

**The Staff of Aesculapius and the Caduceus
as medical symbols**

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The possible origins and meanings of the two most famous medical symbols, the Staff of Aesculapius and the Caduceus, are discussed. Reference is made to the Bible, and to Greek and Roman mythology. Modern usage of these symbols is also commented upon.

Key words: Staff of Aesculapius, Caduceus, mythology, medical symbols

Introduction

The Staff of Aesculapius is a symbol (or signifier) regularly associated with medicine and so too now is the Caduceus. In Figure 1 the Staff comprises a solitary snake wrapped around a forked stick whereas the Caduceus, Figure 2, is formed of two snakes wrapped around a wing-topped and non-forked rod. Both symbols have interpretations that now blur into each other due to the loss of ancient historical and mythical knowledge. This paper discusses the possible origins and interpretations of the two symbols, particularly the images in Figures 1 and 2. However, it should be noted that there are several variants of these images in terms of the design of the stick/rod/wand and sometimes with leaves decorating the snake(s). For example, the Staff in the coat of arms of the Royal Society of Medicine, London, is shaped like



Figure 1. The Staff of Aesculapius

a T and in the logo of the World Health Organisation the stick is straight and not forked. Alternatively the Caduceus in the coat of arms of the Royal College of Radiologists, London, is a single stick without the wings of Figure 2.



Figure 2. The Caduceus

Snakes

The Old Testament (Numbers chapter 21, verses 4-9) has Moses using a stick with an entwined bronze snake for healing, whilst the Babylonians considered the snake to be a symbol of healing, wisdom and fertility. Snakes were also well known in Greek mythology, but could portray good or evil. Gorgons, including the famous Medusa, had snakes for hair, and snakes were portrayed being used in initiation rites for opening the senses to the world or for opening the *inner eye* of thought and intellect.

Aesculapius

In Greek mythology, Aesculapius is supposed to be a half-brother to Hermes, who was the god of

science & commerce and also the messenger to the gods (in Roman mythology, Mercury is the winged messenger of the gods). Aesculapius considered disease as a poison, and hence originating from snakes. He is portrayed as a son of Apollo, who killed Aesculapius' mother (Coronis) and then performed the first caesarean section to enable the birth of Aesculapius. He was then given to the centaur Chiron to raise, who taught Aesculapius the art of surgery, making him the most well respected doctor of his day. In addition he also taught him the use of drugs, incantations and love potions.

Aesculapius is mentioned by Homer in *The Iliad* since he fought alongside the Achaeans in the Trojan War and cured Philoctetes of his famous snake bite. Homer also mentions his two sons, Machaon and Podalirius who were considered to be talented healers.

The Staff

The Staff symbol has a broad overall meaning, that of *healing*. In mythology it has three levels of religious connotation. There is the *humanist level* because Aesculapius was a Greek healer, the *pagan level* with Aesculapius as the son of Apollo, and the *monotheist level* of the Old Testament: and therefore of Jewish, Christian and Islamic religions. These three levels have little significance in today's society except perhaps amongst the more religious Christians who are aware of the verses in the New Testament (John, chapter 3) likening Christ on the crucifix to the snake upon Moses' staff, with Jesus giving healing to those who look upon him.

Hermes and the Caduceus

One theory of the origin of the two intertwined snakes of the Caduceus is that they were initially ribbons used as a garland and were subsequently replaced by snakes because of the above religious connotations.

Another theory is that the Tiresias threw a staff between two fighting (or in some versions, copulating)

snakes and they entwined themselves around the staff. (Tiresias was immediately turned into a woman and so remained until he was able to repeat the act seven years later). Legend then has it that the staff came into the possession of Hermes. The basic power of the Caduceus is the power to heal or harm. The wings in Figure 2 are also a symbol of Hermes, one of whose duties for the gods was to lead the dead into Hades, carrying the Caduceus in front of him.

Early confusion between Staff and Caduceus

Early confusion between the symbols almost certainly arose due to the links between Hermes and alchemy. The alchemists adopted the Caduceus because Hermes was the patron lord of gamblers, thieves, tricksters and alchemists. By the end of the 16th century, alchemy became widely associated with medicine in some areas, leading to some use of the Caduceus as a medical symbol.

The Staff and the Caduceus in modern times

In modern times the Caduceus has often replaced the Staff in the portrayal of medicine symbolism. One example is the Caduceus used as the symbol of the United States Naval Medical Corps and of many of the Western Armed Forces, although why this choice was made is unclear. The American Medical Association also uses the Staff as its logo (with the rod at an angle of 45° rather than vertical).

An analogy has also been made with the DNA double helix: although in reality the double helix has both chains running parallel. The wings in Figure 2 can also be likened to those of the American eagle and of the motif of the Royal Air Force which may have been copied from those of Hermes to signify winged flight.

Table I. Examples of publishers using snake symbols in their logo

A. & C. Black. London.	Snake entwined around a [blood-letting ?] bowl on a stand [Knox R. <i>Radiography & Radio-Therapeutics</i> , 1919]
Buterworths Medical Publications. London.	Caduceus & wings & letter B [Raven RW. <i>Cancer</i> . Volume 5. Part IX <i>Radiotherapy</i> . 1959]
J. & A. Churchill, London.	Caduceus & wings [Cade S. <i>Radium Treatment of Cancer</i> . 1929]
Grune & Stratton. New York.	Caduceus & wings and letters G & S [Buschke F. <i>Progress in Radiation Therapy</i> . 1958]
Heinemann Medical Books London	Aesculapius in a chair holding staff with a cockerel at his feet [Peel J, Brudenell JM. <i>Textbook of Gynaecology</i> . 1969]
Hospital Physicists' Association, London.	Caduceus & a Bohr atom [<i>History of the Hospital Physicists' Association 1943-1983</i> . 1983]
British Institute of Radiology, London	Aesculapius staff incorporated into logo [together with an owl] [<i>British Journal of Radiology</i> 1973]
Union Minière du Haut Katanga. Brussels [RB = Radium Belge].	Snake encompassing a circle containing a star & RB [<i>Radium</i> . 1931]

Discussion

The value of a signifier depends upon its relationship with other signifiers and its position within the system it is being used. Over the last few centuries, western medicine has changed its position within society, and in the process, the system has altered and so then have the value of the signifiers used to depict medicine also altered. This concept is well recognised in *semiotics* (the theory of sign-systems in language: Chambers English Dictionary) where dynamic changes in society over time alter the concepts implicit in the signifier. As internal and external forces have increasingly commercialised medicine, so the Caduceus has become considered to be increasingly appropriate and acceptable within commerce, including medical publishing, Table I. The number of symbol variants has greatly increased in modern times.

In particular, medical & radiological societies, colleges and institutes (some already mentioned) have used these symbols. They include the Staff in the logo of the *Philadelphia Roentgen Ray Society* (1920s) and the *American Academy of General Practice* (1960s) and the Caduceus in the logo of the *American College of Radiology* (1920s). In the logo of the *Portuguese Medical Society of Radiology* (1930s) the snake is entwined not around a staff but around an X-ray tube. The Staff was also placed on the frontispiece of William Gilbert's *De Magnete* (1600). The Staff also appears in one version of the logo of *Oak Ridge National Laboratory* (the other three symbols are a nuclear power station, a sheaf of corn and an oil lamp) and of *Atoms for Peace, USA* (the other three symbols are a microscope, a sheaf of corn and a cogwheel) and in the 1949 logo of the *Brookhaven National Laboratory, Medical Research Center* [5].

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