

# AYURVEDA

## Life, Health and Longevity

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*Although the information contained in this book is based on Ayurvedic principles practiced for thousands of years, it should not be taken or construed as standard medical treatment. For any medical condition, always consult with a qualified physician.*

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# History

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No one knows exactly when civilization developed in India; all dating is arbitrary until the time of Gautama Buddha (563-483 BC). The earliest culture about which we have any useful data is that of the Harappa, the Indus Valley civilization, which arose around 3,000 BC and lasted for perhaps 1,500 years. Successors to Neolithic settlements of 5,000 years previously, the Harappans built large cities, such as Mohenjo-daro, and traded with foreign lands via Lothal, their seaport. Their cities had wide, paved roads, aqueducts, public baths, and extensive drainage systems. With such attention to sanitation, they almost surely also possessed a system of medicine, though no firm evidence yet exists to support this conjecture except for the discovery in Harappan remains of substances such as deer antler and bitumen, which are used in classical Ayurveda.

The Harappan civilization seems to have collapsed between 2,000 and 1,500 BC. Natural disasters may have been to blame, or the Harappan downfall may have been caused by nomadic Aryans from Central Asia, who, Indologists maintain, have frequently invaded the Indian subcontinent. The Aryans brought with them the Vedas, their ancient books of wisdom and sacrificial ritual. The Vedas took on their current form at some point during the second millennium BC, though this version, which has been carefully preserved by India's priests, the Brahmins, is derived from much earlier versions, which are now lost. From the youngest of the Vedas, the Atharva-Veda, developed Ayurveda, probably with the help of residual Harappan knowledge. At the turn of first millennium BC the treatise now known as the *Charaka Samhita*, the first and still most important of all Ayurvedic texts, appeared. Although Ayurveda's most famous surgical text, the *Sushruta Samhita*, was also compiled around this time, the development of surgery being spurred by the need to treat injuries sustained in warfare, the version that has come down to us dates from much later.

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Indian culture entered its Golden Age during this period and learning flourished. By the sixth century BC a 'university' had been established at Takshashila (Taxila), near what is now Rawalpindi in Pakistan. This institution apparently had no true campus but was rather a concentration of scholars and their disciples, who lived near one another to facilitate debate and the exchange of ideas. One of Takshashila's products was Jivaka, the royal physician of King Bimbisara of Magadha (now part of the state of Bihar), who was appointed by the King to personally supervise the health of Gautama Buddha and his followers.

Ayurvedic medicine was already extensively developed by the time of the Buddha, a result, at least partly, of politics. Because the health of the king was equivalent to the health of the state, the services of a royal physician were essential to the state's political stability. The physician had to protect his royal patron from poisoning, cure him of wounds accidental and military, and ensure the regal fertility, the queen's safe pregnancy and delivery, and the royal progeny's healthy development. The Buddha, who taught compassion for all beings, supported both the study and the practice of medicine, and was himself sufficiently aware of medical theory and practice to once speak of a disturbance of the humors in his own body and to ask Jivaka for a purgative to set himself right. He allowed his monks almost all the therapeutic measures advised in classical Ayurveda, including surgery (except for fistula, the operation for which is often unsuccessful and which is better treated by other means).

Jivaka was so famous that at one point most of the citizens of Magadha joined the Buddhist community solely to be able to avail themselves of his treatment; the Buddha consequently prohibited anyone who was ill from being accepted into the fold. Many are the stories of Jivaka's amazing cures, and his studentship at Takshashila was apparently no less amazing. After seven full years of studies there, his guru handed him a spade and sent him out for his final examination: to search within a radius of several miles for any plant bereft of all medicinal value. Jivaka passed his exam when he returned unable to find any such substance, and it is still an article of faith in Ayurveda that nothing exists in the world that cannot be used as a medicine.

In 326 BC Alexander the Great invaded northern India. Though it is likely that Indian medical knowledge had already found its way to Greece before then, this was the first documented exposure of the two cultures to one another. Alexander was sufficiently impressed by Ayurvedic practitioners that he ordered all cases of poisoning to be treated by them alone. He carried some of these doctors away in his retinue on his departure.

In the third century BC Ashoka, the emperor of most of northern India, became a convert to Buddhism. Motivated by compassion for all sentient beings, as Buddha taught, Ashoka built charitable hospitals, including specialized surgical, obstetric and mental facilities, for both humans and animals throughout his realm. Numerous rock-cut edicts around India attest to this, and to the embassies and Buddhist missionaries he sent to many neighboring coun-

tries. These emissaries carried Indian science with them, which is probably how Ayurveda reached Sri Lanka. The Ayurveda now existing in Sri Lanka is almost identical to that in India except that it has been adapted to the requirements of the island and reflects basic Buddhist philosophies, as it might still in India had Buddhism not been exterminated there almost a thousand years ago.

Medical missionary activity continued long after Ashoka, as documented by the Bower Manuscript, written in the fourth century AD and found in Central Asia, where the missionaries had carried it. It contains recipes for various medicines and a long panegyric on garlic. In the later empires of the Guptas and the Mauryas, state-employed and private practitioners seem to have coexisted, and village physicians were maintained by the government through gifts of land and payment of salary. The state also planted medicinal herb gardens, established hospitals and maternity homes, and punished quacks who tried to practice medicine without imperial permission.

During this period of intellectual flowering three more famous Ayurvedic texts appeared. *Ashtanga Sangraha* (probably seventh century) and *Ashtanga Hrdaya* (about a century later) are both ascribed to one Vagbhata, though they were almost certainly written by two different people. These two texts are condensations of the works of Charaka and Sushruta, with some new diseases and therapies added.

The eighth century also saw the appearance of the *Madhava Nidana*, a treatise on diagnostics. The Buddhists, who supported all forms of learning, set up true universities to teach Buddhism, Vedic lore and more secular subjects such as history, geography, Sanskrit literature, poetry, drama, grammar and phonetics, law, philosophy, astrology, astronomy, mathematics, commerce and even the art of war, as well as medicine. The most famous of these universities was that of Nalanda, also in Bihar, which was established during the fourth century AD and flourished until about the twelfth century.

Students came from all over the world to study at these universities. The best accounts we have of Nalanda are those of two Chinese travelers who visited India as students in the seventh century. We learn from them that only 20 per cent of all applicants could pass the entrance examinations, that instruction was free to all, that senior students acted as teaching assistants and that teaching went on day and night. Some graduates elected to stay on as research scholars at Nalanda, whose campus covered half a square mile, housing as many as 10,000 pupils and 1,500 teachers at a time, with numerous cooks and support staff. 'Nalanda brothers' even had the same kind of old-boy network that old Etonians or alumni of Harvard enjoy today.

The Golden Age ended when waves of Muslim invaders inundated northern India between the tenth and twelfth centuries. Buddhism had developed as a reaction against the meaningless ritualization with which many of the members of the Vedic priestly class, the Brahmins, had polluted the Vedic religion. While the Hindus had responded to this reaction with both isolated violence against Buddhist temples and monasteries and a widespread reformist move-

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ment of their own, the Muslims slaughtered the monks wholesale as infidels, destroyed the universities and burned the libraries. Those who could escape fled to Nepal and to Tibet, where Ayurveda had first penetrated in the eighth century AD. Some Ayurvedic texts are thus preserved today only in Tibetan translation.

In spite of these catastrophes and of the import into India by the Muslim conquerors of their own medicine, *Unani tibbia*, Ayurveda survived. Unani (the word means 'Greek') was created by Arabic physicians by combining Greek medicine with Ayurveda, which they learned from texts translated into Persian in the early years of the modern era when the Sassanian dynasty controlled part of northern India. Unani medicine is thus closely related to Ayurveda and, while India's Muslim rulers tended to support Unani, Ayurveda also prospered. In the thirteenth or fourteenth century a new treatise on medicine, the *Sharn-gadhara Samhita*, appeared, introducing new syndromes and treatments. During the sixteenth century Akbar, the greatest Mogul emperor and a remarkably enlightened ruler, personally ordered the compilation of all Indian medical knowledge, a project that was directed by his finance minister, Raja Todar Mal.

For centuries Europe had coveted Indian spices, which were used to preserve meat and to mask the taste and odor of putrefied meat. During the sixteenth and seventeenth centuries, with the opening of secure trade routes to the East to ensure a steady flow of spices, a European fascination for things Indian developed. An Indian massage therapist named Sake Deen Mohammed, known as the 'Brighton Shampooing Surgeon' (the Hindi word for massage, *champana*, metamorphosed into the English word 'shampoo'), became the toast of that resort town in the late eighteenth and early nineteenth centuries with his 'Indian Vapor Bath and Art of Shampooing'. Lords and ladies flocked to him for both treatment and preventive care, and odes were written to his expertise.

The Europeans brought to India syphilis, which was first described in Ayurveda in Bhavaprakasha, a sixteenth-century text, under the name of 'the foreigners' disease' in honor of the Portuguese, who imported it. They also imported their own intellectual bigotry, which gradually superseded their fascination. Sir Praphulla Chandra Ray in his *History of Hindu Chemistry* cites an essay by a Briton in which the author endeavored to prove that the entire Sanskrit literature as well as the Sanskrit language itself was a 'forgery made by the crafty Brahmans on the model of Greek after Alexander's conquest'. This denigration of traditional wisdom reached its zenith in 1835, when Lord Macaulay settled the controversy over whether the government should support indigenous or Western learning by ordering that European knowledge should be exclusively encouraged in all areas governed by the East India Company.

Before 1835 Western physicians and their Indian counterparts exchanged knowledge; thereafter only Western medicine was recognized as legitimate, and the Eastern systems were actively discouraged. Since living traditions are lost when experts die without being able to reach others, vast quantities of indigenous expertise evaporated during the next several decades. Even during these



years of persecution, however, Ayurveda generously contributed to modern medicine. During the nineteenth century the Germans translated from Sushruta's treatise details of an operation for repair of damaged noses and ears. This operation, which now appears in modern textbooks as the pedicle graft, led to the development of plastic surgery as an independent specialty, and today Sushruta is regarded by plastic surgeons around the world as the father of their craft. Skin grafting and operations for cataract and bladder stones were still being performed by Ayurvedic surgeons in India as late as the eighteenth century.

Many writers on Ayurvedic history decry the evident decline of Ayurvedic surgery after the Classical Age, often blaming the Buddhists and their doctrine of non-violence for discouraging willful injury to the body. It is more likely, though, as Debiprasad Chattopadhyaya argues in *Science and Society in Ancient India*<sup>1</sup>, that it was the ritual 'impurity' involved in surgery, the close physical contact that a surgeon must have with blood and other bodily substances, that discouraged its practice, since the Buddha himself did not object to surgical intervention when it was necessary.

With the assertion of Indian nationalism at the dawn of this century, interest in Indian art and science was reawakened and Ayurveda began a gradual renaissance. Today it is one of the six medical systems in India that are officially recognized by the government, the others being allopathy (also known as modern, cosmopolitan or biomedical medicine), homeopathy, naturopathy, unani, *Siddha* (a variety of Ayurveda practiced by the Tamils of southern India) and yoga therapy. The practitioners of these six systems must compete for patients with each other and with a profusion of practitioners of other medical skills, including itinerant tonic sellers, pharmaceutical representatives, village curers, bone-setters, mid-wives, exorcists, sorcerers, psychics, diviners, astrologers, priests, grandmothers, wandering religious mendicants, and experts in such maladies as snakebite, hepatitis, infertility and 'sexual weakness'.

Today's developmental planners, who often seem to be Lord Macaulay's spiritual descendants, tend to think of traditional systems like Ayurveda as archaic and dysfunctional, and so non-progressive (all the while ignoring the clear evidence of obsolescence and dysfunction in the practice of biomedicine). Believing, as do many foreigners, that 'traditionalism' has kept India backward, they would prefer for most ancient traditions, including the medical ones, to disappear. Many practicing allopaths agree, ostensibly because traditional medicine is not 'scientific', but practically because elimination of alternative medical systems would reduce their competition. Social scientists have noted that allopaths derive their social status less from their medical ability than from the culture of modernity and 'progress' that they represent; when in distress, most Indians seek out any practitioner of any system who can cure them, and many

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1. An excellent study of Ayurveda's struggle in the Vedic and Classical eras.

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allopaths use Ayurvedic preparations and dietary or lifestyle advice in their own practices.

Political patronage has been an important factor in the spread of allopathy in India, and the government of India spends more money on allopathic medicine than on all other systems of medicine combined. Politics is not foreign to Ayurveda—like other colleges my alma matter, the Tilak Ayurveda Mahavidyalaya in Poona, was founded as a direct result of a political agitation—and there is still an ongoing tussle between those who support the practice of ‘pure’ Ayurveda and those who wish to integrate Ayurveda into allopathy. In Sri Lanka the term ‘Ayurveda’ has already come to signify ‘integrated’ medicine; the pure form of Ayurveda exists there under a different name. Though this is not yet the case in India, the majority of students who study in and graduate from Indian Ayurvedic colleges do, desiring enhanced social status and income, go on to practice a sort of medicine that is basically allopathic in nature.

### VEDA AND AYURVEDA

Ayurvedic doctors have been struggling for respect even since they began to professionalize, well before 1,000 BC. Ayurveda is the *upaveda*, or accessory Veda, to the Atharva-Veda. Though all four Vedas are collections of hymns written by seers called *rishis*, the Atharva-Veda differs in subject matter from the other three Vedas (the Rig-Veda, Yajur-Veda and Sama-Veda), being basically a manual of magic. Atharvan hymns fall into two main groups: those that are meant to cure disease and create peace and prosperity, which we might call white magic, and those that are meant to wreak havoc, which is sorcery, or black magic. Some writers believe that many of its incantations were adopted by the Aryans from the natives of their new homeland, incantations that were, perhaps, left over from the civilization of the Indus Valley.

There are a few references to treatment in the other Vedas, like a charm in the Rig-Veda for chasing consumptive disease from all parts of the body, and an entire hymn in praise of medicinal herbs, invoking their healing power and comparing the physician to a warrior. The god Rudra is invoked in yet another hymn as the ablest of physicians, preparing medicine for all with his beautiful hands. One of the most famous of the Vedic hymns, the ‘Rudra Adhyaya’ of the Yajur-Veda, praises Rudra as the first physician, and mentions many medicinal plants.

Most of the Vedic healing verses occur in the Atharva-Veda. Over one hundred of its hymns are devoted to conditions as varied as fever, leprosy, consumption, dropsy, heart disease, wounds, headache, parasites, eye and ear diseases, poison, rheumatism, madness and epilepsy. Charms, plant and animal juices, natural forces like the sun and water, and human contrivances were all used therapeutically in Vedic times. The medicinal substances mentioned were used as amulets, most of the references to diseases and their treatment being incantations for use in expelling the disease from the patient. One treatment for

jaundice, for example, requests the body's yellowness to flow out of the patient into yellow birds, turmeric roots and other yellow things.

The health of the body, rather than the cure of disease, is the subject of another hymn:

May I have breath in my nostrils, voice in my mouth, sight in my eyes, hearing in my ears, hair which does not grey, teeth that are not discolored, and much strength in my arms. May I have power in my thighs, swiftness in my legs, steadfastness in my feet. May all my limbs remain unimpaired and my soul unconquered.

### MEDICAL POLITICS

As cultural rigidity increased, the social hierarchies that developed when the previously nomadic Aryans settled down and established kingdoms in India were formulated into what is now called the caste system. The older portions of the Rig-Veda, the oldest of the four Vedas, are filled with freeness of spirit and a broadness of perspective in which the caste system finds no place. This spirit becomes narrowed in the Rig-Veda's later hymns, and in the other Vedas, which reflect society's stratification into four layers, with the Brahmans, the priestly caste, at the apex. Second to them came the nobility, next the merchants and agriculturalists, and finally the laborers.

The basis for this stratification was apparently 'purity', arising from the human tendency to brand our transitory physical existence 'impure' and the ethereal world of the spirit 'pure', and to advocate worship of pure spirit extricated from all association with base physical existence. Historically, the religions that glorify the feminine, fecund aspect of existence exemplified by the Earth goddess have often suffered subordination to the austere, masculine religions of the sky-gods. Jehovah is such a sky-god; so is Jupiter, whose name is cognate with the Sanskrit *dyaus-pita*, the sky-father, who is lord of the upper atmosphere.

The priests of the post-nomadic period reorganized the Vedic religion to ensure a leading role for themselves in the emerging social organization by mandating that the degree of one's ritual purity is determined by the extent to which one is involved in the physical world on a daily basis. Brahmans were regarded as the purest of mortals since they (supposedly) spent most of their days in worship, away from the polluting realities of everyday life. Kings and queens must deal with the world, but by virtue of their exalted positions they are greatly insulated from it and so come next in purity. Tradesmen, who follow, must involve themselves in the buying and selling of commodities, items of commerce created out of physical matter, but do not have to go out and get their hands dirty as laborers do. Only the first three castes are allowed initiation into Vedic studies; because they are 'reborn' through this initiation, they are called the 'twice-born' castes.

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Those who advocated minimizing contact with the physical aspects of life disapproved of the Atharva-Veda's emphasis on mundane magic. Many authors, in fact, speak of the 'three Vedas', refusing even to extend Vedic status to the Atharva. Such disrespect for medicine and magic extended also to the Ashvin twins, the physician of gods, who are highly respected in the Rig-Veda, where they are mentioned over four hundred times, particularly with regard to the miraculous cure they achieved. Though the Ashvins also play an important role in the *Mahabharata*, one of India's two epic poems, by the time of the Yajur-Veda they have been reduced to begging for a share of the sacrificial libations, and are allotted a share only after the other gods grudgingly purify them. In this context the Yajur-Veda specifically states that a Brahman must not practice medicine, because a physician is impure, unfit even to attend a sacrifice.

Clearly only the practice of medicine, and not medicine itself, was objected to, for all students of the Vedas were expected to learn some medicine, particularly the daily and seasonal health maintenance routines, just as they were expected to learn astrology, grammar and the other accessory subjects needed to live a Vedic life. Medicine is mentioned as a seemingly honorable profession in the Rig-Veda:

Various are the thoughts and diverse the callings of men. The carpenter seeks what is broken, the physician the diseased, the priest the Somapresser .... I am a poet, my father is a physician, my mother throws the corn on the grindstone. We pursue wealth and follow our callings as the herdsman his cattle.

After the time of the Yaju-Veda, however, Brahmans were discouraged from selecting medicine as a profession. This was reinforced by the codification of religious law in the middle of the first millennium BC. Several lawgivers assert that it is as bad to eat food offered even as alms by a physician or surgeon as it is to eat the food of 'defiled' people like hunters, fowlers, whores and eunuchs. Manu, the most important among these Solons, opines that the food of a doctor is as vile as pus, and reiterates that doctors should never be allowed to attend sacrifices. Because Sushruta advises surgeons to get their instruments made of good iron from a good blacksmith, Manu also asserts that the food offered by a doctor is as filthy as that given by a blacksmith.

Manu dictated that no twice-born Hindu should ever earn his living from the practice of medicine, logic or 'poison removal', except in the dire straits of penury, because these forms of knowledge are 'non-Vedic', meaning that they belong to the Atharva-Veda and not to the three approved Vedas. The Maitri Upanishad went so far as to brand the practitioners of poison removal as heretics unfit for heaven, and warns kings against listening to them. The lawgivers allotted the practice of medicine to those born of mixed marriages, specifically those between Brahman males and females from the mercantile caste.

Although pressured by the priests to conform to their theology, Ayurvedics refused to compromise on truth. Charaka advises that should anyone ask a phy-

sician which Veda he follows, he should proudly answer, 'The Atharva-Veda, because it advocates the treatment of disease.' In a section entitled 'In Praise of Physicians', Charaka writes regarding the respect paid to the Ashvins in the Rig-Veda:

If the Ashvin twins, by virtue of their office as healers, are thus held in honor by the very gods, what need then is there to say that physicians can never be honored too much by mere mortals?

**As if to upbraid the Brahman lawgivers he continues:**

On the completion of his studies the physician is said to be 'reborn' and acquires the title of 'physician'. For no one is a physician by right of birth. On the completion of his studies, the spirit of revelation or inspiration of the truth descends into the student. It is by reason of this initiation, then, that physician is called a 'twice-born'.

The study of medicine is thereby placed on a par with the study of the Veda, and physicians, of whatever caste, become as 'twice-born' as Brahmins.

Professionalized medicine suffered another onslaught with the arrival of the Upanishads, which are the records of discourses on the import of Vedic passages; collectively they are termed Vedanta, the 'end of the Veda' or the logical conclusion of Vedic philosophy. The composers of the Upanishads believed strongly that the only knowledge that is worthwhile is knowledge of the soul, and that all other learning, however useful, is merely a form of ignorance. They therefore had little use for medicine, since to them the body is itself merely a disease, a milestone around the neck of the immortal spirit within. Some of the Yoga Upanishads speak of human physiology and of the varieties of *prana*—the life force—in the organism, but their purpose is to instruct the spiritual practitioner in how to identify and control the movements of his own prana in order to disengage his consciousness from his body and mind rather than to integrate body and mind with spirit, which is Ayurveda's goal.

The Vedas suggest that a human life be divided into four parts: the first for study, the second for working and raising a family, the third for retirement and the fourth for renunciation of the world in order to meditate continuously. Those who took Vedanta as the beginning instead of the end of the Vedic path began to advise renunciation as a way of life. Renunciates need medicine as much as anyone else, but disdain its practice for money. A new tradition of Ayurveda therefore developed in which medical knowledge was passed down from renunciate gurus to renunciate disciples for their own treatment, and for free treatment of any sick person who might come to them.

Part of the general disdain for professional doctors also arose from a visceral aversion to the commercialization of any kind of knowledge. This passage appears in *Charaka Samhita*:

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He who practices medicine out of compassion for all creatures rather than for gain or for gratification of the senses surpasses all. Those who for the sake of making a living merchandise medicine bargain for a dust-heap, letting go a heap of gold. No benefactor, moral or material, compares to the physician who by severing the noose of death in the form of fierce diseases brings back to life those being dragged towards death's abode, because there is no other gift greater than the gift of life. He who practices medicine while holding compassion for creatures as the highest religion is a man who has fulfilled his mission. He obtains supreme happiness.

Even today the general public in India, in Sri Lanka, and elsewhere in Asia revere doctors who have entered the medical profession in order to serve humanity, not to make money.

### TEXT AND TRADITION

In spite of, or perhaps because of, these many forces discouraging the development of professionalized medicine in India, a professional form of Ayurveda arose early and persisted. The texts of Charaka and Sushruta were written to train doctors to treat kings, princes and captains of industry, for then, as today, once fame was achieved, wealth did not lag far behind. These texts thus reflect the philosophies and goals of physicians who consciously aimed to become experts in order to succeed in life. Why no female physicians are mentioned in them is unknown. Since female seers appear in the Vedas, and since there are charms in the Atharva-Veda for attracting men, which were obviously specifically meant for use by women, the lack of female doctors is puzzling. It is possible that just as some Vedic gurus refused to accept female pupils, women were deliberately excluded by male doctors intent on preserving the 'purity' of their profession. Whatever the reason, all the renowned physicians of the Classical Age were male.

Charaka's book explains that 'women are by nature unsteady, tender, wavering, easily disturbed, and generally delicate, weak and dependent on others'. However, they have an Ayurvedic tradition of their own, a tradition of herbal first-aid for common childhood diseases, transmitted from mother to daughter, which is known in the region near Bombay as 'grandmother's purse' in honor of the medicinal herbs grandmothers used to keep in purses on the kitchen wall. While this medical tradition, like those of the renunciates and of special-interest groups such as bone-setters and *vaidus* (lower-class practitioners who know a few specific herbs, minerals, and animal products for use in a few specific diseases), remains mainly oral, the vast majority for Ayurvedic texts belong to Ayurveda's Classical or professional tradition.

Unlike its ritual counterpart, the medical tradition has never been particularly resistant to change. Over the centuries mainstream Ayurvedic beliefs and practices have deviated substantially from those of the ancient texts. Indian

spiritual tradition, and everything that has been derived from it, has always been dynamically balanced between orthodoxy and innovation, between the primacy of the mainstream and the legitimacy of individual experience. Whenever a trend becomes petrified, a counter-trend appears to shake it out of its smugness.

Often charismatic individuals codify their experience into theories and practices, and if enough followers are attracted, this individual system becomes a sect and develops its own orthodoxy, as did Buddhism. There have been many systems and schools of Ayurveda, though only a few have survived to the present day. Actually, because Ayurveda is such an individualized science, there should be as many schools as there are physicians; ideally, each doctor carves out his own niche in the world of therapeutics. This personalization of medical theory extends to patients as well; each doctor was and is expected to tailor a different treatment for each sufferer. Such detailed individual care does not often occur in practice today, and may never have been common, but the intent is clear.

Despite the great changes that have refashioned Ayurveda since its genesis, the ancient texts remain the best guide to what is or is not Ayurvedic. Of these texts, a verse states: 'Madhava is best in diagnosis, and Vagbhata in aphorisms. Sushruta is superior in anatomy, and Charaka excels in internal medicine.' Madhava and Vagbhata wrote nearly two millennia later than Charaka and Sushruta, and were greatly indebted to the two older works. Vagbhata's *Ashtanga Hridaya* is the text of choice for many modern Ayurvedic physicians precisely because it is a concise condensation of the essence of the earlier texts. Sushruta differs from Charaka mainly in his argument that surgery is the best medicine because it produces instantaneous actions and immediate results, and on certain technical points. Charaka, who clearly states that he believes surgery to be as important as internal medicine, has a rather more evenhanded approach to his subject.

The *Charaka Samhita* is truly the primary Ayurvedic text, though it is difficult to know how much of Charaka's original has survived the ministrations of the various editors and revisers. Drdhabala, who lived some time during the early centuries AD and was the major reconstructor of Charaka's text says, 'The reconstructor creates anew an ancient treatise', and there is certainly nothing to prevent such an individual from altering the text wherever he thinks fit while attributing the changes to the original author.

Treatises in other disciplines have been shown to have been amended by interested parties, and it is likely that both the Charaka and Sushruta Samhita have also been tampered with.

For example, when we find a passage like this in the Sushruta: 'Ayurveda with its eight limbs is revealed by Brahma as a discipline subsidiary to the Veda. Hence the doctor, aware of his own role, must act in subservience to the priest', we can be relatively sure that this is an interpolation. And when we read in the Charaka that seeing Dravidas and Andhrakas, who are inhabitants of southern

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India, in a dream is as inauspicious as seeing vultures, owls, dogs, crows, demons, ghosts, women and untouchables, there is little doubt that this was written by a bigoted northern Indian Brahman attempting to extend his bigotry to doctors, who were, however, expected to view all their patients, regardless of race or caste, with an equal eye.

Official orthodoxy undoubtedly forced some ancient Indian scientists to write conformity into their texts, but every reference to the other-worldly is not a later addition, and one can only speculate on which was which. Was it fear of reprisal that made Brahmagupta, a renowned Indian astrologer, repeat at the beginning of his treatise the myth that eclipses are created when a cosmic serpent tries to swallow the sun or the moon, before quietly tucking into the body of his work formulae for the calculation of those very eclipses? Or did he perhaps include the myth to provide continuity with previous treatises or to remind his readers of hidden esoteric meanings, or did all these considerations weigh upon his mind? There is little way to be sure. As Charaka himself puts it, 'Many are the ways in which an author expresses his ideas, so the meaning of a text can be determined only after due appreciation of the context of the particular place and time in question, the intention of the author and the technicalities of the science.'

Whoever the author and whatever the interpolations, the *Charaka Samhita* is a monumental work, being about three times in bulk what survives of the corpus of Hippocratic medicine. Its 120 chapters are grouped into eight sections, or *sthana*.

**I. Sutra ('aphorism') Sthana.** Thirty chapters on Ayurveda's origin, general principles, philosophy and theories.

**II. Nidana ('diagnosis') Sthana.** Eight chapters on the causes and symptoms of diseases.

**III. Vimana ('measure') Sthana.** Eight chapters on many subjects, including physiology, methodology and medical ethics.

**IV. Sharira ('body') Sthana.** Eight chapters on anatomy and embryology, and on metaphysics and ethics.

**V. Indriya ('sense organ') Sthana.** Twelve chapters of prognosis.

**VI. Chikitsa ('treatment') Sthana.** Thirty chapters on therapeutics.

**VII. Kalpa ('preparation') Sthana.** Twelve chapters on pharmacy.

**VIII. Siddhi ('success') Sthana.** Twelve chapters on purification therapy.

### THE TRAINING OF A PHYSICIAN

In an essay called 'The Risks of Being Treated by a Quack', Charaka emphasizes that only a well-educated physician approved by the guild of physicians should be allowed to treat one's person. Ideally, people look after their own



health but, when imbalances beyond their ability to manage develop, patients are advised not to be led astray by the exaggerated claims of smooth operators who, having accidentally cured one patient, treat every other patient with precisely the same therapy, loudly trumpeting their successes and quietly burying their failures. Quacks were apparently plentiful 3,000 years ago, just as they are today.

In that era the process of preparing expert physicians began with self-examination. An intelligent individual weighed the difficulties and obligations of medical practice against the rewards obtainable therefrom, and if he found himself suitable for the study of medicine, he then selected a text for study. Charaka observes that there are many medical treatises current in the world, and that all texts are not equal. Thinking perhaps of the strengths of his own volume, he suggests that only that treatise should be chosen that is widely popular, approved by the wise, comprehensive, fit for all students no matter how intelligent they might be, revealed by a seer, well and logically arranged and authenticated without repetition, free of vulgar usages and obscure terms, relevant, filled with definitions and illustrations, and concerned mainly with elucidating the true nature of things.

Ayurvedic texts like the *Charaka Samhita* are not the compendia of exhaustive detail that are modern medical texts; rather, they are books of sutras, pithy aphorisms that encapsulate the essence of the lore in a minimum of words, with 'memorable' verses at the end of each chapter to recapitulate the teaching and reaffirm its authority. These sutras and memorable verses are mnemonics, memory enhancing devices, which are often couched in simple poetic meter to make their memorization easier. The sutras of the Ayurvedic texts are florid compared with those of other subjects, whose writers dedicated themselves to cramming the maximum information into the minimum words. It is said that a sincere sutra writer would rather lose one of his own sons than add a single syllable to one of his sutras.

Because the text itself is so spare, it is always studied with a commentary written by an expert that elucidates the meanings of its cryptic passages; for example, the most famous commentator on Charaka's compilation was the eleventh-century writer Chakrapani. Charaka's text itself is a commentary on the sutras of Atreya, which were collected, compiled and probably commented upon by Agnivesha. In the text-commentary system the bare facts of the science become laminated with layers of interpretation by eminent physicians from century to century, preserving their expertise and permitting the tradition to grow and change to keep pace with growth and change in the external environment.

Traditionally, Ayurvedic study follows the Vedic method of learning: memorization of the text and study of its commentary, with further glosses and practical hints added by the teacher. Until recent times the Vedas were never written down; they existed only in the memories of the Brahmans. The Vedic system of education is advantageous in the Ayurvedic context because medical knowledge is vast and the human mind is limited in what it can recall quickly

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under pressure. When a physician diagnoses a patient and mentally repeats the sutras relating to the disease and its treatment, that memory provides access to everything else on the subject the physician has ever learned. It is an elegant and effective way to index information.

After selecting the text, the prospective student began his search for an expert to teach him how to understand its import. 'Weapons, learning and water are wholly dependent for their merits and demerits on their holder', observes Charaka. 'Hence it is the understanding that should first of all be rendered immaculate and worthy of holding the knowledge of medicine.' Elsewhere he adds,

The whole of suffering which cleaves to mind and body has ignorance for its basis and, conversely, all happiness is founded in clear scientific knowledge. However, this very knowledge of mighty import is no illumination to those who are devoid of understanding, as is the sun to those who have lost their eyesight.

Charaka writes that a good teacher is skillful, upright, pure, a knower of human nature, free from self-conceit, envy and irascibility, endowed with fortitude and affection toward his pupils and able to clear all the disciple's doubts because of his special insight into the science. It is not surprising that this definition is almost identical with the definition of a good physician given elsewhere in the text, for only a good physician knows how to teach medicine.

Once the pupil settled on an instructor, it became the guru's turn to test. During a six-month period of probation the teacher identified the student's strengths and weaknesses and ensured that he was peaceable, noble, persevering, intelligent, devoted to truth, modest and gentle; free of egotism, irritability, addictions of any kind, covetousness and sloth; pure, skillful, courteous, single-minded in devotion to knowledge, desirous of the welfare of all creatures, obedient to all the instructions of his teacher and devoted to his mentor. If the disciple was found fit, he was then ritually initiated. The lengthy oath of initiation emphasized the importance placed on individual inquiry: 'There is no limit at all to the Science of Life.... The entire world is the teacher to the intelligent and the foe to the unintelligent.'

The guru-disciple relationship was thus originally marked by a high degree of mutuality. At the outset each tested the other; once instruction began, each taught the other, the guru learning more about humans and human nature with each student taught. The bond between guru and disciple was much stronger than the bond that exists today between teacher and student, because today instruction has become an article of commerce. In the past the disciple was expected to respect the guru as much as, or more than, his own parents, because the guru caused the disciple to be 'reborn'. Often the disciple lived in the preceptor's home like one of his children; the word for a teacher's academy, *gurukula*, literally means 'guru's family'. By tradition, all teaching was free of charge, but at the end of the many years of study the disciple was expected to

offer *guru dakshina*, any gift that his guru might request, in exchange for the gift of knowledge.

The intense emotional relationship between guru and disciple made it easier for knowledge to be transmitted from the one to the other, and discouraged the student from indulging in idle pastimes. The strict but affectionate discipline that the guru instilled was easier to tolerate than that imposed by an impersonal authority, and it exemplified for the disciple the attitude of loving firmness with which a physician was expected to treat his patients.

The guru also elucidated for the disciple the spiritual aspects of the study. The study of any branch of knowledge is traditionally considered a *sadhana*, a spiritual practice, which, if followed sincerely and persistently, takes one to 'the peace which passeth all understanding'. A good disciple respects his or her own guru like God, and extends this respect to the other members of the guru's lineage. One family in Kerala, whose hereditary vocation has for centuries been the practice of medicine, still performs ritual worship to Vagbhata, whose book, *Ashtanga Hrdaya*, is their Ayurvedic bible.

The student recited text and commentary, and the guru solved difficulties and transmitted trade secrets. On occasion the disciples would sit together with the guru to ask questions, and he would respond by expounding on the various points of view that had previously been proposed by other authorities, concluding with the point of view he felt worthiest. Experts also used to meet together for seminars on specific subjects; Charaka preserved the proceedings of a few of these conferences in his tome. Sometimes debates were organized between proponents of opposing views. Debate reinforced the students' facility with the laws of rhetoric and so helped to clarify their understanding, and provided them with opportunities to learn new things from opponents. Winning a debate improved one's reputation. These disputations were conducted according to strict rules including, as in modern debate, the definition of numerous fallacies that would immediately defeat one's case.

Debates between physicians were restricted to three subjects; medicine, sacrificial ritual and spiritual philosophy. The use of arguments from one context in a different context was prohibited, in consonance with the doctors' view that idle spiritual theorizing should not intrude in questions of therapeutics. Students were advised not to assault the wise with casuistry, but rather to demolish those pretentious fellows who pose as experts with any appropriate quibble:

One should not suffer foolish, obstreperous disputants of little learning, not from any consideration of oneself but with a view to keeping the light of the knowledge unobscured. Those whose compassion for all creatures is great and who are devoted to truth are ever zealous to put down false doctrines.

Religious doctrines are handed down from on high; Ayurvedic doctrines arise from the fertilization of empirical observation by theory. A false doctrine is one that works against the healing forces of Nature: 'A science, if badly handled,

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destroys its user like a poorly handled weapon destroys its inept user, while the same science or weapon when rightly handled becomes a source of succor.’

Debate was encouraged to help create inquiring minds willing to rebel against dogma that could not be substantiated in fact, because a scientific system of medicine must be based on logical reasoning. Says Charaka, ‘Any success achieved without the exercise of reason is indeed success resulting from chance.’ Boastful opponents deserved to meet defeat in debate because they lacked the skill in treatment that sets the well-trained physician apart from the quack. Idle questioning without practical value was, however, permissible solely to discomfit such charlatans; as the seer Atreya admonished his fellow sages after one seminar:

Truth is hard to find by taking sides in a debate. Those who advance arguments and counter-arguments as if they were finalities never arrive at any conclusion, going round and round like the man who sits on an oilpress. Letting go of this wordy warfare, then, apply your minds to the essential truth.

A doctor should think for himself, using tradition as a springboard from which to plunge into new researches rather than slavishly following previous usages. A doctor’s highest responsibility is the health of his patients, and a life-long willingness to learn new theoretical approaches and therapeutic techniques is his greatest obligation. To use a 3,000-year-old Ayurvedic metaphor, just as a bird needs two wings to fly, the ‘bird’ of medicine requires the two wings of theory and practice. To learn the fundamental principles of a lore and then to master one of its aspects is to achieve two ‘wings’, two dimensions of knowledge. The third dimension, the ‘tail’ of the bird of medicine, which steers it through the air, is the relationship the disciple develops with his guru, which, hopefully, becomes the model for all his future relationships. The image these three dimensions define grows and matures with time and the fledgling’s own experiences until it manifests as competence.

Ayurveda requires both logic and hands-on experience, two of the practices the lawgivers found most reprehensible, because it follows a path in which empirical knowledge is the most important proof of a postulate. Logic alone is insufficient for therapeutic success; Sushruta declares: ‘A learned physician must never try to examine on grounds of pure logic the efficacy of a medicine, which is known by direct observation as having by nature a specific medical action.’

The word ‘surgery’ comes from the Greek word meaning ‘manual operation’, and Sushruta emphasizes that of all surgical instruments the hand is the most important, because all other instruments are useless without it. For the purpose of creating skilled hands students dissected human corpses to learn about anatomical structures, and practiced the arts of surgery—such as extraction and incision—on dummies, melons, animal bladders, cadaver skin, dead animals and lotus stems. Sushruta describes in detail the method of corpse dis-

section. You take a corpse that is not missing any of its parts, is not superannuated and did not die of poisoning or chronic disease. After removing its bowels and their contents, you wrap the corpse in a shroud and soak it in a swiftly flowing stream for seven days. Then you scrub it slowly with a brush to display all the underlying structures. Knowing corpse dissection to be an essential part of medical training, Sushruta courageously advocated it despite inevitable opprobrium, since the lawgivers regarded the touch of a corpse as supremely defiling.

Ayurvedic students also learned other practical arts, such as cookery, since diet was an essential aspect of treatment; the preparation of medicines, including the brewing of medicinal wines; horticulture, with grafting; the purification and preparation of minerals as medicines; and the various methods of combining ingredients into drugs. Doctors were expected to be wanderers, taking the assistance of forest-dwelling tribals and cow-, sheep- and goatherds to identify and collect medicinal substances personally, for which purpose they had to know the characteristics of the various types of soil (which affect the characteristics of the herbs grown there), the time when each plant should be collected and the parts to collect. While all students learned the basics of all the various divisions of Ayurveda, each usually specialized in one of Ayurveda's eight 'limbs': internal medicine; surgery; eye, ear and nose; gynecology, obstetrics and pediatrics; psychology; toxicology; rejuvenation; and virilization.

At the end of the period of study, whether in a university, the guru's home or a jungle, the disciple was thoroughly tested, sometimes comprehensively, as in Jivaka's case, sometimes more randomly. At Mithila in the thirteenth century the students stood before examiners who used a probe to skewer one of the pages of the text and asked questions on the subject matter on it. After passing his exam, a young physician was entitled to call himself  *vaidya*, the Sanskrit word for physician, which literally means 'one who knows'. He then sought the king's permission to practice, and when this was granted, the Physician's Oath was administered. The Ayurvedic Physician's Oath reads much like the Hippocratic Oath; it is a list of the rules of conduct a physician is expected to follow, among them being: 'Better to suffer the effects of snake venom or to be burned by hot iron rather than to demand money from a poor person as a condition for treatment.' The guru, recluses, sages, Brahman priests, the helpless and one's friends were always to be treated free.

Although upwardly mobile Ayurvedic physicians of the classical era ministered mainly to the affluent, most probably regarded medicine as a sacred calling. When Ayurveda lost official government patronage in most of India after various invasions, it was kept alive mainly by Brahman families, who, despite the strictures of the lawgivers, were, and are, proud of their spiritual and professional traditions often trying to reconcile their caste and their calling by such stratagems as refusing to touch the patient themselves so as to retain some of their purity, leaving the execution of their instructions to technicians of lower caste.

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### THE MODERN AGE

India's people daily talk knowingly or not, in the Ayurvedic idiom. Even the most illiterate resident of the most remote village knows that yogurt causes phlegm to accumulate in the chest, and everyone makes regular use of simple herbs like vetiver (cuscus), which removes 'heat' from the body and makes life during the hot season a little more bearable. I have causally debated whether castor oil is 'hot' or 'cold' in the office of a Bombay lawyer, and have received unsolicited dietary and therapeutic advice from total strangers. Ayurvedic thought is part of the conceptual universe of every Indian who thinks like an Indian and has been part of India's collective consciousness since, probably, prehistoric times.

One of the few scholars who has understood something of the impact of Ayurvedic reality on southern Asian culture is Carolyn Nordstrom, who has studied Ayurveda on the island of Sri Lanka. Nordstrom finds that in Sri Lanka, as I have found in India, people use the Ayurvedic 'humors' or metabolic forces to describe themselves and their society. Some compare the political system to a body, and the political parties to the body's humors. As with a human body, as long as these humors are balanced, all will be well in the body politic, but when one humor gains ascendancy and begins to dominate, abuses are inevitable, resulting in a disease. A 'cancer on society' is more than a simile; it is an expression of a deeper-than-usual reality, a statement that cancer in human and cancer in a human organization ultimately proceed from the same sort of causes and are curable by the same sort of methods.

Such metaphors pervade the speech of even those who are completely ignorant of the system of Ayurveda *per se*. Nordstrom explains why:

The basic philosophies of Ayurveda provide a series of metaphors that are applicable to any major conceptual system characterized by balance and disorder, health and disease. Thus Ayurveda does not exist simply as a medical tradition, nor is it confined solely to the discourse of medicine. On one level, this popular body of knowledge provides a mechanism for integrating the various traditions of health care into a coherent encompassing framework for patients. In addition, the impact of Ayurveda extends beyond issues of illness and health ... to provide an explanatory framework capable of synthesizing the many facets of Sri Lankan life, and concepts drawn from this body of theory are used to explain that life itself.

Ayurvedic metaphors have persisted because they help to illustrate reality on every level, not merely on the level of physical health. Ayurveda is more than a medical system; it is a state of mind. Only one who understands the internal reality of Ayurvedic thought can fully appreciate the words of the Sri Lankan woman who, seeing rain fall after a long drought, said, 'Look, it is health.'

Medicine in India is not now and never has been the exclusive province of physicians, though physicians have often attempted to arrogate that privilege to themselves. Even today there are thousands of otherwise non-medical people

all over India who have somehow learned a diagnostic or treatment method and regularly use it to alleviate suffering. For example, one man who used to sell fruit on a Bombay street was also well known in our locality for his ability to diagnose disease by just looking at the sample of the patient's urine. Another man in a different part of Bombay brews up a single product, a decoction used in liver ailments, and dispenses it free to everyone who asks for it.

Most of today's professionalized Ayurvedic doctors have become wholly body-oriented; one study showed that villagers in the state of Maharashtra often knowingly or unknowingly describe mental illness in Ayurvedic terms but rarely even think of approaching an Ayurvedic physician for its treatment. Ayurveda remains a living tradition because it is itself alive; a living being that integrates into the consciousness of living beings, flowing from guru into disciple. To learn the details of the science without first having the tradition awakened and enlivened within yourself is to try to practice 'the science of life' with dead knowledge.

The fate of Ayurveda is distinct from the fate of those who aspire to employ it in practice. Physicians come and go, but Ayurveda is eternal; it is the universal healing art, which has always existed and will persist until the destruction of the universe. While its manifestations arise and disappear, the living tradition remains. In spite of doctors who do not want to practice it and patients who do not want to be treated by it, Ayurveda persists in the lives of the people, living on even in those who are unaware of it, flourishing whenever physicians appear who make its tradition theirs, because its existence is independent of those who wield it.

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