

The
**naked
flame**

And other hot topics



By Bruce Bentley

This first of a two-part series explores the element of fire in cupping's ancient past, the ways and means of its transfer, the essential role it plays in cupping's therapeutic effect, and representations of the "fire method" in the Western medical tradition up until the 7th century AD.



Neolithic stone lamps at the Thousand Lamp Museum, Qiandeng, Kunshan (Photo: Gisling, 2011, www.wikimedia.org).

FIRE, BRINGER OF light, warmth and transformation; steeped in wonder and magic. Australopithecus at a campsite in Kenya might have been the first to harness it some two million years ago; and at least 70,000 years ago an oil lamp was created to illuminate the night (Safra and Aguilar-Cauz, 2005: 124).

Certainly if we turn the time dial forward to around 30-40,000 years ago, in caves in southern France, Cro-Magnon artists used oil lamps, from the Greek *lampas* meaning torch, in otherwise pitch-black conditions to light the walls and paint their awe-inspiring masterpieces.¹

The tools they employed actually differ very little from a modern painter's equipment. They fashioned delicate brushes, prepared ochres and chipped stone to become scrapers. The raw natural lamps they used, the size of a human hand and emitting 1-5 times candlepower, have been discovered in their hundreds on the floor of these caves. They are sandstone with a central recess into which they added animal fat that absorbed into lichens or a wick that was draped over the edge and lit.

At the Lascaux International Cave Art Centre a remarkably refined Cro-Magnon oil lamp is on display. In China, a stone oil lamp discovered in Kunshan, Jiangsu Province is dated from the Neolithic Period beginning about 10,200 BC.

Many of the technologies already mentioned are seemingly more complex than the creation of a rudimentary cupping vessel. It is well within the realm of possibility that early prehistoric humankind discovered vacuum, and the prospect of the cupping vessel, in the course of their everyday activities.



This superb lamp, an elegant one-off, is an exhibit at the Lascaux International Cave Art Centre. It still contains traces of combustible material. The charcoal remains were found to be wicks of conifer and juniper saturated by melted fat (photo Bentley, 2017).

Primordial cups

At least two possible scenarios explain why hollow animal horns are likely to have been the first cupping instruments. When marrow is being sucked out from inside a horn, a vacuum is produced that then adheres it to the lips of an eager diner. Alternatively, emptied animal horns may have been left beside a fire, and the heat build-up inside the horn transformed into negative pressure. It was only a matter of time until one of these horns was picked up and unknowingly applied to the flesh.

Either way, imagine the amazement at experiencing a sensation made possible by an object from the natural world yet not duplicated elsewhere in natural circumstances. The opportunity supplied by

a hollow horn would have been perceived as magical and at the same time practical; and subsequently became the principal means for supernaturalistic medical practices to draw out malevolent spirits and influences, and for naturalistic medicine to draw out physical intrusions and natural illness causation factors.

In June 2017, I visited the Lascaux and Grotte de Rouffignac Cro-Magnon cave art sites in the south of France. At both places, dated to be 20,000 and 15,000 years old respectively, I asked archaeologists if they thought hollow horns could have been employed as cupping vessels. They were more surprised at never having heard the suggestion before than at the implausibility of the idea. Indeed they were open to the possibility. Far more sophisticated technologies had already been developed and herbs have been found in settlements and graves associated with these sites. These archaeologists spoke to me about how Cro-Magnon would certainly have sucked out and eaten the nutrient rich marrow from inside them.

Ancient epochs

In the worlds of Sumaria (c.4500-1900 BC), Pharaonic Egypt (3200-30 BC), the Akkadian Empire (2335-2154 BC) and Babylonia (1894-1531 BC), oil lamps were commonplace and

came in a number of forms. During the 3rd millennium BC, the first people to establish a civilization in Europe were the Minoans. They were based in Crete and also occupied some neighboring Aegean islands. When I visited the old capital at Knossos in 2013, my guide said that she had seen thousands of oil lamps housed for safekeeping in archaeological vaults. Candles discovered on site also prove these too were a regular part of life (Safera and Aguilar-Cauz, 2005:798).

I purchased a few replica Minoan lamps (below left) at shops nearby, and some originals are on display at the Heraklion Archaeological Museum, not far from Knossos. Vegetable oils such as olive and sesame oil were used as fuel, and some lamps, which probably belonged to the elite and privileged, were elaborately painted, had a special snout or nozzle, a pouring hole, a handle and were enclosed to avoid oil spillage. It is likely that most common folk had simple clay instruments with a pinched lip to take the wick (below).



Simple clay lamps like this one were used in common households that surrounded the royal palace at Knossos.



Replicas of lamps discovered at the palatial residence at Knossos, the centre of Minoan civilisation.

Unfortunately, we have only scratched the surface of Minoan culture and social life, and know little about the medical practices they performed, and even less about the instruments they used—as a survey of the related literature, including Arnott (2004) and Warren (1970) makes plain. If the Minoans practised cupping, then there is no reason why both these light sources could not have doubled to become the means of a flame for cupping. We can reasonably presume this because oil (or grease) lamps feature alongside cupping in later medieval European artworks, and throughout the world to this day many folk practitioners use a candle and take its flame inside a cupping vessel before application. I suggest

that the presence of these as basic tools, and the simplicity of the procedures, are indicators that they served the same task many centuries, perhaps even thousands of years, earlier.

Difficulties in identifying the past

To date in prehistory, cupping vessels have been elusive to discover and identify. It could be that archaeologists and historians are simply not recognising them, and overlooking the possibility that the ordinary clay household drinking cup could have a dual purpose—as it is often does today in folk medical settings in Greece, China, Poland, Russia and other countries.

On July 13, 2014, I spent an afternoon in Athens at the residence of Professor Stefanos Geroulanos, who besides having a glittering medical career is also the President of the International Hippocratic Foundation. We spoke about the possibility of rural people using dried gourds and clay cups back in ancient times. He explained, “It would have been the same back then as it is now with people using household cups as therapeutic instruments. All the implements that were used for drinking and other purposes could also be used as cupping vessels—they don’t need to be made from bronze or glass. Ceramic shards, because of their ubiquity, go unnoticed but they pepper the countryside throughout Greece. My father, who planted thousands of olive trees, said he was constantly digging up old clay pots and cups.”

Confirming cupping vessels it seems is not helped by the fact that academic disciplines tend to follow a narrow range of pursuits. Last year, for example, I corresponded with the curator of an internationally famous museum of ancient antiquities in Egypt. He was astounded and grateful for my input concerning an archaeological relic that was clearly a cupping vessel. He agreed with my summation based on the reasons I gave, and said it had never occurred to the specialists working there. In his scholarly work *Medicine and Philosophy in Classical Antiquity*, Van Der Eijk makes the point that the new era of a wider study of classical medicine requires, “almost by definition, an interdisciplinary field” (2006:7).

On another occasion in 2014, I had a



conversation with an archaeologist at an Athens museum who believed that the Minoans probably performed cupping because he too supposed it had a long prehistoric past. He was not comfortable to be identified, however, because he said there could be recriminations from his seniors who did not sanction unauthorised statements. We agreed that, while not on the archeological or historic record, since early humankind there must have been a series of happenings that were logical lead-ups to the first written evidence on cupping penned in classical Greek by the Hippocratic physicians of the mid 5th and 4th centuries BC. The content of these volumes in themselves suggests the likelihood of a much older date of origin as both dry and wet cupping are described numerous times throughout the *Hippocratic Collection* in sophisticated terms, from the reasons for the shape of the cupping vessel to many treatment recommendations and philosophical/functional speculations. One could imagine that the journey to such detailed knowledge would come only after long experience gained by trial and error.

Interpreting modern history can even be problematic, let alone the ancient past.

A woman receives cupping after a bath. Bathhouses were popular throughout Europe during the latter Middle Ages and cupping, massage and gymnastics were performed. Note the cupper is holding an oil lamp with a visible flame in the left hand. –15th century German woodcut from *Kalendar*, 1483, Iconographic Collection, Wellcome Institute for the History of Medicine, London.



Greek oil lamps from the Classical Period (replicas from Bruce's collection, 2017).

As the noted historian Richard Miles² described during a long lunch a few years ago, “the further back we shine the torch on the past, the dimmer the light becomes”. For example, debate surrounds the commonality of cupping in China at the time when it was first written about in the Mawangdui medical manuscripts. The following illustrates how two scholars can be at odds when interpreting the same text. As I have previously written (Bentley, 2014:20):

There are differing opinions among medical sinologists regarding the likelihood of Chinese common folk performing cupping in ancient times. The first textual record of cupping that we know of is found in the Mawangdui medical manuscripts. These scripts, dated around 168 BC, are a treasure trove of information on treatments and health enhancement (yangsheng) practices. Cupping makes a rather unflattering cameo as a preliminary treatment method for haemorrhoids—“either large ones like a zao [jujube] and small ones like a zao [jujube] pit” The treatment schedule recommends, “to apply a small horn to it, for the time it takes to cook two dou (a unit of quantity) of rice. Then “bind it with a small cord and cut it open with a knife” (Harper, 1998: 271). In his commentary, Donald Harper concludes

that, whether using instruments fashioned from animal horns or otherwise, cupping was adopted much less frequently in ancient China than it was in Greco-Roman medical culture around the same era. He argues that the omission of cupping from other early Chinese medical writings, as well as the lack of information given to a cup’s construction and its mode of application, only adds further weight to this deduction. On the other hand, the Chinese researcher Ma Jinxing reaches the opposite conclusion from the same evidence. He interprets the lack of details as “a sign that cupping was already commonly practised and did not require explanation” (Harper, 1998: 271).

My research leads me to wholeheartedly side with Ma Jinxing’s assessment. In a similar vein, when the 60-odd volumes of the *Hippocratic Collection* were written, it is unfortunate that there are no explicit descriptions given about how the heating procedure was performed. One can surmise that despite being from a time when writing was well developed and erudite, the early Greek medical literati seem to have thought that explaining how to bring a flame inside a cupping vessel was either too simple or commonplace, and so unnecessary to mention, let alone bother with instructions. The same could be said for Chinese medical literature some centuries later. It should be kept in mind as well that we now have only a small amount of the medical literature available to us that was written during the Greek Classical Period. Much of it has been lost, including the Hippocratic volume *On Practice*, which disappeared forevermore in a series of fires, the first occurring in 48 BC that destroyed the Greek mega-library at Alexandria. *On Practice* may have held the key to answering the burning question we otherwise have to reconstruct to offer some less-than-perfect answers.

The virtue of heat and design and the law of attraction

Cupping was so favoured by Greek physicians that the instrument was adopted to be the symbol of the profession, in the same way the stethoscope identifies the contemporary biomedical doctor. It was performed to balance the exchange between

the four humours, as well as promote the movement of blood. Cupping could be used to bring either humours or blood to a problem of scarcity, or conversely, be applied to a part of the body distal to the site of an ailment and so draw away and reduce an accumulation of superabundance (pain)—thereby restoring health by bringing about a state of comparative balance.

In relation to heat required for the application of a cupping vessel, in his commentary on the Hippocratic volume *Diseases IV*, Iain M. Lonie remarks, “heat is also implied with the physician’s gourd, since these are heated” (1981: 281). Lonie also writes, “No physician used to handling cupping instruments [either bronze cups or gourds] could disregard the factor of warmth in their action.” (1981:26) The principle of heat and vacuum also conformed to the philosophical principles around the laws of attraction as propounded by Plato and Aristotle. Heat attracts coldness, which together with a correctly shaped cup and consequent effective vacuum make all three in tandem a formidable therapeutic trio. Similarly, cupping continues today in Greece as a folk practice employed mostly to remove coldness (*kreo*) from the body.

In the *Hippocratic Collection* the shape of the cupping vessel replicates the look and function of the “hollow organs”—being the brain, uterus and bladder. It was understood that these organs draw fluids (humours) into their interior, just as the similarly shaped cupping vessel draws unhealthy elements from the body. Each of these organs was perceived to have an entrance, a narrow passageway and a bulbous main section—just as the common manufacture of the cupping vessel these days also has a lip, a neck and belly—notably therefore, being both descriptions of its design as well as being body metaphors. The Chinese probably borrowed the design of the cupping vessel from the Greeks.

Sikia

It is fascinating to discover in the Hippocratic writings that cupping is referred to in classical Greek as *sikia*, which means gourd. So while the learned physicians who could afford expensive instruments were mostly using bronze cups, the word *sikia* surely indicates

that regular people used dried hollow gourds as cupping vessels. These would have been employed especially by rural folk who could grow their own. Following the Greeks, the Romans borrowed the term *sikia*, but latinised it to become *curcubita*, “meaning gourd or in the shape of a gourd, as a synonym for cupping” (Kravetz, 2004:1418). The medical historian John Stewart Milne (1907:101) notes that in the Indian Vedas, a cupping procedure was “to apply a gourd with a fire in it”; and Mukhopadhyaya (1913:150) wrote that cupping was performed using, “*alibu* (*Lagenaria vulgaris*) or gourd which is made of the bark of the succulent fruit called alabu”. It is difficult to make out whether “a fire in it” means a lit material of some sort thrust into the gourd, or if it was a flame taken inside and removed quickly before the vessel was attached.

Testing the proposal

I conducted an experiment to see if the flame produced by a replica classical oil lamp that I purchased in Athens was effective in applying a cupping vessel to the skin. I used Greek olive oil as the fuel. It should be kept in mind that the quality of the replica lamp and the wick that came with the purchase is certain not to be of the same type or quality as an original. I found that while I was successful adhering the cup, it did require quickly taking it to the body, and even then the strength of the suction was mild. My assessment is, in order to achieve a stronger suction when required, the lamp wick would need to be thicker and made from a material that effectively absorbed the olive oil to engender a bigger flame. What we should take for certain is that the right lamp does the job, otherwise they would not feature in medieval illustrations and on through into 19th and early 20th century clinical practice.

For my second experiment, rather than using a current standard Chinese glass cup, I chose to use a 19th century thin Romanian glass cup from my cupping vessel collection. I decided on this type of cup because when I was doing research at the Department of the History of Medicine in Rome in 1998 I had the opportunity to examine some glass cups from Pompeii. I was amazed not only that they survived the volcanic eruption but how thin and delicate they were. To my great



Ceramic cupping vessels from Egypt

About 15 years ago, a cupping student of mine kindly gave me these two specimens. His father was a physician, and a doctor friend of his with a passion for medical archeology had been at a dig in progress in Egypt 50 years earlier. The workers discovered these two cups and held them up for all to see. The doctor gestured, and brought his hand to his mouth, to which the workers emphatically disagreed and signed back emphasising that the vessels were to be placed on the skin surface. Their glazed surface dates them at 800 to 1000 years old (photo: Bentley, 2016).



Even with a flame from a replica Greek oil lamp, a fine job of cupping was achieved, using this 19th century Romanian glass cup (photo Bentley, 2017).

satisfaction, this cup did indeed fasten to the flesh and draw far more effectively.

As it stands, I am inclined to think that when bronze cups were being used, a material impregnated with fuel thrown into the cups probably best served the purpose. However, if clay cups were used, presumably with continuous straight or angled sides, then the flame from a lamp would be a safer and better option. I employed the same Greek lamp to effectively carry out the cupping procedure with my only clay option being an old Egyptian clay vessel. The difference between this and either Minoan or classical Greek vessels would be the glaze. Certainly by the time glass cups were being made, during the Roman era, using a lamp was probably the done thing.



Fine glass cups from Pompeii on display at the Department for the History of Medicine, University of Rome (photo Bentley, 1998).

The works of Paulus

Paulus Aegineta (625-690 AD) was the last of the great physicians of the Byzantine period (Eastern Roman Empire 330-1453 AD), so called because after the Fall of Rome, imperial power shifted east to Constantinople, now Istanbul. His great accomplishment was as a medical encyclopaedist who compiled the writings of many of the scholars and physicians of Greek, Roman and Arabian medicine from the time of Hippocrates and his followers. Together with the inclusion of his own knowledge and practice, he set it all down in fine and thorough detail in his Opus Magnus of seven volumes titled *The Medical Works of Paulus Aegineta* (Welsh, 2007).

Within this massive compilation, besides describing a broad range of treatments based on complex diagnostics and extensive herbal, dietary, exercise and physical therapy, he makes copious inclusions regarding cupping, the ailments it treats and how it should be applied.

The following is a selection from the array of references. For our purpose I have listed some of the recommendations for cupping performed with “Great Heat”, or by heating the cup until it is hot (without burning the patient). In a few cases he describes the best way of heating the cups. I have taken the liberty to capitalise the heat references for easier recognition. Otherwise the capitals are direct from the source:

■ *To treat Earache occasioned by Coldness, and a melancholy Spirit is greatly remedied by applying a cupping instrument, previously heated in hot water and affixed near the ear.*

Could he be referring to a case of someone suffering earache from being exposed to cold windy conditions? Certainly it is a common for many people to get earache under such climatic circumstances. I do! And especially when wind is loaded with coldness—and in my case at least, wind is the critical nasty overlay. Furthermore, many people report that when they are exposed to windy conditions it makes them feel uneasy and mentally “on edge”.

Considering the antiquity of the era and the subtleties of translating the original text, could this be tied with a “melancholy spirit”? It is such an appropriate interlinking of the

emotions with the physical complaint

Does Paulus then refer to an ailment caused by both cold and wind climatic conditions. I think so. Celsus, the noted Greco-Roman encyclopaedist of the 2nd century AD, made the distinction between dry and wet cupping clear in his *De Medicina* (Of Medicine) by explaining: “If the skin upon which the cup is to be stuck is cut beforehand with a scalpel, the cup extracts blood; when the skin is intact, wind” (Spencer, 1953: 167).

■ *On vomiting of Bile: A cupping instrument when applied with a Great Heat is of great service.*

■ *On Pain: When pain is occasioned by warm air or flatulence, apply cupping with Great Heat. [He cites Aetius, a Greco-Roman physician who also recommends applying cupping instruments with Great Heat to the breast, stomach and back, and in certain cases to treat inflammation of the stomach and neighbouring parts.]*

■ *For Lethargy: Aetius says when the disease is protracted, the head must be shaven ... we may apply dry cupping, with Much Heat.*

■ *On Pain when occasioned by warm air or melancholy, cupping should be applied with Great Heat.*

■ *For uterine suffocation: Apply a cupping instrument to the groins and hypogastrium, with Great Heat.*

■ *For prolapsed uterus: cupping instruments with Much Heat are to be fixed to the navel and the groins on both sides.*

■ *For ischiatic disease [an arthritic complaint seated in the hip joint] cupping instruments may be applied to the hip with Much Heat.*

■ Part 2 in the next issue of *The Lantern* will continue with the Western flame lineage, as well as presenting its history and conduct in the Chinese, Indian, Islamic and various folk medical traditions.

Footnotes

1. Interestingly, the toxicologist and environmental health engineer, Albert Donnay (www.quora.com) points out, “Such a large number of lamps would have produced enough light to paint by and also reduced the risk of fatal CO poisoning that came with making or carrying larger fires deep in the cave. Few anthropologists have studied these lamps but a French team once tested them in a painted cave, briefly lighting hundreds on the floor. They

found that the merged light flicked very quickly so that all the animals on the walls and ceilings appeared to be moving. This “moving picture” effect cannot be seen when the caves are lit only by flashlight or electric light.”

2. Professor Richard Miles is the author of *Ancient Worlds* (2011. Penguin History) which became a BBC documentary series. His other BBC series is *Archaeology: a Secret History*.

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■ Bruce Bentley is a Australian registered acupuncturist and Chinese herbalist who presents cupping and gua sha workshops. In 2017 Bruce was employed as an editorial advisor in the WHO division of traditional, complementary and alternative medicine, and accepted the role as president of the World Society for Ethnomedicine.
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