12, when Aaron cast his rod before the Pharaoh as a gesture of power, it turned into a snake. The magicians at court could do the same thing, but their snakes were then devoured by Aaron's. Fan<sup>7</sup> reports that the snake and staff as emblem of healing has been known in China since 1700 BC. He hypothesises that it originated as a sex symbol, the erect penis (or snake) being seen as the origin of fertilisation and new life.

There are two basic varieties of the staff and snake symbol: the single snake emblem associated with Asklepios, and the double snake emblem (*caduceus* in Latin, *kerykeion* in Greek) or herald staff of Hermes.

### Emblem of Asklepios<sup>3,8</sup> (Fig. 1)

The classical representation is that of Asklepios leaning on a heavy staff (*rhabdos*) around which a single snake is coiled (Fig. 1). Although he became well known in Greece as god of healing only towards the end of the 5th century BC, Homer (8th century BC) already mentions one Asklepios as a renowned healer, who transmitted his skills to his two sons, Podaleiros and Machaon. Jayne,<sup>9</sup> however, is of the opinion that the information about his sons was added to the main text at a much later date. Machaon received the gift of surgery, while Podaleiros received the knowledge to diagnose and cure hidden and desperate illnesses. A third son, Telesphorus, always depicted as a child, was associated with convalescence.

Writing in 475 BC Pindar describes Asklepios as a hero, the son of the god Apollo and a married mortal woman, Coronis. It is generally assumed that he was at first venerated as a local hero in Tricca in Thessaly, where his hero's grave may still be found, and that he subsequently became deified as a god. But there is also a minority opinion which totally dissociates the hero of Tricca from the later god of healing.

Mythographers differ widely on the origins of Asklepios. Probably the commonest version (that of Pindar) tells that Coronis was fatally wounded by an arrow from Artemis, as punishment for her adultery, but that Apollo delivered the child from his dying mother on the funeral pyre, and placed him in the care of Chiron, the Centaur, who taught him the art of healing. However, Pausanias records that Coronis did not die, but delivered and abandoned her child near Epidaurus, where he was suckled by the mountain goats. He was

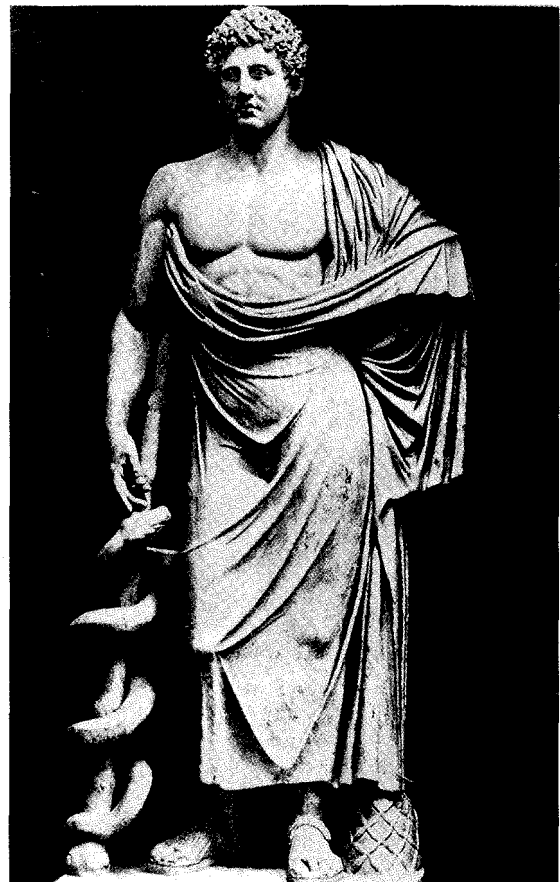


Fig. 1. Asklepios and his snake symbol. Sculpture by Braccio Nuovo, Vatican Museum.<sup>3</sup>

subsequently found by the local inhabitants, who immediately recognised his god-like features. In this way the healing shrine of Epidaurus, the first and best known of all Asklepiian shrines, originated, to be followed by similar Asklepieia at more than 200 sites, including Athens, Pergamum, Cos and even Rome. The latter shrine, on an island in the river Tiber, originated in 293 BC when, according to Ovid, the elders of Rome terminated a terrible plague by bringing Asklepios to their city in the form of a snake from Epidaurus. Eventually (according to Pindar and Euripides) Zeus, annoyed by Asklepios' success at curing illness and even raising people from the dead, struck him down with a lightning bolt — but later repented, raised him from the underworld and elevated him to full divinity.

According to tradition, the family of Asklepios and their descendants devoted themselves to the art of healing. Hippocrates of Cos was said to have been an Asklepiad, although this term could also have indicated a medical guild. Asklepios' wife, Epione, had sacrifices offered to her at Epidaurus, and according to legend his two daughters followed in his footsteps: Hygieia was not a healer, but represented health, while Panakeia became the personification



of the all-healing powers of herbs and other medicines.<sup>9,10</sup>

In the cult of Asklepios as performed at the healing shrines, serpents (to a lesser extent also dogs, goats and cocks) played an important role, and thus became incorporated in the staff and snake symbol. The Asklepieia were usually situated in healthy and picturesque surroundings with groves of trees and flowing fountains. The complex always included an *abaton* (open porch with roof) where patients underwent 'incubation sleep' (sometimes under the influence of sleeping draughts) while the priests silently moved among the patients with their sacred serpents, which often licked the individuals' lesions or injuries. Interpretation of patients' dreams formed an important part of the diagnostic and therapeutic procedures, which included massage, dietary and exercise therapy.<sup>10</sup>

As symbol of health-related matters the Asklepiian snake and staff emblem was carried into the Middle Ages, and with the introduction of printing in the 15th century it featured prominently on the elaborate frontispieces of medical works, herbals and pharmacopoeias. Schouten<sup>3</sup> gives an extensive survey of such publications in Europe, and the Netherlands in particular. He points out that the symbolic person of Asklepios gradually became separated from the freestanding single-snake emblem from approximately the 17th century, when the influential Cesare Ripa used the latter in medical and health-related articles in his editions of *Iconologica*. At this stage the cock (also dog and goat) symbolism, which had previously often been included in the Asklepiian emblem, became progressively omitted. The emblem was also commonly included on health-related medals, engravings, paintings and buildings. It became the symbol of the newly found Ecole de Pharmacie in Paris (1803), the Netherlands Society for the Advancement of Medical Science (forerunner of their Royal Society) in 1847, the International Physiological Congress (1901) and the World Medical Association held in Havana in 1956. Today it is on the crests of medical organisations worldwide, including the American and South African Medical Associations. But as will be shown below, the double-snake emblem of Hermes (caduceus) also steadily emerged as symbol of the health fraternity. Three of South Africa's eight medical schools have a snake and staff emblem on their crests — one the Asklepiian symbol and two the caduceus.

#### Emblem of Hermes (caduceus, herald's emblem)<sup>3,11</sup> (Fig. 2)

This consists of a thin rod or staff, encircled by two snakes with their heads together at the top end of the staff. The single-snake staff of Asklepios is sometimes also erroneously referred to as a caduceus.<sup>12</sup> The word is derived from a Greek root meaning 'herald's wand', and is traditionally associated with the mythical Hermes (Latin, Mercurius), messenger of the gods, and mediator between the realm of the dead and the kingdom of the living.<sup>8</sup> The caduceus was indeed a magical

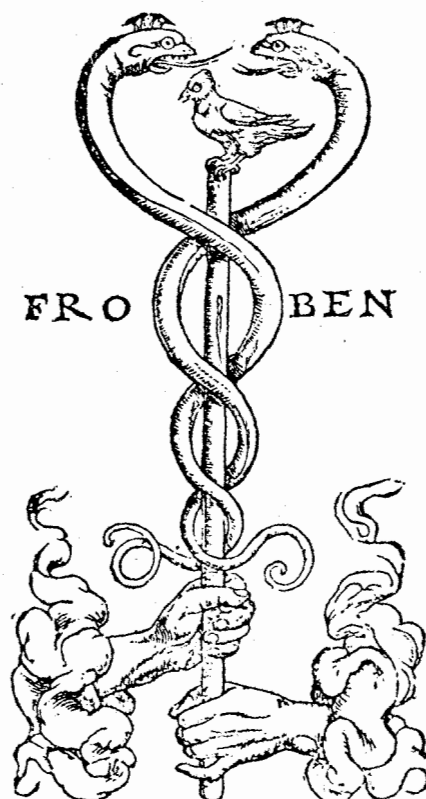


Fig. 2. Symbol of Hermes (caduceus). Printer's device of Johann Froben, 16th century publisher of medical works.<sup>3</sup>

wand, a gift from Apollo that protected Hermes and enabled him to guide departed souls along unknown pathways to the underworld, and to awaken the sleeping. The latter aspect was sometimes associated with powers of resurrection, of awakening the dead, and also of curing the severely ill.

Hermes became the protector of travellers, merchants, shepherds and their flocks. As divine protector of merchants he was also called the 'divine deceiver', in view of the negative connotation sometimes attached to merchants, and was therefore also seen as protector of thieves.<sup>8</sup> In the third Homeric hymn, Apollo does indeed testify to all these attributes, and also includes Hermes' prowess as initiator of dreams, 'the night watchman, the keeper of the gate'.

This symbol, in different forms, does however have a history going back to long before the Greeks. Flint knives with exquisitely worked gold foil on ivory handles, and double-snake motifs dating back to 3100 BC were found in Egypt. Similar designs of Mesopotamian origin date back to 2000 BC, including a famous double-snake staff emblem on the libation cup of King Gudea.<sup>5</sup> These were probably religious symbols relating to the gods of fertility and sexual powers, and were not really health-related. Hart<sup>12</sup> suggests that in the mists of antiquity the caduceus originated as a phallic symbol, and



gradually developed into Hermes' herald's wand.

Not originally a health-related emblem, the caduceus did, however, acquire this association during the late Middle Ages, when it gradually became the emblem of alchemy and pharmacy. Schouten<sup>3</sup> suggests that this association possibly originated in the 5th century AD when *Hermetica*, a partly mystical document dealing with astrology, alchemy, magic and philosophy, became influential in suggesting that the planet Mercury (Hermes) was vitally important to earth. The name *mercurius philosophorum* was subsequently given by the alchemists to quicksilver (mercury), considered the first principle of all matter, and metals in particular. Mercury/Hermes therefore remained a dominant factor in alchemy and by the 16th century the caduceus had become a medico-pharmaceutical emblem. John Caius, President of the Royal College of Physicians in 1556, presented the College with a caduceus ensign of honour for the president.<sup>12</sup> Johann Froben, an eminent publisher of the 16th century, was probably the first to use the caduceus consistently in his medical publications. In publishing and art the caduceus now started appearing quite regularly as a medical emblem, in addition to the traditional Asklepios snake and staff. In the mid-19th century J S Churchill, the famous London medical publishing firm, used the caduceus as a printer's device, and in 1856 the Wand of Hermes became the medical emblem of the US Army Medical Service, and subsequently also of the US Public Health Service. Hart<sup>12</sup> described caduceus imprints of great antiquity on oculist's stamps found in London, perhaps dating back to Roman times, and suggests that it might be considered an original ophthalmic symbol.

## DISCUSSION

Clearly Asklepios's snake and staff symbol was the emblem of health care in antiquity. Asklepieia were in fact in vogue up to the 5th century AD.<sup>3</sup> The snake component of the emblem clearly relates at least partly to the sacred snakes that accompanied Asklepiian priests on their rounds to the *abaton*s of Asklepieia. But at the time domestic snakes were also accepted by households as bringers of good fortune, and serpents were commonly associated with wisdom and longevity.<sup>1</sup> The heavy wooden staff was probably a symbol of eternity as embodied in mother earth, rather than representing the walking stick of the dedicated physician always ready to travel anywhere for the good of his patients.<sup>3</sup>

The origin of the caduceus is shrouded in mystery.<sup>5</sup> It could well have originated as a phallic symbol, but during the early Egyptian era a short and simple staff or rod was already accepted as a regal sign of power. Decoration of the rod with two coiling snakes was already evident 3 millennia BC, and in Graeco-Roman mythology it became the magic wand of Hermes, messenger of the gods. At no time was it seen as a

symbol of healing, although indirect associations are detectable.<sup>3,5</sup> Hermes did, after all, accompany the dead to Hades, and might have had the power of resurrection. And many gods, including Hermes, were imbued with healing powers; Hermes was associated with the birth myths of Dionysos.<sup>3</sup> But these legends are too tenuous to support a basis of true medical significance. The caduceus's prominent association with the healing professions which arose during the late Middle Ages and the Renaissance, was erroneous from a classical point of view, but might have had an explicable origin in its association with alchemy.<sup>3</sup> However, it did gain a foothold which has persisted to this day, and the magical wand of Hermes has been accepted in certain health professions and societies, in lieu of the mythologically correct single-snake emblem of Asklepios, in spite of the former's negative association, *inter alia* with dishonest trade practices and thievery.

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Accepted 6 August 2001.