

THE HUMAN BODY AND CULTURAL EXCHANGES BETWEEN HEALING TRADITIONS

THE HUMAN BODY

One difference in the cultural responses to 'illness' and 'disease' stems from various views of the human body. From the earliest recorded history, humans have expressed keen interest in the structure and function of the body.

One Roman physician, Galen of Pergamum, (AD ?131–201) dissected and vivisected a variety of animals during the second century AD to further his knowledge of anatomy and physiology. Among his experiments, he opened the arteries of living animals in order to examine blood flow and tied the ureters (i.e., the tubes connecting the kidneys with the bladder) of live animals to prove that urine came from the kidneys. Again using live animals, he separated the spinal cord at different locations in order to determine what types of paralysis occurred in them.

Early in life, Galen was assigned to treat injured gladiators. The gladiators butchered one another in public arenas, and then the citizens fought for a piece of the dead gladiator's body. A segment of a gladiator's liver, for example, was thought to possess curative powers for epilepsy. Utilizing his position, Galen tested many different forms of surgical treatments. He found a tourniquet less likely to stop extreme bleeding than directly applying pressure to the vessel. If this still was not effective, he urged surgeons to 'grasp the part from which the outflowing blood is coming' with a hook and 'twist it around'.

Later in life, Galen devoted more time to writing philosophy. He gradually came to accept that the Creator of life was infinitely wise. He viewed every tissue, disease, and body function



ABOVE Galen, the foremost Roman physician. His medical philosophy and his medicinal compounds were deeply influential.



ABOVE William Harvey drew a parallel between the human microcosm and the macrocosm of the universe.

theologically as well as physiologically. The dualism implicit in this way of studying the body is evident in his book, *On the Usefulness of the Parts of the Body*. Uncovering the physical mystery of the human form was 'in no way inferior' to the pursuit of those initiated into some 'sacred rite'. Nor is the body 'less able' than priests to 'show forth the wisdom, foresight, and power of the Creator'. He urged readers to follow his discourse 'closely...as it explains the wonderful mysteries of Nature'.

Medieval and Renaissance healers extended the Greek and Roman anatomical notion of the human

body as 'an image in miniature of the Cosmos itself'. In diagnosing and treating disease, medieval physicians relied upon 'Zodiac Men' images, in which each zodiacal sign in the heavenly bodies was thought to hold special curative power over a corresponding part of the human body. In the Renaissance, selecting the site for blood-letting, for instance, might be based upon the understanding of a particular heavenly constellation's influence. British physician William Harvey (1578–1657) popularized the macrocosm/microcosm analogy in his conceptualization of the heart as the centre of a circulating system of life-sustaining blood, much like the life-giving Sun at the centre of the Copernican universe.

During the Renaissance, dissection became increasingly important in the training of physicians and surgeons. The obsession with obtaining an internal view of the human form reflected contemporary thought. Renaissance philosophy directed individuals to turn their gaze away from scholastic writings towards the inner make-up of

the natural world. Nature's secrets, they claimed, would be revealed by peeling away its structure layer by layer. Renaissance physicians used anatomical dissection to identify signs or reference points of the inner physiological working of humans that were not always visible on the surface. This display also allowed them to view nature's 'parts' directly, interpreting correlations between anatomical structure and physiological function for themselves without being constrained by tradition to follow only ancient doctrine.

Dissection gradually led some healers to adopt a 'soul-less' view of the human body. The human body, according to Enlightenment French physician Julien Offroy de La Mettrie (1709–1751), is 'a machine that winds its own springs: the living image of perpetual movement'. The growing man-machine image stemmed primarily from the work of French philosopher René Descartes (1596–1650). In *L'homme machine*, Descartes depicted man as a dynamic, physiologically functioning machine. Blood circulated, food was digested and humans reproduced via purely mechanical means. The body was composed of material parts which worked together according to physical, mechanical laws. According to some accounts, God acted as the engineer behind this great terrestrial machine. The question remained, however, as to whether God could intervene at any stage of malfunction or whether humans functioned entirely by a predetermined course or by free will. Healers who intervened with God's work in order to fix the broken machine were sometimes charged as atheists.

Particular views of the human body have also shaped ideas about who was eligible to practise medicine. For women to become physicians in modern Western culture, they had to gain admission into recognized educational programmes. At the close of the nineteenth century, the prevailing medical view, as Harvard physician Edward Clarke vividly described in *Sex in Education; or, A Fair Chance for the Girls* (1873), was that a woman's 'reproductive machinery' could not become fully 'manufactured' if she pursued academic studies. Clarke argued that the 'force' needed for reproductive development would be diverted to the brain. The male-dominated medical profession used this argument to restrain women from pursuing higher education in order to preserve the state of the family and society; only a privileged few sat the qualifying exams in Switzerland (1865) and Germany and France (1869).

In contrast, women were included in the very first class of osteopathic medical training, which was held in 1892 at the American School of Osteopathy (ASO) in Kirksville, Missouri.

Andrew Taylor Still (1828–1917), the founder of osteopathy and the ASO, was a firm believer in the equality of the sexes. To Still, women had proved that 'if man is the head of the family, his claim of superiority must be in his muscles and not his brain'. He noted that women performed 'well in the [Osteopathic] classes, clinics, and practice', and proved 'as well worthy of diplomas as any gentleman'.

By 1900, the machine-image of bodily workings became more popularly known as the 'human motor'. Andrew Taylor Still shared this view of the body working as a motor-driven machine. He incorporated motorized machine imagery within the actual practice of osteopathy. His use of mechanical leverage, manipulating bones as levers to relieve pressure on nerves and blood vessels within the human frame, formed the foundation of osteopathic medicine. All 'remedies necessary to health', Still exclaimed, 'exist in the human body'. They can be efficaciously 'administered by adjusting the body in such condition that the remedies may naturally associate themselves together ...and relieve the afflicted'.



ABOVE Transplant surgery presupposes a Cartesian view of the body as a machine made up of replaceable parts.

Although confronted by oppositions on many fronts, the mechanical, man-machine image of the body overcame the opposition and continues to be upheld by many healers today. Perhaps the most visible manifestation of this presupposition lies in the robot-like devices used in contemporary clinical practice. Supportive 'vital' functions have been taken over by iron lungs, artificial limbs, mechanical hearts and kidneys, as well as skin grafts and 'living organ' transplants. The body, once viewed as ideally individual, has become an assemblage of replaceable units. As medical science has discovered further uses for human organs, tissues, and cells, the human body has become, in a sense, public

property. As Russell Scott argued in *The Body As Property* (1981), citizens are viewing it more as a 'duty' to make their dead bodies available for the aid of the living. Claims upon the dead have already become something of a public entitlement, and the human body is, in some countries, a marketable commodity.

More so than in any preceding century, twentieth-century ingenuity has resulted in a more complex understanding of human form. Technology has enhanced our power to visualize bodily components infinitely smaller than the naked eye could perceive. At such a microscopic level of visualization, the twisted chain ladder of our genetic code engineers our entire bodily make-up. With the discovery of the molecular structure of DNA in 1953, the mystery of our genetic selves began to unravel. Not only did this newly deciphered body give healers insight into the process of heredity, but within decades it offered the potential for creating 'more perfect' variations of living forms. Visualizing a perfectible level of humanness may empower some to re-engineer human form and function. Designer bodies, often imbued with Frankenstein-like forms, are one possible ramification of the Human Genome Project. This project, the largest funded international medical collaboration in history, is designed to map out all of the genes on each of the human chromosomes. While results of this project may unlock the secrets of previously incurable genetic afflictions, the ethics underlying human manipulation of human form has provoked many to question whether Aldous Huxley's 1932 *Brave New World* vision of humans created in high-tech hatcheries will

be our twenty-first century reality. Such technological leaps have transformed the image of a healer.

LEFT Such was the demand for bodies for anatomical dissection in England in the late eighteenth and nineteenth centuries that gangs of criminal 'bodysnatchers' grew up to supply the trade. They would dig up recently buried corpses and sell the bodies for dissection. The most notorious of these felons were Burke and Hare, who murdered people to provide specimens for Robert Knox's anatomy classes. This watercolour of bodysnatchers (1775) is ascribed to the artist Thomas Rowlandson.



THE FIRST HEART TRANSPLANT

Perhaps the best known episode of human engineering was the first human heart transplant. Christiaan Barnard (1922–), an Afrikaner, spent several years in the 1950s developing techniques for open-heart surgery, correcting congenital heart malformations in children, and perfecting artificial heart valves. He secured a heart-lung machine which artificially oxygenated blood outside of the body and transported it back to the body, working in the place of the heart and lungs. This process increased the amount of time that surgeons could use in an open-chest operation.

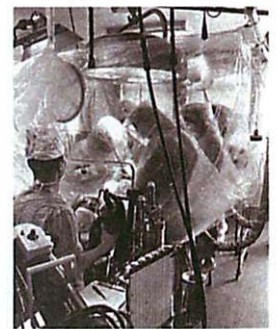


ABOVE A graduate of Cape Town medical school, Christiaan Barnard spent some time researching in the United States before returning to South Africa to practise surgery.

After perfecting the technique on dogs, Barnard performed a human heart transplant at Groote Schuur hospital in South Africa on 3 December 1967. His patient, the 55-year-old Lithuanian emigrant Louis Washkansky, had suffered a series of heart

attacks in the previous seven years. When he was admitted to Groote Schuur in November 1967, doctors gave him only a few weeks to live. Washkansky survived until a suitable donor was found. The donor, 25-year-old Denise Darvall, had been hit by a car, was pronounced 'brain dead' and was placed on a respirator.

Washkansky survived the operation, but died 18 days later from pneumonia. Still, the operation was deemed a success, and it opened the doors for the hundreds of lives annually saved by this technique today. The uniting of South Africans, Americans and Lithuanians allowed this frontier of medicine to reach fruition, and it demonstrates one way in which interactions between different cultures have contributed significantly to modern medicine.



ABOVE Heart transplant surgery was headline news in the 1960s. Today the technique is routinely used to save lives.

CULTURAL EXCHANGES BETWEEN HEALING TRADITIONS

Cultural exchanges between different theories and practices of healing have existed for centuries.

One example, the Persian physician Avicenna (ibn Sina) (980–1037), often called Islam's 'Prince of Physicians', practised humoral medicine in the eleventh century. He was the first scholar to create a complete philosophical system in the Arabic language, and he claimed that logic was a better guide to medical success than first-hand investigation. His *Canon of Medicine*, written for general practitioners, was an encyclopedia of medicine that served as an authoritative text in multiple language translations throughout Europe until the 1500s. It included diagnostic methods based on urine samples and the pulse, techniques for blood-letting, and prescriptions for preventative medicines.

Moses Maimonides (?1135–1204), a pupil of the Arab medieval physician-philosopher Averroës (ibn Rushd) (1126–1198), developed a medical practice using components of both Greek and Galenic traditions. An itinerant practitioner, travelling from Cordoba to Egypt, Maimonides ultimately worked as court physician to Saladin, Sultan of Egypt and Syria, providing him with advice on personal hygiene and dietetics. Most importantly, Maimonides integrated natural philosophy and medicine into Jewish culture. Jewish medical institutions around the world today still recognize the importance of the name Maimonides.

One unlikely practitioner, explorer Álvar Núñez Cabeza de Vaca (?1490–?1556), was instrumental in transporting Old World medicine to the New World. In 1527, Cabeza de Vaca left Spain with explorer Pánfilo de Narváez for the planned conquest of Florida. After having fought disease and natives in Florida's interior, the expedition departed in an attempt to reach the Spaniards already in Mexico.

The destitute party, now with Cabeza de Vaca in command, followed the Gulf coast and landed at present-day Galveston, Texas. Cabeza de Vaca recorded that they were 'so emaciated

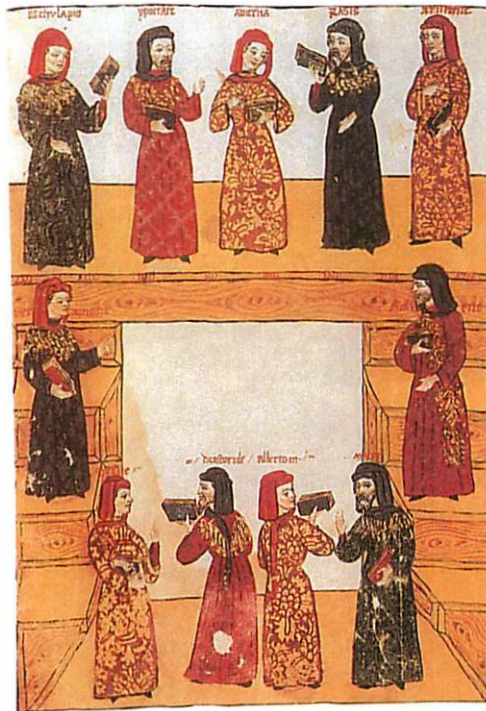
we could easily count every bone and looked the very picture of death' (*Cabeza de Vaca's Adventures in the Unknown Interior of America*, 1988). Natives began to care for these woeful men. Soon, half of these Indians were dead from a disease thought to have been acquired from the Spaniards. They planned to kill the disease-bearers until one Indian reasoned: if the Spaniards indeed had the power to kill the Indians with this disease, why would they have let so many of their own die en route? The Indians suddenly viewed the Spaniards as healers.

Cabeza de Vaca claimed that 'their method of cure is to blow

on the sick, [whereby] the breath and the laying-on of hands supposedly casting out the infirmity. They insisted we should do this too and be of some use to them. We scoffed at their cures and at the idea that we knew how to heal.' To encourage their compliance, the Indians denied the Spaniards food until they acquiesced. This presented a religious dilemma to the Spaniards. According to their Catholic faith, they would lose their souls for practising pagan rituals. However, not complying with the Indians would cost them their mortal lives. The solution? They combined Catholicism with the Indian healing ceremony. 'Our method', according to Cabeza de Vaca, 'was to bless the sick, breathe upon them, recite a paternoster and Ave Maria and pray earnestly to God our Lord for their recovery.' Their method worked.

As time passed, the Spaniards once again became ill, and the tribes lost faith in their healing powers. They were enslaved but later escaped and were peacefully taken in by a tribe near present-day Austin, Texas. There the Spaniards were housed with the medicine men, because the Indians had 'heard of us and the wonders our Lord worked by us'. By the first evening, people were already asking to be healed by the Spaniards.

Despite having left Europe to conquer foreign lands, Cabeza de Vaca gained high regard for native Americans. Several years later, when Coronado's expedition passed through what is now New Mexico, native people sang the praises of Cabeza de Vaca, a 'great doctor ... who gave blessings [and] healed the sick'.



ABOVE The frontispiece of a fifteenth-century Italian manuscript showing the fathers of Western medicine. Avicenna (ibn Sina) is top centre.

AFRICAN MEDICINE

African medical beliefs travelled to the Americas when Europeans shipped slaves to their colonies, notably during the seventeenth and eighteenth centuries. The Africans brought their knowledge of traditional healing practices with them from their homeland and later borrowed successful herbs and techniques from the European and Amerindian cultures that they encountered in the New World. Slave medicine, therefore, was created by a blending of cultures.

A variety of healing practices developed among Afro-Caribbean cultures. The variations were partly due to differences in natural geography. 'Coastal medicine', for instance, employed the use of sea water and evoked the spirits of the sea to assist in healing. This was distinct from 'highland medicine', which was strictly based on the herbs and folklore of mountainous regions.

In Barbados, slaves kept their medical knowledge 'a secret from the white people, but preserve[d it] among themselves by tradition with which they sometimes perform notable cures', according to William Hillary's *Observation on the Changes of the Air and the Concomitant Epidemical Diseases in the Island of Barbadoes* (1766). In *Afro-Caribbean Folk Medicine* (1987), author Michel Laguerre posited other reasons why slave practitioners kept their medical practice private. They did so, he argued, 'to avoid being the victim of the master's hostility and also because of the role of the healer as someone who could both cure and hex'.

Still, some Caucasians sought care from slave practitioners. In Brazil, some of the aphrodisiacs, philtres and fertility agents of the Africans were desired by white slave masters. Roman Catholics in Venezuela asked African shamans to exorcize the devil from their parishioners.

African medicine retains its presence in the Western hemisphere today. Pocomania healers in Jamaica treat patients with African-derived herbal baths and infusions combined with Christian prayers. Umbanda medicine now has followers in much of Brazil; Obeah magic has spread from Jamaica to Panama, Belize, Florida, and the Bahamas.



ABOVE An African shaman casts out a demon. The slave trade carried African medicine to the Americas.

MEDICINE AND VODOO

Typically, the slave medical practitioners served their societies in a threefold role. First, they were the ones to whom slaves turned for treating illnesses which white doctors could not treat. They also were capable of inflicting illnesses upon other individuals by casting spells. Finally, they could effectively remove spells or hexes that had been cast upon an individual. These practitioners came to be known under a variety of names including hoodoo doctors in the United States, voodoo priests in Haiti, myal and obeah men in the Anglophone Caribbean Islands and quimboiseurs, magicians or conjurers in the French Antilles.

In the 1790 Haitian revolution, the high priest Boukman performed voodoo chants and rituals to immunize his followers against the 'white man's magic'. His work was successful; the French army was eventually defeated, reinforcing local belief in voodoo medicine. In South Carolina, the African-born shaman Gullah Jack was an important conspirator in the Vesey slave revolt of 1822. However, the failure of his magic may have weakened the faith of his followers.

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JAPANESE MEDICINE

Another cultural exchange between healing traditions is found in the development of Japanese medicine. Traditional Chinese medicine had long been practised in Japan, where it was known as *Kanpa*. The 52-volume Chinese herbal, *Pên-ts'ao-kang-mu*, was a particularly useful medical guide. Western medicine reached Japan beginning in 1600 with the Dutch who congregated on Deshima, the small 'going-out' island in Nagasaki Bay. The Jesuit missionary physician, Christavaõ Ferreira – known to the Japanese as Sawano Chuan – compiled information about Western surgery in several seventeenth-century Japanese treatises. However, the earliest work of lasting influence was Narabayashi Chinzan's *Kōi geka sōden* (*Surgery Handed Down*), published in 1706. Narabayashi borrowed extensively from the well-known Renaissance surgical writings of the Frenchman Ambroise Paré (c.1510-1590) and incorporated insights from his own study under Willem Hoffman, the Dutch physician at Deshima from 1671 to 1675.

Hollander Wilhelm Ten Rhync (1647–1700) was the first physician at Deshima to describe his professional experiences with *Kanpo* in the seventeenth century to Eastern readers; most importantly, he provided detailed descriptions of acupuncture and moxibustion. After perusing key Western anatomical writings and acquiring a working knowledge of Dutch, two Japanese physicians, Maeno Ryōtaku and Sugita Gempaku, translated Johann Adam Kulmus' *Ontleedkundige Tafelen (Anatomical Tables)* into the Japanese *Kaitai Shinsbo (A New Book of Anatomy)* in 1774. According to Akihito, the current Emperor of Japan, himself a scientist by training, the elaborately illustrated *Kaitai Shinsbo* was crucial, as it 'revealed errors in Chinese medical books that had previously been the sole source of information for Japanese physicians and illustrated the importance of learning by direct observation and of having an open mind' ('Early Cultivators of Science in Japan', *Science*, 1992). Dutch physician Carl Pieter Thunberg, a disciple of Linnaeus, introduced a systematic study of materia medica to Japan, a country whose physicians he claimed were 'very little acquainted with the remedies which they prescribe' (*Travels in Europe, Africa, and Asia*, 1795–96).

Of all Western healers, Philipp Franz von Siebold's (1796–1866) influence in Japan has been the most enduring. Soon after his arrival in Japan in 1823, Siebold claimed not to find an illness that Japanese healers' 'lack of skill' had 'not aggravated or worsened'. Thereupon, he set out to 'systematically teach and demonstrate' the benefits of Western medicine to them, explicitly deploring the diagnoses and treatments of *Kanpo* medicine. Siebold, known in Japan as Shiboruto, through both his direct influence and that of his pupils, established Western medical education in Japan. His legacy forged, as his epitaph states, 'such a strong bridge' between healers of the East and West.

LESSONS FROM THE MIDDLE EAST

Elsewhere in the world, the West gained great benefit from an understanding of healing practices in the Middle East. Smallpox was the plague of the eighteenth century with a mortality rate over 50 per cent. No one was immune. Mary, Queen of England contracted it in 1694, and France's Louis XV died from it in 1774. Those that survived were often hideously scarred.

Lady Mary Wortley Montagu (1689–1762), wife of the British Ambassador to Constantinople, reported that severe attacks of smallpox in Turkey had been prevented by inoculations. She described this treatment in a letter to a friend dated 1717.

Apropos of distempers, I am going to tell you a thing that will make you wish yourself here. The smallpox, so fatal and so general among us, is here entirely harmless by the invention of engrafting, which is the term they give it.

There is a set of old women who make it their business to perform the operation every autumn in the month of September when the great heat is abated.... They make parties for the purpose... the old woman comes with a nut-shell full of the matter of the best sort of smallpox, and asks what veins you please to have open'd.

She immediately rips open ... and puts into the vein as much [smallpox] matter as can lie upon the head of her needle.

LADY MARY WORTLEY MONTAGU,
LETTERS



ABOVE Lady Mary Wortley Montagu, an early proponent of the benefits of inoculation against smallpox.

After her return to Britain in 1722, Montagu had her children inoculated. Britain's King George I, acting under advice from physicians Hans Sloane (1660–1753) and Richard Mead (1673–1754), offered freedom to incarcerated criminals who would test the effects of inoculation. Caroline, Princess of Wales, also grew interested in having her children inoculated, but first wanted the method tested on 50 charity children. Those inoculated exhibited a mild infection, but it was not fatal and did not scar. They

appeared to be immune from smallpox. Although Montagu had no medical training, her elevated social position and careful observation introduced an early form of smallpox prevention. English physician Edward Jenner (1749–1823) modified this method with a process called vaccination, whereby he introduced a milder form of the related disease, cowpox, into uninfected patients beginning in 1796. This method of preventing smallpox became widespread throughout the world.