3
MODELS OF DISEASE IN AYURVEDIC MEDICINE
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The monk Moliya Sīvaka once approached the Buddha and asked him whether it was true, as many said, that all pleasant, painful, or neutral sensations were the results of past deeds, of karma. The Buddha replied to Sīvaka that people who held this view were over-generalizing. In fact, he said, some pain arises from bile, some from phlegm, some from wind, some from humoral colligation, some from changing climate, some from being ambushed by difficulties, some from external attacks, and some, indeed, from the ripening of karma. This is the first moment in documented Indian history that these medical categories and explanations are combined in a clearly systematic manner, and it is these very eight factors which later become the cornerstones of the nosology of classical ayurveda.

The use of the expression ‘humoral colligation’ (Pali sannipātika) in the Buddha’s list is particularly telling. This is not just an ordinary item of vocabulary. It is a keyword, a technical term from ayurvedic humoral theory. In classical ayurvedic theory, as received by us from medical encyclopaedias composed several centuries after the Buddha, ‘humoral colligation’ is a category of disturbance in which all three humours are either increased or decreased simultaneously. Because therapy usually depends upon manipulating the humours in such a way that an increase in one is cancelled by a decrease in another, it is impossible to use normal therapies to counteract humoral colligation. That is why it is such an especially dangerous diagnosis. Epilepsy, for example, is described in the Compendium of Caraka (see below) as displaying various symptoms including frequent fitting, visions of bloody objects and drooling, according to the predominance of wind, bile or phlegm respectively. But if the patient shows all the symptoms at once, then the condition is called ‘colligated’. ‘Such a condition,’ says the author, ‘is reported to be untreatable.’

The formality of the vocabulary in the Buddha’s list of causes of pain suggests that he was consciously referring to a form of medicine that had a theoretical underpinning. This impression is increased by the presence at the end of the chapter of a verse summary of these eight causes of pain.

Bile, phlegm and wind,
colligation and seasons,
irregularities, external factors,
with the maturing of karma as the eighth.
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This verse looks very much like a citation from a formal medical work, or a medical mnemonic. But it is only several hundred years after the Buddha’s time that we see this theoretical system worked out explicitly in the ancient Indian medical literature that has survived until today.5

The causes of disease listed by the Buddha constitute eight quite distinct models of disease aetiology. But as medical thought evolved in South Asia, the scholarly authors expanded these aetiological categories to include an even wider range of concepts. Different schools evolved, with varied emphases and disagreements. It is in this Buddhist canonical literature from the last centuries BCE that we see the first references to a developed theory of disease, and the terminology used is parallel to that found in the later, formalized ayurvedic literature.6 Older religious literature, especially the Rig Veda and the Atharva Veda, contained prayers and invocations for health and against illness, but the models of disease behind this earlier material are theoretically unsophisticated, and are not the product of a professionalized class of healers.7 Of those streams of medical practice in ancient India that did develop scholarly narratives, the most prominent was – and is – ayurveda, ‘the knowledge of longevity’. Several encyclopaedias of ayurvedic medicine are known to have existed in early antiquity, although only three have survived to the present time, the Compendium of Caraka, the Compendium of Bheṣa and the Compendium of Suśruta.8

Primary sources

The Caraka is one of the most important surviving works of classical Indian medicine. Composed probably in the first or second century CE, it is an encyclopaedic work in Sanskrit discussing many aspects of life, philosophy and medicine.9 The Compendium of Suśruta dates from perhaps a century or two after the Caraka, and is a similarly encyclopaedic work, although its classifications, theories and therapies are not identical with those of the Caraka. This fact reveals something of the ferment of ideas that surrounded early Indian medicine. The Bheṣa survives in only a single damaged manuscript, and since its content is often similar to the Caraka it will not be cited further in this chapter. However, out of a vast later literature on medicine one further work bears special mention, the Heart of Medicine by Vāgbhaṭa (fl. ca. 600 CE, in Sindh). The compendia preceding Vāgbhaṭa are full of interesting materials on medical philosophy, and present the contradictory views of various doctors and have complex, multi-layered histories of manuscript transmission. Vāgbhaṭa absorbed these older materials, understanding them comprehensively and deeply, and produced a skilful and entirely plausible synthesis of the ancient works. The Heart of Medicine was widely and justifiably accepted as the clearest and best work on medicine in post-classical times, and was adopted as the school text for medical education. Students educated in the traditional manner were expected to learn Vāgbhaṭa’s work by heart, and there are still physicians in India today who know the work word-perfect. Where the ancient works sometimes show ayurvedic doctrine still in formation, the Heart represents a settled medical orthodoxy. For that reason, it is often easier to cite the Heart when aiming for a clear view of standard ayurvedic doctrine. However, in doing so, one loses the plurality and complexity of the older works. For example, when defining the causes of disease, Vāgbhaṭa said:
The under-use, wrong use, or overuse of time, the objects of sense, and action, are known to be the one and only cause of illness. Their proper use is the one and only cause of health. Illness is an imbalance of the humours; freedom from illness is a balance of the humours. In that regard, illness is said to be of two kinds: it is divided into internally caused and invasive. And their location is of two types, according to the distinction between body and mind. Passion and dullness are said to be the two humours of the mind.10

This is a fine, concise and orderly statement of the causes of disease. But it is selective, omitting several older classification schemes from the Caraka and Sūrūta compendia that cut across these categories in awkward ways. Vāgbhāṣa has made it all make sense; but we lose the historical view of a tradition forming its theories out of the messy processes of debate and evaluation.

In what follows, I will describe a series of the most prominent models of disease that were developed in ancient India and that formed part of the ayurvedic tradition. But Indian scholar-physicians were flexible and adaptive in their thinking, and did not hesitate to absorb models from many popular sources, for example from women’s experience in the birthing house, from herb-collectors or from religious practice. The tradition was not mono-vocal, and many subsidiary models exist in the ancient literature.

**The equality of humours**

In about 50 CE, the author Aśvaghoṣa wrote in his Life of the Buddha that when the young Gotama was still searching for liberation and met his first great teacher, Āraḍa Kalāma, they greeted each other and asked after each other’s health.11 More precisely, what the Sanskrit says is: ‘They politely asked each other about the equality of their humours.’12 Aśvaghoṣa did not explain this expression; it was intended to be a simple account of the normal etiquette of greeting. In the first century CE, then, an author could take for granted that an audience would know perfectly well what it meant to have ‘equal humours’.

As we saw earlier, the Buddha too referred to the three humours and their coligitation as primary causes of disease. In the even older Vedic literature from the second millennium BCE onwards, we see oppositions between hot and cold as principles governing various aspects of life, and these can be connected with the later doctrines of bile and phlegm. It is possible that wind as a third category was a latter addition to the theory, though further research is needed into the early history of these ideas.13 As formal medical doctrine evolved, the doctrine of three humors became the central explanatory model for disease for ayurveda, the scholarly medicine of India.14

In spite of the clarity and dominance of the three-humour theory, one sometimes senses that the model was being stretched, or applied as a veneer over older, folk traditions. For example, towards the end of the Caraka there occurs a description of treatments for disorders of the three most sensitive and important danger-points of the body, the heart, the bladder and the head. The text says:

> When blood and wind are vitiated because of the unnatural suppression of urges, then indigestion and the like cause the brain-tissue to be vitiated and
to coagulate. When the sun rises, liquid matter slowly flows out, because of the rapid heating. As a result, there is sharp pain in the head during the day, that increases as the day goes on. With the ending of the day, and the resulting thickening of the brain-tissue, it calms down completely. That is termed, ‘The Turning of the Day’.15

The therapy for this affliction includes the application of fats to the head, with a poultice, including the meat of wild animals sprinkled with ghee and milk. The patient is to drink the ghee of milk boiled with peacock, partridge, quail, and be given a nasal infusion of milk that has been boiled eight times. These therapies are not explained or justified in terms of humoral theory; they are just stated. Other parts of the medical classics are like this too, notably the section of the Suśruta that deals with poisons, where therapies are normally recommended for symptoms without reference to any connecting theoretical model.16

I have used the word ‘equality’ in the context of this Indian humoral model. This translates the Sanskrit word sāmya which also means ‘eveness’ (as in the numbers 2, 4, 6, etc.), ‘smoothness’ (as in a road), and related meanings. It does not exactly mean ‘balance’. For that, there is another lexical group of words, derived from the Sanskrit root ātul. As with English ‘balance’, the Sanskrit tulā means both a gadget for weighing things and the idea of resemblance or equal measure. This is not a term that is ever used in Sanskrit literature in connection with the humours. As readers we are accustomed to the idea of ‘the balance of the humours’ from Greek and later European narratives about humoral medicine. However, the characteristically Greek geometric harmony of the four humours and the hot–cold/dry–wet oppositions does not exist in the three-humour Indian model. Therefore, the metaphor of balance (tulā) is not present in the Indian model, but rather the metaphor of equal quantities of liquid in a cup, perhaps.

**Affinity**

The concept of affinity, or wholesomeness to the individual, appears frequently in ayurvedic theory in the context of models of disease, but has thus far been little explored by medical historians.17 ‘Affinity’ translates the Sanskrit word sātmya.18 This is a compound of sa- ‘with’ and -ātmya ‘relating to oneself’. Etymologically, then, sātmya implies ‘connectedness with one’s self’. In sentences, the word indeed means ‘natural’, ‘inherent’, ‘wholesome’, ‘agreeable to one’s constitution’, or ‘having an affinity to one’s self’. In grammatical compounds, the word is most commonly joined to the word oka- (or okas) ‘home, refuge’.19 This is a puzzling collocation that I am not at present able to explain clearly. It seems to be a way of reinforcing the sense of sātmya, so okasātmya might be ‘fundamental acquired affinity’. The Caraka described okahsātmyam as ‘that which becomes suitable through habituation’.20

The word sātmya also commonly occurs in bigrams with season (ṛtu), place (deśa) and food (anna), giving a sense of the semantic spread of the term. It is the personal suitableness or appropriateness to a person of a particular season, place or food: one’s affinity for a place, time, or diet. The ayurvedic model of ‘affinity’ is conceptually interesting for several reasons, amongst which is the fact that this suitability or wholesomeness-to-oneself is acquired, not inherent. The classical Sanskrit
treatises develop this idea in some detail, describing graduated processes whereby a patient’s bad habits may be attenuated and new, better habits inculcated.21 The end of this process is that the patient gains an affinity (sātmya) for the new, better habit. It becomes, literally, ‘second nature’. So the concept is similar to, but different from, the European idea of ‘nature’, as in one’s personal disposition or temperament.22 Nature, in this Western sense, is immutable, it is who we are. By contrast, ayurvedic affinity is malleable, the patient is trainable. It is nature, in a sense. Foods, places and seasons are natural to a patient, they agree with him or her. But this naturalness may be harmful and undesirable. In that case, it can be changed, and an unwanted bad habit can be transformed into a new, beneficial naturalness.

Starting from this conceptual apparatus, the Sanskrit medical tradition had quite a bit to say about, for example, alcoholism and inappropriate diets. The tradition here took a more sophisticated approach to habit-change than that implied in the ordinary-language English expression ‘breaking habits’, with its connotation of immediacy and rupture.23 The *locus classicus* for the term sātmya is its characterisation in the *Caraka*. As an example of bad habits, and inappropriate dietary habit, the *Caraka* described how people from villages, cities, market towns, or districts may be habituated to the excessive use of alkali. Those who use it all the time may develop blindness, impotence, baldness, grey hair and injury to the heart. Examples of such people are the Easterners and the Chinese:24 ‘Therefore, it is better for those people to move by steps away from the affinity for that. For even an affinity, if it is gradually turned away from, becomes harmless or only slightly harmful.’

The *Caraka* here used the term affinity, for the bad habit. The full description of the term was as follows:

Affinity (sātmya) means whatever is appropriate to the self. For the meaning of affinity is the same as the meaning of appropriateness (upaśaya). It is divided into three kinds: superior, inferior, and average. And it is of seven kinds, according to the savours taken one by one and all together. In that context, the use of all the savours is superior, and a single savour is inferior. And standing in the middle between superior and inferior is the average. One should encourage the inferior and the average types of affinity towards the superior type of affinity, but only in step-by-step manner. Even if one has successfully achieved the affinity characterised by all the savours, one should adhere to using good things only, after considering all the [eight previously described] foundations for the special rules of eating.25

This model linked the theory of affinity with that of the savours, or flavours (rasa), sweet, sour, salt, bitter, pungent and astringent. The discussion of these six savours in ayurvedic literature is detailed and pervasive.26 It forms an intrinsic part of almost all therapeutic regimes. There is some ambiguity in the tradition as to whether savours are qualities that inhere in foods and medicines, or whether they are actual substances, like modern ‘ingredients’. But in either case, savours were understood to increase or decrease the quantity of the humours, and therefore formed one of the primary tools for manipulating humoral balance. Also notable in the above passage is the introduction of a combinatorics of levels of potency. This tendency to introduce a
simple form of mathematics into medical thinking occurs in other contexts too, and seems to be an approach to a quantitative grasp of theoretical categories. Later physicians continued to use affinity as a model of disease and therapy. The author Candraṭa (fl. ca. 1000 ce), commenting on the medical treatise of his father Tīsaṭa, brought together the discussions of several earlier authors on the topic, and added his own ordering and explanation. Candraṭa seems to have had a penchant for creating clear lists and classifications, and developed a theory of nine types of affinity together with a scale of their relative strengths.

Raw residues

In a chapter about the relationship between health and diet, the Caraka introduced the concept of the undigested residue of food that has been consumed in too great quantities. In this model, the belly contains food, liquid, and humours (wind, bile, and phlegm). Consuming too much food and drink causes pressure to build up on the humours, and they become simultaneously irritated. These irritated humours then merge with the undigested mass of food and cause solidification, vomiting, or purging. The three humours each produce their own set of pathological symptoms including, amongst others, stabbing pain and constipation (wind), fever and flux (bile), and vomiting and loss of appetite (phlegm). The corruption of the undigested residues (Sanskrit āma) may also be caused by eating various kinds of bad food, and also by eating while experiencing heightened negative emotions or insomnia. A distinction is then articulated between two kinds of undigested residue: laxative and costive. Therapy for costive conditions can be hard because the treatments indicated may be mutually contradictory. (This is a problem that occurs periodically in ayurvedic therapy, and is also the danger inherent in the humoral colligation mentioned above.) Where corrupted residues are considered treatable, the therapies include the administration of hot saline water to induce vomiting, and then sweating and suppositories to purge the bowels. The model of disease used here involves the inflammation of undigested residues of food. The Sanskrit word is āmas (nominative), which means ‘raw’. It is cognate with the classical Greek word ὠμός that has the same meaning, and it is striking that a similar doctrine about undigested residues also appears in the work On Medicine (Ἱατρικά) by the Greek author known as Anonymus Londinensis preserved in a papyrus datable to the first century ce.

The idea of pathological residues continued to be used and to evolve alongside other etiological ideas throughout the history of medicine in South Asia. The ancient Compendium of Suśruta noted the opinion of some experts who asserted that raw residues were one of the forms of indigestion, and discussed its classification and interaction with diet. The ayurvedic commentator Gadādhara, in the eighth or ninth century, regarded undigested residues to be humours, on the grounds that they themselves caused corruption or else because they became connected with corrupted humours. The concept of pathological residues had a particular attraction for medieval yoga practitioners. The Ayurveda Sutra is a unique work probably composed in the seventeenth century. Although its title would seem to be that of an ayurvedic work, it is in fact a syncretic work that attempts for the first time to combine yoga and ayurveda into a single therapeutic regime. However, its account of ayurveda is idiosyncratic, and it presents the model of raw residues as being the source of all diseases: ‘One should not retain raw residues, for raw residue is the beginning of all diseases,
says the Creator. Curtailing it is health. Someone who is healthily free of residues, reverences the self. The idea of raw residues as poisons has played well into modern and global New Age fusions of ayurveda and yoga in the twentieth and twenty-first centuries, where the theory overlaps with ideas about non-specific blood toxins and therapies based on cleansing and purgation.

**Errors of judgement**

In the final analysis, according to the *Caraka*, all disease is caused by errors of judgement, or failures of wisdom. The *Caraka’s* term for ‘judgement, wisdom’ (*prajñā*) is well known from Indian philosophical writing and was especially taken up by later Buddhists as signifying the kind of wisdom that came from realizing that all existence is ultimately empty of permanent essence. But the *Caraka* has its own more specific definition of wisdom, as we shall see below. The *Caraka’s* word for ‘error’ (*aparādha*) is an ordinary-language word signifying all kinds of mistakes, offences, transgressions, crimes, sins or errors. When, in the third century BCE, King Aśoka commanded that his edicts be carved on rocks across India, he warned his readers that the stonemasons might make mistakes in carving the lettering, they might make *aparādhas*. How did the *Caraka* unpack this concept of errors of judgement?

First of all, the *Caraka* defined wisdom as the combined powers of intelligence (*dhī*), will-power (*dhṛti*), and memory (*smṛti*). These powers may become impaired in different ways. As an example of impaired intelligence, the classical authors cited errors such as mistaking something permanent as temporary, or something harmful as helpful, etc. Poor will-power would be exemplified by a lack of self-control in the face of sensual enjoyments which are unhealthy. Faulty memory was exemplified when a person’s mind becomes so confused by passion or darkness, that they cease to be able to see things as they really are, and they cannot remember what should be remembered. Thus, erroneous mental processes lead a person to engage in several types of faulty activity that develop into a cascade of problems ending in illness.

In the *Caraka’s* core model of disease, an error of judgement – faulty intelligence, will-power or memory – leads to the over-use, under-use or abuse of the senses, of action or of time. Wrong use of the *senses* would include listening to sounds that are too loud (over-use), looking at objects that are too small (under-use), or smelling a corpse (abuse). The sense of touch was treated as a special case, because the *Caraka* considered it to be the fundamental sense working in and through all the other senses, permeating the mind and the objects of cognition. Because of this, an unwholesome association of any sense and its object could be understood as an abuse of touch, and as a conduit by which the external world could adversely affect the inner being of a person. Wrong uses of *action* include similarly categorized inappropriate uses of body, mind and speech. The overuse of *time* would include experiencing unseasonably intense weather – winters that are too cold or summers that are too hot. The under-use of time is the inverse: winters that are not cold enough, and so on. The abuse of time would be experiencing winters that are hot and sunny, or summers that are snowy and cold.

The *Compendium of Suśruta*, the other major ancient medical encyclopaedia, does not mention the concept of ‘errors of judgement’. Rather, the *Suśruta* presents a quite different taxonomy of illness groups.
Diseases of body, environment, and the supernatural

In its first book, the *Suśruta* set out a general classification of medical afflictions. Pain, that defines illness when in a patient, is divided into three categories: pertaining to the body (*ādhyātmika*), pertaining to the physical world (*ādhibhautika*), and pertaining to non-physical causes (*ādidaivika*). The first category, the bodily, was further broken down into ailments set in motion by the forces of conception, of birth, or of deranged humours. Diseases caused at the time of conception were caused by faulty sperm or female conceptual blood, and included diseases of pallid skin and haemorrhoids. Diseases of birth were related to the mother’s diet and behaviour during pregnancy. If she were undernourished or her pregnant cravings were denied, then the child might suffer from disabilities such as lameness, blindness, deafness, and dwarfism. Deranged humours could arise from anxiety or from faulty diet or behaviour, and could arise in the stomach or digestive tract. Deranged humours could affect the body or the mind. The second major category, traumas from the physical world, included physical assaults by animals or weapons. The third category, the non-physical, included ailments set in motion by time, such as exposure to seasonal extremes of temperature, or by supernatural causes such as curses and magic spells, or by processes of natural insult such as starvation and senility.

The *Suśruta* thus placed humoral medicine, such an important part of medical explanation in ayurveda in general, in a relatively minor location in its grand scheme of disease causation. In spite of this, the *Suśruta* went on to emphasize elsewhere that the three humours are the very root of all diseases, because their symptoms can be seen, their effects witnessed, and because of the authority of learned tradition. The *Suśruta* cited a verse from some older unidentified work that stated: ‘inflamed humours flow around in the body and get stuck because of a constricted space, and that becomes the site at which a disease arises’. Thus, the *Suśruta* seems to have expressed a certain tension between its classificatory scheme of disease causation and the widespread dominance of the humoral theory.

A good example of overlapping models in another author is Vāgbhaṭa’s account of fever, the first and most serious of diseases discussed by all the ayurvedic treatises. Vāgbhaṭa started with references to the mythology of the god Śiva, but segued rapidly into a humoral narrative:

Fever is the Lord of diseases. It is evil, it is death, the devourer of energy, the terminator. It is the fury born from Śiva’s third eye, which destroyed Dakṣa’s sacrifice. It consists of the confusion that is present at birth and death. It is essentially a high temperature and it arises from bad conduct. Called by many names, it is cruel and exists in creators of all species. It is of eight types, according to the way the humours come together singly, in combination, or as being of external origin. Thus, the impurities, corrupted each by its own particular irritant, enter the stomach. They then accompany the crude matter, and block the ducts. They then drive the fire out of the place of digestion and to the exterior. Then, together with it, they snake through the whole body, heating it, making the limbs hot, and bringing about a fever. Because the ducts are obstructed, there is usually no sweat.
Its first signs are lassitude, uneasiness, a heaviness of the limbs, dryness of the mouth, loss of appetite, yawning, and watery eyes. There is friction of the limbs, indigestion, breathlessness, and excessive sleepiness. There are goose pimples, flexion, cramp in the calf muscles and fatigue. The patient is intolerant of good advice and has a liking for sour, pungent and salty things, and a dislike for sweet foods. He also dislikes children. He is extremely thirsty. For no reason, the patient likes or dislikes noises, fire, cold, wind, water, shade or heat.

Following these signs, the fever becomes manifest.

This passage interestingly combines humoral corruption, the displacement of digestive fire, the flow of humors in the body and the existence of ducts that become blocked. It is not unusual to find several etiological explanations side-by-side in the texts. It seems that in addition to setting out to describe the facts of medical theory, the texts may also have functioned as toolboxes of ideas that physicians could use in order to construct the medical narrative appropriate for a particular patient in a particular situation.

Invasive diseases

In one of its several classificatory schemes, the Caraka asserted that there are three kinds of disease:

The three diseases are the internally caused, the invasive (āgantuka), and the mental. Thus, ‘internal’ is what arises out of the body’s humours; ‘invasive’ is what arises from creatures, poison, wind, fire or wounding. And ‘mental’ is brought about by not getting what one wants, or getting what one does not want.44

Invasive diseases include those that arise out of demonic possession, poison, wind, fire, and assault. In all of these cases, according to Caraka, good judgement is violated. The Suśruta uses the category of ‘invasive’ disease to talk about foreign objects that have to be surgically removed, including shards of iron, bamboo, tree, grass, horn and bone, and especially arrows.45

When, in the sixteenth century, ayurvedic authors first began to grapple with the problem of syphilis, it was classified as an invasive disease.46 The disease was first described in India by Bhāvamīśra in his sixteenth-century work Bhāvaprakāśa. Bhāvamīśra said that the disease was widespread in a country called ‘Phiraṅga’ – France or the Franks – and that therefore experts called it the ‘Phiraṅga disease’.47 Although Bhāvamīśra classified it as an invasive disease, caught by carnal contact with those who had the disease, he noted that the humours were also involved and that the expert physician would diagnose the disease by means of noting the signs displayed by the humours.

Epidemic disease

Kāmpilya, a town on the Ganges close to 20° n 80° e, was the ancient capital of Pañcāla. The Caraka located a dialogue about epidemic disease at this place. The protagonists of the debate had to struggle with a major theoretical problem. Almost all models of
disease in classical Indian medicine explain illness as some form of dysfunction of the patient’s unique, personal constitution. Yet, in an epidemic one witnesses many people suffering the same disease, in spite of their varying personal constitutions. ‘How can one single disease cause an epidemic all at once amongst people who do not have the same constitution, diet, body, strength, dietary disposition, mentality, or age?’, asked the Caraka. The discussion of this point came to the conclusion that when the air, waters, places and times are corrupted or discordant, then diseases would arise at the same time and with the same characteristics, and they would cause the epidemic destruction of a locality. Corrupted air, for example:

fails to correspond with the appropriate season; it is stagnant; it is too mobile; it is too harsh; it is too hot, cold, dry, or humid; it is overwhelmed with frightful howling, with gusts clashing together too much; it has too many whirlwinds; it is contaminated with antagonistic (asātmya) smells, fumes, sand, dust, or smoke.

Waters become turbid and are abandoned by wildlife. Corrupted places are full of mosquitoes, rats, earthquakes, and bad water. Time goes wrong when the seasons display inappropriate features. Underlying these physical causes, however, is a moral causality. Errors of judgement are the ultimate cause of epidemics, according to the Caraka. These errors lead to unrighteousness (adharma) and bad karma.

Thus, when the leaders in a district, city, guild, or community transgress virtue, they cause their people to live unrighteously. Their subjects and dependants from town and country, and those who make their living from commerce, start to make that unrighteousness grow. The next thing is that the unrighteousness suddenly overwhelms virtue. Then, those whose virtue is overwhelmed are abandoned even by the gods. Next, the seasons bring calamity on those whose virtue has thus been overwhelmed, on those who have unrighteous leaders, on those who have been abandoned by the gods.

War is also implicated in the disruption of society that can lead to epidemic disease. The whole discussion of epidemic disease is concluded, in the Caraka, by a narrative about social decay during the present degenerate age of man, caused by a primal accumulation of excess in the original Golden Age.

Because they had received too much, their bodies became heavy. Because of this corpulence, they became tired. From tiredness came apathy, from apathy accumulation, from accumulation, ownership. And ownership led to the appearance of greed in that Golden Age.

A causal chain of further vices led to the diseases and social decay that the author saw at his time, including epidemic disease.

**Contagion**

Contagion plays almost no role in classical ayurvedic theory. A small number of references in the literature suggest that the idea was not completely absent, but it certainly
played no major part in the general understanding of disease in ancient India. The *Suśruta*, a century or two later than the *Caraka*, said:

Skin disease, fever, consumption and conjunctivitis as well as secondary diseases are communicated from person to person by attachment, contact of the limbs, breath, eating together, lying or sitting down together, or from sharing clothes, garlands or makeup.

This verse occurs at the end of a chapter, and the topic is not taken further. Similarly, a passage from the sixth-century *Heart of Medicine* noted the possibility of disease contagion through close proximity to others:

Almost all diseases are contagious (*saṃcārin*) through the habit of touching, or of eating and sleeping together and the like. Especially ailments of the skin and eyes.

This sounds like a strong observation of the model of contagion. However, it is an isolated verse in the middle of a chapter about other things. The very next statement in the text relates to worms, and the author did not return to the subject of contagion.

The philosopher Prajñākaragupta (fl. 750–810) casually used the following example to illustrate the behaviour of a crazy person: ‘The first person to go into a place like that gets sick. If that’s the case, I will not go in first. I will go in later.’ The model of disease implied in this eighth-century gnomic jest is that presence in a particular place may cause disease. The verbal noun ‘go into’ (Skt. *praveśa*) suggests actual entry into an enclosed place, rather than just arrival at a country, such as might be experiencing an epidemic. The notion of contagion is not explicit, but the connection of disease with place is certainly present. Small increments in developing the idea of contagion took place in the discussion of the *Caraka* and the *Suśruta* by the eleventh-century Bengali medical genius, Cakrapāṇidatta, who connected the ideas of contagion, unrighteousness, epidemics and skin diseases like leprosy. But the idea never gained traction amongst traditional physicians until ayurveda began to be influenced by European medical ideas of disease in the nineteenth century.

**Conclusion**

The traditional ayurvedic medicine of India is often represented as being an herbal medicine underpinned by a three-humour theory. This is true, but it is an inadequate account of ayurveda’s complexity. The three-humour theory pervades much of the theory of disease, but it is displaced or overlapped by other equally important theories. The idea of affinity, for example, influenced diet and cookery, and had a profound influence on cuisine and dietary regime in South Asia. The notion of raw residues led to the widespread development of purging therapies.

Not all health practices in South Asia developed a self-aware scholarly tradition of reflection and theorization. Undocumented folk practices at the village or family level both informed scholarly practice and were influenced by it. Ayurvedic treatments of poisoning in the ancient treatises, for example, are almost devoid of humoral theory...
MODELS OF DISEASE IN AYURVEDIC MEDICINE

and mostly link symptoms with therapies, without an intervening layer of theory. A fine example of a completely isolated rationalization that may have originated as a folk belief occurs in the *Caraka*:57

If the path of a patient’s phlegm is corrupted by poison . . . and he breathes like a dead man and may die, then . . . one should apply the meat of goat, cow, water buffalo, or cock to an incision in the man’s head like a crow’s foot. Then, the poison moves across into the meat.

Other bizarre explanations occasionally intrude into the otherwise stately narratives of the ancient encyclopedias.

Across a large diverse society and through a period of more than three millennia, a multiplicity of diagnostic and therapeutic models developed in India. This plurality has persisted into the present time, with the Government of India providing official recognition, support and regulation for Ayurveda, Yoga, Unani, Siddha, Tibetan and Homoeopathic medicine, albeit at a much lower financial degree than for Modern Establishment Medicine.58 The popularity and currency of applied ayurveda in the contemporary world has not always helped the appreciation of the heterogeneity of the disease models that existed historically, because most accounts of ayurveda have aimed at simplifying matters in order to reach a general audience, or have been confessional or promotional in purpose. The exploration of the disease models that were proposed in early Indian medicine remains a fertile area for research and clarification and will grow through the application of historical sensitivity and the close study of original sources.

Notes

1 The word ‘sensation’ (Pali *vedanā*) is used in this passage to cover both experiences in general and painful experiences in particular.


4 *Samyuttanikāya* 36.21 (Feer, *Samyutta-Nikāya*: v. 4, 231): *pittaṃ semhaṃ ca vātō ca/sannipātā uṭtīni ca/ visamaṃ opakkamikam/ kammavipākaṇa aṭṭhamitī//.

5 It has been much discussed whether the Pali Canonical sermons represent the actual words of the Buddha or are a later re-creation by the monks of the early councils. My own judgement is that we can take the sermons as being more or less identical to the Buddha’s words. For some convincing arguments, see Alexander Wynne, ‘The Historical Authenticity of Early Buddhist Literature: A Critical Evaluation’, *Wiener Zeitschrift für die Kunde Südasiens* XLIX (2005), 35–70, which suggests that the views he expressed are datable to the period before his death in about 400 BCE.

6 Scharfe, ‘The Doctrine of the Three Humors’, 612 ff. cites several other Pali passages that take the humoral model of disease for granted.
DOMINIK WUJASTYK


8 A survey of over a dozen authorities whose works are lost is provided by Gerrit Jan Meulenbeld, *A History of Indian Medical Literature* (henceforth HIML), Groningen: E. Forsten, 1999–2002. 5v: 1A, pp. 689–99.


12 *Buddhacaritam* 12.3 (Olivelle, *Life of the Buddha*, p. 328). I take ‘equality of their bodily elements (dhātusāmyam)’ here to be equivalent to ‘equality of their humour (doṣasāmyam)’, since in medical theory ‘equality (sāmyam)’ is normally associated with the latter, not the former. Exceptions exist: inequality of the bodily elements/humours (dhātusāmyayam) is one definition of disease (vikāra) given by the *Caraka* at Ca.sū.9.4 (Sharma, *Caraka-Saṃhitā*: 1:62). Scharfe, ‘The Doctrine of the Three Humors’, 624, noted that: ‘The older parts of the *Carakasaṃhitā* consider wind, bile, and phlegm in their natural state as elements (dhātu) and only in their riled condition as faults (doṣa)’. See further discussion by Philipp A. Maas. ‘The Concepts of the Human Body and Disease in Classical Yoga and Āyurveda’, *Wiener Zeitschrift für die Kunde Südasiens*, 51 (2008), 123–62, at 152 et passim.


15 Ca.sū.9.79–81 (Sharma, *Caraka-Saṃhitā*: 2:653). The term ‘brain-tissue’ translates Sanskrit masti-ka, a word commonly translated as just ‘brain’, although the ayurvedic texts describe it as a fatty substance and do not connect it with cognition.


20 Ca.sū.6.49bc (Sharma, *Caraka-Saṃhitā*, 1:47).


22 See the fine historical exploration of the concept by Clive Staples Lewis. ‘Nature (with Physis, Kind, Physical, etc.)’, in *Studies in Words*. Cambridge: Cambridge University Press, 1960. Chap. 2. Ayurveda also has a concept of a person’s immutable nature, the humoral disposition or temperament with which they are born (Sanskrit prakṛti).

23 However, as far as I can tell, there is no analogue in ayurvedic literature to the contemporary idea of approaching habit-change through removing reinforcers or triggers.


MODELS OF DISEASE IN AYURVEDIC MEDICINE

26 Wujastyk, Roots, pp. 225 ff.
29 The following discussion is based on Ca.vi.2 (Sharma, Carakasaṃhitā, 1:309–13).
31 Suśruta-śaṃhitā, sūtrasāsthaṇā 26.499–513 (Sharma, Sūruta-Śaṃhitā, 1.556–9).
32 Reported by Vijayarākṣita (fl. 1100) on Mādhavaṇidāna 16.1–2 (Yadavasārman Trivikrama Ācārya, ed. Madhāmati Śiś Mādhavakarapraṇīṭa Mādhavaṇidāna ŚrīVijayarākṣita Śrīkathadatta datābhāya Vyākhyāyā MatuḥkāyāVyākhyāyā, Śrīdevapativaidyavacaritaṭa Ātaṅkadarpanavyākhyāyā viśyājanāna ca samulasitam = Mādhavaṇidāna by Mādhavakara with the Commentary Madhukāsa by Vijayarākṣita & Śrīkathadatta and with Extracts from Ātanakadarpana by Vāchaspāti Vaidya, Vārāṇasa: Chaukhamḍa Orientalia, 1986: 133). Cf. HIML IA.379 f., & n.212. At least one manuscript of Vijayarākṣita’s commentary attributes this remark to Gayadāsa, not Gāḍādhara (Yadavasārman Trivikrama Ācārya, op. cit.: 133, variant 2).
36 Ca.śa.1.98–109 (Sharma, Caraka-Śaṃhitā, 1:406–77). The Sanskrit word translated as ‘memory’ is also used to mean ‘mindfulness’, a heightened state of awareness. This ambiguity runs through all uses of the term and requires context-sensitive reading.
37 Wujastyk, Roots, pp. 28–31.
38 Classical Indian medicine does not characterize the human as consisting of ‘body, mind and speech’, but rather ‘body, mind and speech’.
39 This account is from Su.sū.24 (Sharma, Sūruta-Śaṃhitā, 1:252–58).
41 Su.sū.24.10 (Sharma, Sūruta-Śaṃhitā, 1:257).
43 A commentator noted that this is why people cannot recall their actions in previous lives.
44 Ca.Śa.11.45 (Sharma, Caraka-Śaṃhitā, 1:77; Wujastyk, Roots, 30).
45 Su.sū.26 (Sharma, Sūruta-Śaṃhitā, 1:267 ff.).


49 Ca.vi.3.20.

50 Ca.vi.3.24.

51 Ca.vi.3.24–27.


54 Aṣṭāṅgaḥrdaya, Nidānasthāna 14.41–4 (Kuṃṭe and Navare, Aṣṭāṅgaḥrdayam, 297).

55 Praṃāṇavārtikālakāra 2.1.24 (Rāhula Sāṅkṛtyāyana, ed. Praṃāṇavārtikabhāṣyam or Vārtikālakāraḥ of Prajakāharagupta (Being a Commentary on Dharmakaruṭi’s Praṃāṇavārtikam). Deciphered and edited, Patna: Kashi Prasad Jayaswal Research Institute, 1943: 171). I am grateful to Eli Franco for drawing this passage to my attention (Eli Franco. ‘Bhautopākhyāna or Dumb and Dumber: A Note on a Little-Known Literary Genre’. In press: f.n. 11). For the discussion of contagion as a concept in this manuscript, see the chapter in this volume by Michael Worboys.


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MODELS OF DISEASE IN AYURVEDIC MEDICINE


