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## **Interpreting the image of the human body in pre-modern India**

the date of receipt and acceptance should be inserted later

### **Introduction**

Post-modernism, now fading partly into orthodoxy, partly into irrelevance, brought two new academic metaphors into common usage, especially in the fields of cultural studies and anthropology. The first is the metaphor of writing, given to us especially by Derrida. In this style, we talk of discourses, textualities, inscriptions, readings, and decipherments. All experience and explanation is modelled on the act of reading and textual reception. For example, bodies may be discussed as,

cultural artifacts, fabricated both in the writing and reading of 'body texts'... As soon as one 'knows' one's own or another's body, it has been written discursively;... Anatomy, epidemiology, psychology, medical sociology and other body-texts frame bodies... which exercise power over its reading. (Fox 1997, 45)

The other decisive metaphor, especially associated with Foucault's work on the history of madness and the evolution of clinics, is that of the human being as a body. For Foucault, the medical encounter is,

a supreme example of surveillance, whereby the doctor investigates, questions, touches the exposed flesh of the patient... In the doctor's surgery,

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the body is rendered an object to be prodded, tested and examined. . . . The body is owned by the medical system, while in mental illness the body is the apparatus by which the brain is kept restrained, often against the owner's will. (Lupton 1994, 24)

This is a case of metaphorical metonymy or synecdoche, the use of part of an object to refer to a whole (Lakoff and Johnson 1980, ch. 8). It may seem provocative to claim that speaking of the person as a body is an example of metaphorical language, yet it is a point worth insisting upon. In other cultures and at other times it is not always the case that the body is the notion of first resort when reference is made to a human being. One of the common teachings of many branches of philosophy in ancient India was precisely the importance of breaking the link of identification with embodiment (Sanskrit *abhiniveśa*), a view which presupposes a concept of the person as distinct from embodiment, while at the same time recognizing the widespread existence of this identification and its problematic nature.

These metaphors, of writing and of the body, are often mixed in post-modern discourse as, for example, when gender is redefined as “the social inscription of sexed bodies, not the imposition of an acculturized, sexually neutral gender” (Lupton 1994, 25). These styles of discourse are certainly open to abuse, and everyone will have encountered examples where postmodern language has been used to shed much new darkness on topics which were formerly reasonably well-illuminated. Nevertheless, at their best, these metaphors are valuable in stirring us to view the world differently, to find new relationships between entities, between the person and the environment.

One of the exciting aspects of body studies in the Indian context is that we find within the Indian tradition itself, from the very earliest period, a self-conscious attitude to the body as the vehicle of consciousness, and as an exteriority, we might say, carrying various inscriptions. The notions of exteriority and interiority were deeply embedded in Indian thought at an early time. We may recall that the Sanskrit verb for “disappear, vanish” is *antardhā*, which etymologically carries the sense of something being placed *inside*; conversely “appearance” is “being outside” (Skt. *āvirbhū*). One of the commonest words for “body” in Sanskrit, *deha*, is derivable from the grammatical root *dih* meaning “anoint, smear”, and it seems at least arguable that the metaphor underlying this word is one of the body as an external coating or covering. However, indigenous discussion of this metaphor, if it ever existed, is lost to us. Some of our earliest Indian sources, dating from the early first millennium BCE, already posit the existence of several bodies, some spiritually constructed, some physically, some psychologically. Thus, the *Taittirīyopaniṣad* (“the Partridge Family Secrets”), which is largely a meditation on food and on the body, posits five bodies or “*ātmans*”: *annamaya* or the physical body derived from food, *prāṇamaya* or the body of the vital breath or airs, *manomaya* or the self of the mind, *vijñānamaya* or the self as a locus of knowledge, and *ānandamaya* or the self made of joy (Keith 1925, 518; Olivelle 1998, 298–311). In later yogic and tantric traditions, from the late first millennium CE, a whole “alternative” anatomy evolved, which mapped the body as the locus of spiritual energies and points of graduated spiritual awakening (Briggs 1982, ch. 15; Vasudeva 2004).

The variety of ancient Indian body concepts is naturally reflected in a rich Sanskrit vocabulary of names for the body, a litany of which includes such terms as *śarīram*, *kāyaḥ*, *dehaḥ*, *vigrahaḥ*, *aṅgam*, *vapus*, *kalevaram*, *tanus*, *gātram*, *śavaḥ* and *kuṅapaḥ*, each carrying its own particular connotations according to usage and etymology.

India, then, produced a rich and diverse world of body-discourse all of her own. It is the visual representation of that world of discourse which this paper will survey. While several topics in this rich field of research can only be alluded to, the bibliography provides references to stimulate further studies.

This paper sets out two main arguments. In part I, the adherents of the various intellectual disciplines and religious faiths in pre-modern India each developed distinct and different imagined bodies. For example, the body described in tantric circles had little or nothing in common with the body described in medical circles. In part II, the encounter between ayurvedic anatomy and early colonial European anatomy led initially to attempts at synthesis. These gave way to an abandonment of the syncretist vision of the body and the acceptance of an epistemological suspension of judgement where radically different body conceptualizations are simultaneously held in unacknowledged cognitive dissonance.

## Part I: the many bodies of pre-modern India

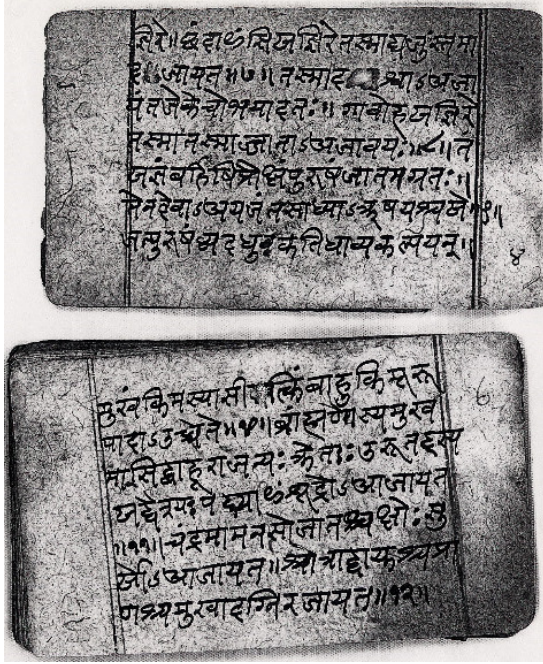
In the following sections of the paper I present a short but indicative survey of the major traditions of body representation. These brief descriptions are intended only to establish and exemplify the discrete discourses on the body in pre-modern India. In another context, each body-discourse would merit deeper study in and of itself.

### *The body of sacrifice*

The first bodies we are offered in ancient India appear not in images of the body but in word-portraits (see Fig. 1.).

In fact, as we shall see, the visual representation of the medical body is a remarkably late phenomenon in Indian culture. However, some of the very earliest texts surviving from ancient India do deal with the body in detail as the subject of elaborate sacrificial rites. In the *Ṛgveda*, the famous *Puruṣasūkta* or “Hymn of Man” (RV 10.90) presents man as the original sacrificial being whose body is divided as a primal creative act. An extract reads as follows:

When the gods made a sacrifice,  
with the Man as their victim,  
Spring was the melted butter, Summer the fuel,  
and Autumn the oblation.  
From that all-embracing sacrifice  
the clotted butter was collected.  
From it he made the animals  
of air and wood and village.  
...  
Thence were born horses,



**Fig. 1** The body in text alone: Sanskrit manuscript folio of the *Puruṣasūkta* from the *Ṛgveda* (hymn 10.90), showing verse 11, *yat puruṣam vyadādhuḥ...*, on the sacrificial division. Wellcome MS Indic 01951. Wellcome Library, London.

and all beings with two rows of teeth.  
 Thence were born cattle, and thence goats and sheep.  
 When they divided the Man,  
 into how many parts did they divide him?  
 What was his mouth, what were his arms,  
 what were his thighs and his feet called?  
 The brāhmaṇ was his mouth,  
 of his arms was made the warrior,  
 his thighs became the vaiśya,  
 of his feet the śūdra was born.  
 The moon arose from his mind,  
 from his eye was born the sun,  
 from his mouth Indra and Agni,  
 from his breath the wind was born.  
 From his navel came the air,  
 from his head there came the sky,  
 from his feet the earth, the four quarters from his ear,  
 thus they fashioned the worlds.  
 With Sacrifice the gods sacrificed to Sacrifice—  
 these were the first of the sacred laws.  
 These mighty beings reached the sky,  
 where are the eternal spirits, the gods.<sup>1</sup>

<sup>1</sup> Translation from Basham 1967, 240–1.



This famous poem has been the subject of much commentary and analysis in indological literature, and rightly so since so many themes of central importance make their first appearance in it. For the purposes of the present survey, however, it is of most interest to note that a sacrifice is performed in which a Man is ‘divided’. This dividing (Skt. *vidadhuh* ‘they divided’ ← *vi*√*dhā*) of a sacrificial creature is a central act of the ancient Vedic ritual (Malamoud 1996), and it is the first time in Indian tradition in which an account is offered of the internal parts of the animal or human. The animal to be sacrificed was often a goat, but many other creatures were also used, including oxen, sheep, horses, doves, owls, and dogs (Keith 1925, 324). And there is enough historical evidence to claim that man also was, certainly in principle, and possibly in fact, sometimes the sacrificial victim. Keith (1925, 347 f.) summarized previous scholarship on the issue, basing his remarks especially on the evidence of the *Vaitāna* and the *Śāṅkhyāyana-śrauta sūtra* texts. His conclusion was that the idea of human sacrifice, though present in the ancient texts, was purely theoretical. Zysk (1986, 689 f.) has also surveyed several key points on this issue, and finds, I think reasonably, that, ‘the enumeration of human victims, lists of anatomical parts referring specifically to the human body, . . . and the procedures found in the *sūtra* texts’ combine to form a compelling case that human ritual dismemberment really took place. This view was certainly shared by such early researchers as Hopkins (1895, 198–200) and Mitra (1876), and human sacrifice is not a rare theme in the story literature of India (e.g., Tawney and Penzer 1924, i.116, iv.64, vii.95f.). But whether or not the lists of human bones and organs offered to us by these texts are based on the actual observation of ritual killings, we need to reflect on the how these lists are to be understood. Can they be read as primitive anatomical observations?

Malamoud (1996) has drawn attention to many important aspects of the sacrificial process. In the *brāhmaṇa* literature on which he mainly reported, the action of dividing the victim’s body is called *vibhaktiḥ*. This immediately brings to mind a parallel with the later linguistic system of Pāṇini, in which *vibhaktiḥ* is the name given to the grammatical terminations which separate one function of a word from another. It would be wrong to read too much into this, but it is interesting to consider the extent to which animals were ‘inflected’ in the Vedic sacrifice, or words ‘carved up’ in language analysis. Malamoud (1996, 170, citing Schwab 1886), described the stages of the sacrifice. First the creature was strangled or suffocated; then the body was washed by the sacrificer’s wife; a special cake was prepared and offered up; the ‘carver’ made an incision above the umbilicus and withdrew the omentum; then he skewered the omentum and grilled it over the fire; fragments of gold were inserted into the omentum; the officiants were given their fees; the victim was divided up and unclean parts were offered to demons; the heart was grilled; the other pieces were cooked together in a pot; *from each joint or portion produced by division of the body, a small piece was removed for one of the divinities to whom the sacrifice was being offered* (italics mine) and the remainder was distributed to the participants. (A few more residual actions took place.) This distribution of body parts is crucial to our interpretation of this treatment of the victim’s body. The participants, the entire sacrificial team, were listed in detail and, as Malamoud noted (1996, 171), it is possible to cite least one prominent text where it is clear that,

... what is counted is not the number of pieces, but the number of the offerings that have the dismembered body of the victim as their oblatory material. These consist of three series of elevens, amounting to thirty-three in all.

What this means is, of course, that the description of the sacrificial body recoverable from the Vedic and *brāhmaṇa* literature is determined in fundamental ways not by anatomy but by the inner structural imperatives of the sacrifice itself. What we have is not a surgical dissection but a liturgical numerology which happens to be expressed through a description of butchery. This does not mean that we cannot take this description of the body and learn something from it about terminology and about the level of somatic understanding that was current in that age. This is what has been done so successfully in studies such as those of Zysk (1986). But as Zysk (1986, 689b) also said, it would be wrong to see in these historical records a true ancient anatomy. The understanding of the body was determined by the goals in view. As Sahlins (1995, 12) put it, in another context,

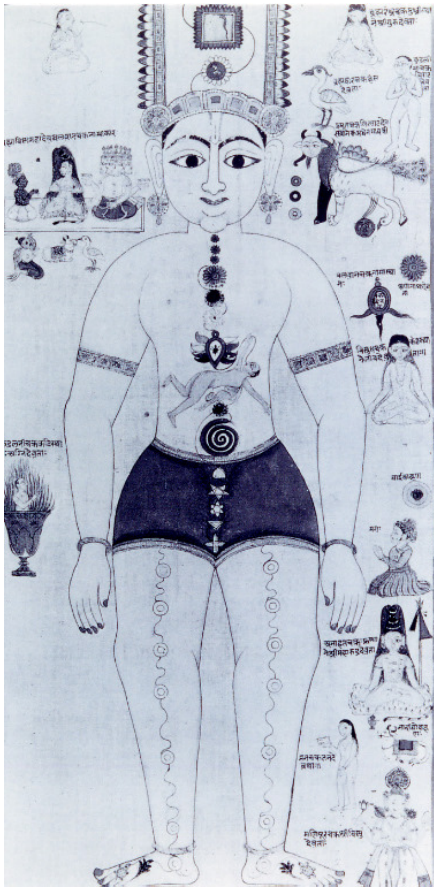
It is by means of... tradition, endowed also with the morality of the community and the emotions of the family, that experience is organized, since people do not simply discover the world, they are taught it.

The vedic sacrificers had in view a rite which would transport them to heaven: the defining dictum is: *svargakāmo yajeta*, 'the person who wishes to go to heaven should perform sacrifice.' They did not have in view the performance of complex medical actions such as surgery, bone-setting or massage. As Malamoud (1996, 171) noted, the body was divided up 'in a way that shows a homology with the living man.' The discovery of thirty-six portions in the butchered body is not an *anatomical* discovery of internal organs, but rather it is driven by structural imperatives such as the existence of thirty-six syllables in the poetic metre of the Vedic verse, or the canonical number of thirty-six celestial worlds. In fact, the ancient texts themselves articulate the point that the meaning of the act of dividing the body is determined by the purposes for which it is carried out:

Dividing the body in this way makes the victim into a celestial being, whereas those who proceed differently hack it to pieces like thieves or brigands. (*Aitareyabrāhmaṇa* 7.1, cited by Malamoud 1996, 172)

The point is to draw a magical, or at least symbolic, homology between the victim, the officiants, the divinities, and even the world at large. The body that is discovered in this process is different from the body discovered by medical and anatomical curiosity, whose final goals are quite different. Teleology determines epistemology.

**Body as world** The beginning of the *Puruṣasūkta* (v. 5) contains a somewhat cryptic remark to the effect that the original Man is both a descendent and an ancestor of an even more universal figure, called Virāṭ. This name is used in later literature to refer to *viśvariṇa*, the giant person who is identified with the universe as a whole, or who is a creator figure, and who famously appears in the epiphany to Arjuna in chapter 11 of the *Bhagavadgītā* (Daniélou 1991, 57–9). The metaphor of the body as an analogue of the world, microcosm and



**Fig. 2** The body as universe: Puruṣa/Virāt/Viśvarūpa. Collection J. C. Ciancimino, London, photos Jeff Teasdale. Reproduced with permission from Ajit Mookerjee, *Kundalini, the Arousal of the Inner Energy*, London: Thames and Hudson, 1982, p. 55.

macrocosm, is one of the more familiar ideas of the body from ancient India as well as one of the oldest. It is explicit in the Hymn of Man cited above. It is also a recurrent theme in art, and in various strands of Indian philosophical and tantric thought (Filliozat 1999, 32). The image of universe-as-giant-person, usually called Virāt ‘wide-shining’ is often present in manuscripts and paintings.

It is often asserted that the Sanskrit worldview included the idea that life in the human world was a mirror or reflection of life in a greater, divine dimension, the microcosm mirrored the macrocosm. The famous opening passage of the *Bṛhadāraṇyaka Upaniṣad* presents a homology of the sacrificial horse and the world at large: by manipulating the horse in ritual sacrifice, one manipulates the universe (Olivelle 1998, 36 f.). The Hermetic postulate ‘As above, so below’ is indeed present in Indian tradition, and is enunciated particularly clearly in medical literature from approximately the first century CE.<sup>2</sup> The medical en-

<sup>2</sup> The Hermetic postulate first appears in European thought in the *Emerald Tablet* of Hermes Trismegistus, a text that itself first appears in the second half of the first millennium (Ruska 1926; Manzalaoui 1970–71).

cyclopedia called the *Carakasamhitā* contains a dialogue in which the teacher Punarvasu asserts that,

This human being is coincident with the world: whatever kinds of entity are to be found in the world those same are to be found in the human being and whatever are to be found in the human being are to be found in the world'.<sup>3</sup>

But what is so interesting about this passage is that the assertion is not left as a vague philosophical statement: it is filled out in detail. The author has a specific set of correspondences in mind, and he is willing to explain. Thus, the world's earth is a human's form; water is his moisture, fire is his bodily warmth, wind is his breath, ether is his cavities, the absolute is his inner self. The passage goes on to offer personal human analogues for the Vedic gods. For example, Indra is ego, the Sun is receiving, Rudra is rage, Soma is serenity, Wind is happiness, the two Aśvins are beauty, the Maruts are enthusiasm, and so on. This narrative merits further exploration at length elsewhere: here we simply note it as a contribution to the narrative of the body as world.

### *The Upaniṣadic body*

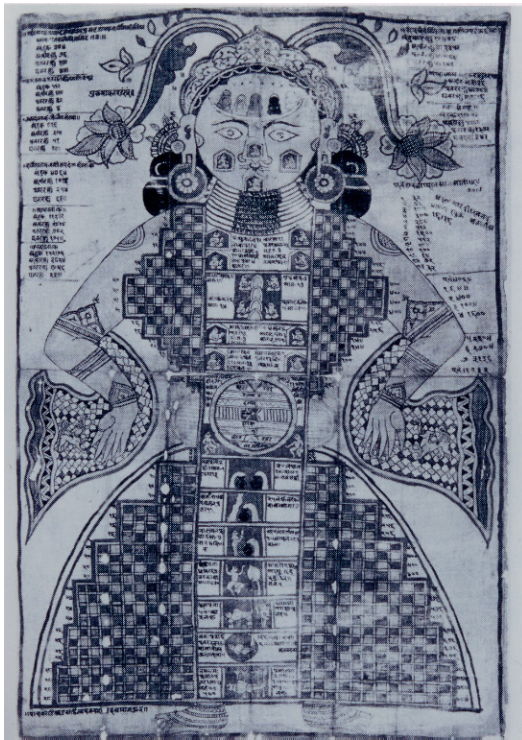
The earlier *Upaniṣads*, dating from the first half of the first millennium BCE, present more developed reflections on the nature and function of the body (Olivelle 1998, intro.). As was mentioned above, several kinds of body are arranged in a typology of function. But perhaps most striking is the development of many ideas concerning breath and breathing (see, e.g., Bouy 1994; Zysk 1995). Five breaths are distinguished, based on location and bodily function, but also homologised in a series of ways with various parts of nature and the divine world (Filliozat 1999, 29–31). Here we see, perhaps, the influence of ideas from the ascetic milieu which was becoming increasingly important at this period. Physical states which accompany meditation exercises are noted, and the notion of levels of sleep and waking are developed. Some later *Upaniṣads* even begin to present ideas relating to the formation of the foetus (Kapani 1989).

### *The Jaina body*

The Jaina tradition developed a number of speculations concerning the homology of a giant man and the world at large that seem to share some features with the Virāṭ idea. However, the Jaina vision is more complex, with the vertical axis of the giant man (*lokapuruṣa*) corresponding to various levels of divine, human, and hellish habitation (see Fig. 3) whose features and qualities are elaborated in the canonical literature (Caillat *et al.* 1981).

The Jaina religion teaches that *karma* is a semi-material substance which adheres to the soul, giving it weight which holds it imprisoned in mundane existence (Dundas 1992, 83–87). Amongst the most striking body images in pre-modern India is the Jain image of the saint or ascetic who has shed all

<sup>3</sup> Ca.śā.5.3 (Trikaṃji Ācārya 1981, 325): *puruṣo'yaṃ lokasaṃmitaḥ ... yāvanto hi loke bhāvaviśeṣās tāvantaḥ puruṣe yāvantaḥ puruṣe tāvanto loke*. Cf. Ca.śā.4.13 where the same homology is presented.

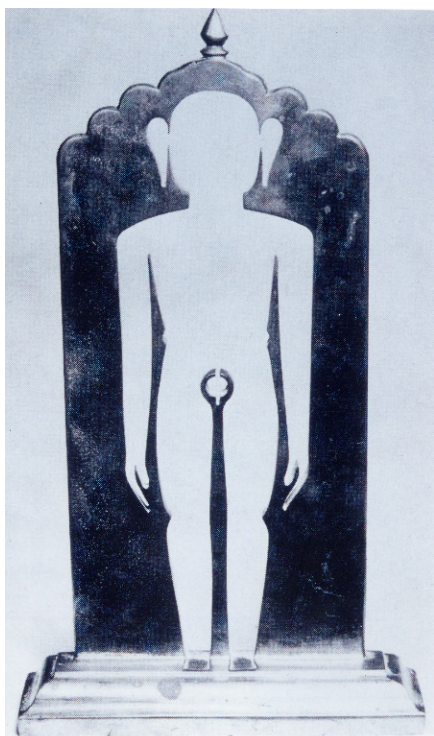


**Fig. 3** The Jain world as colossal human. Collection Ajit Mookerjee, photos Jeff Teasdale. Reproduced with permission from Philip S. Rawson, 1973, *The Art of Tantra*, London: Thames and Hudson, no. 130.

his corrupting *karma* and become a transcendent, pure being. Although still inhabiting the world, he is yet perfect. As such, all descriptions, all qualifications turn back from him. The use of any adjective is inappropriate and inadequate. He can be described only apophatically, by describing what he is not. And the visual analogue of this method is to portray an image of the conquering saint as an absence (see Fig. 4). This powerful representation of the pure embodied soul inevitably remains in memory as a most striking and evocative vision of the human body in its most negated form.

### *The Buddhist body*

The central formative experience which led Prince Gotama to renounce his royal birthright and seek a deeper meaning in life was his encounter with four bodies: bodies of people who were poor, sick, old, and dead. It is reasonably justifiable to state matters in this way, since the canonical account of this event treats only of the exteriority of these bodies, not of the personalities or nuances of the selves they embodied. During his subsequent ascetic practices, Gotama himself was treated reductively by some of the people who encountered him, especially the village boys who thought he was a “dust-goblin” (*pāṃśuṇīśāca*) and spitefully drove spikes deep into his ears (see Fig. 5; Wujastyk 1984b). This, like the Jaina apophatic representation of the body, is a tradition which denies the importance



**Fig. 4** The apophatic body of the Jain ascetic. Collection Ajit Mookerjee, photos Jeff Teasdale. Reproduced with permission from Philip S. Rawson, 1973, *The Art of Tantra*, London: Thames and Hudson, no. 129.

of the body, and valorizes those who are immune to physical insult. In a certain sense, the body in these traditions is irrelevant.

Hamilton (1995, 1996) has provided rich materials for exploring the Buddhist idea of the body, based on a close reading of the Pali *Tripitaka*. In this reading, the understanding of the body is qualitatively more complex and subtle than in previous traditions. The physical body is not objectified as a physical substance, for example in contrast to mind, but rather as a combination of processes or events (Hamilton 1996, 169). The Buddhist analysis of the body discusses five *skandhas*, “bundles” of its experiences. The first (*rūpa*) is the closest to what the modern reader understands as a physical frame, made of the elements, whose essential characteristic to the Buddha was that it suffered (Hamilton 1996, 4). The next bundle is pleasurable and painful feelings (*vedanā*), then ‘consciousness of’ or apperception (*saññā*), conditioned volition (*saṃkhāra*), and the process of being conscious (*viññāna*). These may be thought of as aspects of the psycho-physical continuum of the subjectively-experienced “individual”. This early Buddhist analysis of the body into five bundles turns out to be an analysis of clusters of experiences, rather than of things. As Gombrich noted, “The Buddha did not ask ‘What is a man?’ but ‘How is a man?’” (1996, ix). The Buddha was interested not in the body as an object, but in the cognitive and experiential processes that occurred concomitant to embodiment (Watson 2002, 97 ff.). The full understanding of this analysis constitutes a major step in Buddhist enlightenment. The bundles are all characterised by an absence of permanent essence (*anattatā*), by





**Fig. 5** The Buddha is attacked by village boys. Wellcome MS Indic  $\epsilon$ 1. Wellcome Library, London.

unsatisfactoriness (*dukkhatā*) and by impermanence (*aniccatā*). Meditation on the body as an object lesson in transitoriness and as a *memento mori* became a tradition within Buddhism at an early period (e.g., Dissanayake 1993, 141), as did a special focus on the female body as an object of disgust (Wilson 1995).

### *The tantric body*

During the latter part of the first millennium CE, the tradition of thought and practice described in texts entitled *tantras* began to become an important strand of Indian religious culture (Goudriaan and Gupta 1981, 20 ff.). Tantric religious ideas are distinguished by their self-conscious difference from Vedic ideology and by a number of other typological features (Gupta *et al.* 1979, 7–9). One of the central ideas in the tantric view of the body is that there are six wheels or *cakras* arranged along a vertical axis in the human body, and that these are implicated in the process of self-realization and the expansion of consciousness (Fig. 6). The vertical axis contains tubes called *īḍā*, *suṣumnā* and *pingala*, along which *prāṇa* or breath travels (Briggs 1982, ch. 15). This model of the body was elaborated in early tantric and yogic texts such as Matsyendranātha's *Kaulajñānanirṇaya* (ca. CE 900–950) and Gorakṣanātha's *Siddhasiddhāntapaddhati* (ca. CE 1000–1250), works that form the foundational literature of the Nātha sect, but had a wide influence across all subsequent Indian religious traditions. These and other works have been called “satellite traditions of yoga” (Larson and Bhattacharya 2008, 436 *et passim*).

One such text, for example, the *Dehasthadevatācakrastotra*, studied by Flood (1993), gives the various senses and faculties etc., and locates them in petals at the *cakras* within the sacred body. All of these categories and functions are

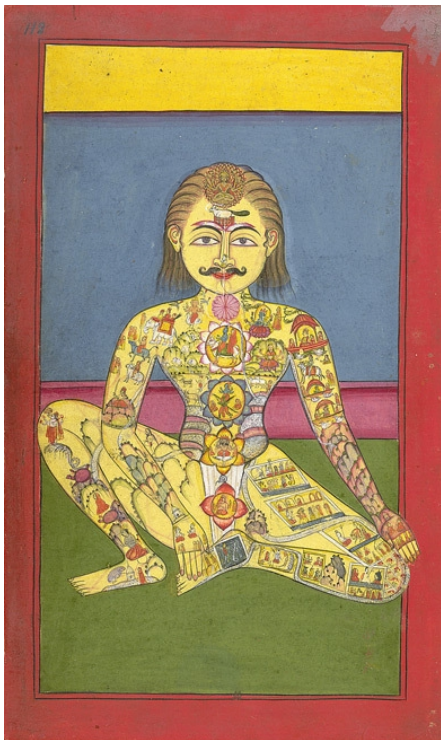


**Fig. 6** The body as locus of tantric cakras. Wellcome MS Indic  $\beta$ 511. Wellcome Library, London.

subject to multiplication, variation, and homologization as generic themes in religious and mystical discourse (Filliozat 1999; Padoux 1990; White 1996). The concept of the *cakras* has, of course, now entered public consciousness and media world-wide, usually in an inflated version which enumerates seven, not six, *cakras*. The doctrine of the *cakras* is widely viewed as an ancient and immutable element of the Indian world view. While not completely wrong, this view needs to be qualified in two directions. First, it comes as a surprise to many to discover that the idea of the *cakras* is a relatively recent development in Indian tantric thought. It is datable only to the tenth century CE, making its appearance in texts such as the *Kubjikāmatatantra* and the *Mālinīvijayottaratantra* (Heilijgers-Seelen 1990). Secondly, the *cakras* make no appearance whatsoever in *āyurveda*, the classical medicine of India. Notwithstanding the contemporary growth of various forms of massage and therapy focussed on the *cakras*, there is no such theme in the classical Sanskrit literature on medicine. The *cakras* really are an idea specific to *tantra* and yoga, and it is not until relatively recent times that this idea has been synthesized with medical thought and practice.

To summarize, the tantric body is yet another example of a non-anatomical body. Just as the Vedic body was profoundly implicated in ritual meaning, the tantric body is an instantiation of the universe in miniature, and a conduit for mystical energies that awaken consciousness.



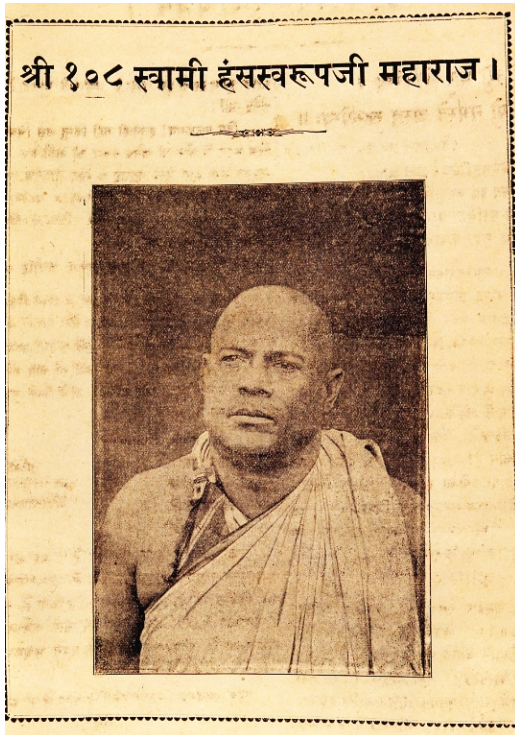


**Fig. 7** The Yogi as macrocosm. British Library MS Add. 24099, f. 118.

### *The yogic body*

The yogic model of the body is largely common with that of the tantric milieu. The base text of the yoga system, Patañjali's *Yogasūtra*, does not give much detail about the body, being predominantly a psychological and spiritual text. It does not even give any detail about postures (*āsanas*), which are such a major feature of the tradition of practical yoga. The formalization of these traditions was a gradual process, especially the development of pictorial representation. Very few manuscripts show yogic *āsanas* (Sjoman 1996). The body of the *yogin* is to be subdued and made quiescent so that the higher states of meditation and *samādhi* can be realized (Fig. 6). The control of breath is crucial to the experience of stillness (Eliade 1970, 55 ff.). Concepts of macrocosmic homology are also present in this tradition (see Fig. 7).

The attempt to return to a literalist interpretation of yogic and tantric physiology, and to equate it with medical/anatomical images of the body is interestingly and dramatically demonstrated in one of the works of Haṃsasvarūpa Mahārāja (see Fig. 8), the *Ṣaṭcakranirūpaṇacitra* published in about 1903. Haṃsasvarūpa explicitly argues, through text and illustration, for the physical reality of the tantric body, with its *cakras*, energy channels, and so forth. All these features are assimilated to features in the anatomical body of Western medicine of the late nineteenth century. Thus, Figs. 9 show the tantric and anatomical bodies side-by-side, with the anatomical body making clear, according



**Fig. 8** Hamsasvarūpa Mahārāja, author of *Ṣaṭcakranirūpaṇacitra*, ca. 1903. Frontispiece to his edition.

to its caption, the locations of the *cakras* and conduits (*nāḍīs*). Fig. 10 makes the same type of rapprochement between the brain and the thousand-petalled-lotus *cakra* in the head. Similarly, in Fig. 11, the twelve-petalled *anāhata-cakra* is homologised with the “cardiac plexus”, and a drawing in the top right corner of the image shows the anatomical treatment of heart and lungs.

It is worth noting that a belief in *cakras* was not uncontested even within the Hindu tradition itself. The life of the famous scholar and religious reformer Dayānanda Sarasvatī is narrated in a pseudo-autobiographical work first published at the end of the nineteenth century (Jordens 1978, 1998). A striking passage narrates Dayānanda’s disillusionment in the tantric view of the body with its *cakras* (Yadav 1976):

At this time [1855], besides some religious works, I had with me the *Shiva Sandhya*, *Natha-pradipika*, *Yoga-beejak* and *Kesarani-Samhita* which I used to study during my travels. Some of these works gave exhaustive description of the nervous system and anatomy which I could never grasp. This made me doubt the authenticity of these books. I had been trying to remove my doubts for some time but had found no opportunity. One day I saw a corpse floating down the river. There was the opportunity to confirm the veracity of the statements contained in my books. Leaving the books nearby and taking off my clothes, I entered the river and brought out the dead body. I then dissected it with a large knife in the best manner I could. I took out the heart (*kamala* [lit. “lotus”]) and cutting it from

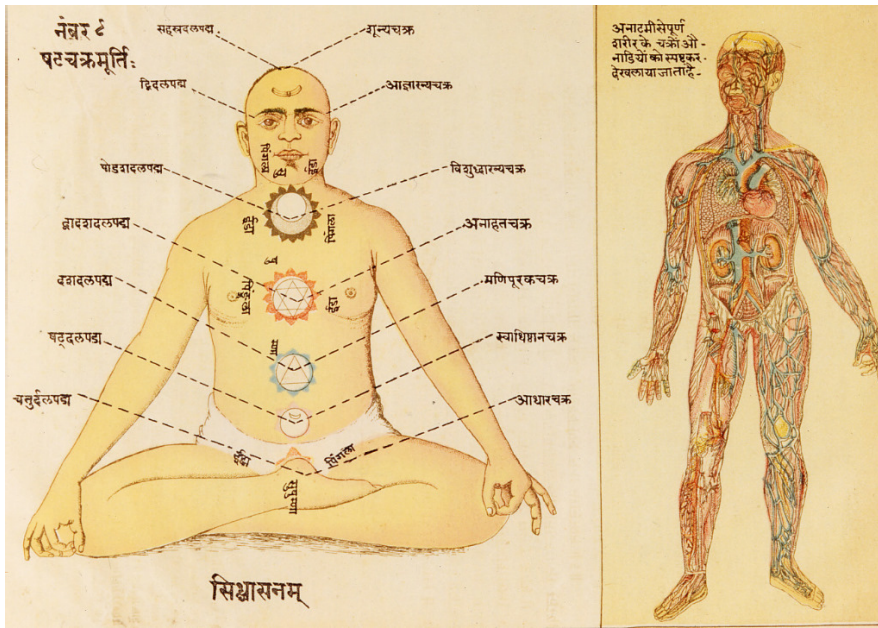


Fig. 9 *Ṣaṭcakanirūpaṇacitra*: tantric and anatomical bodies homologized.

the navel to the ribs examined it. I examined a portion of the head and neck too. The description given in the books did not tally at all with the actual details. I, therefore, tore the books to pieces and threw them into the river along with the corpse. From that time, gradually, I came to the conclusion that with the exception of the *Vedas*, *Patanjali*, and *Sankhya* all other works on the Science and *Yoga* are false.

This is a fascinating passage for its iconoclasm and pragmatism. Although it is not mentioned in the narrative, it seems likely that Dayānanda would have heard of the famous dissection performed a few years earlier in 1836 in Calcutta by Madhusūdana Gupta (Kumar 1998, 24–5). Gupta had already been honoured for translating Hooper’s *Anatomist’s Vademecum* into Bengali, and in 1836 Gupta and his colleagues became the first Hindu brahmins to perform a dissection in historical times, having studied under British medical teachers such as surgeon Peter Breton and H. H. Goodeve at the Native Medical Institution (Kumar 1998, 20). This event created such a stir that the cannons at Fort William were fired to celebrate the event. Gupta was later praised by the surgeon R. O’Shaughnessy, who saw this event as a turning point in the development of modern medical education in India (Kumar 1998, 25). It is possible that Dayānanda was, in his own manner, imitating Gupta’s procedures in an attempt to apply his interpretation of the scientific method.

Briggs (1982, 319–20) cites the work of several other authors who attempt to make the argument in the other direction, namely that the *cakras* and other parts of the “minute body” (*sūkṣmaśarīra*) can be equated with organs known from anatomical analysis. Such attempts are almost always made in the absence of a



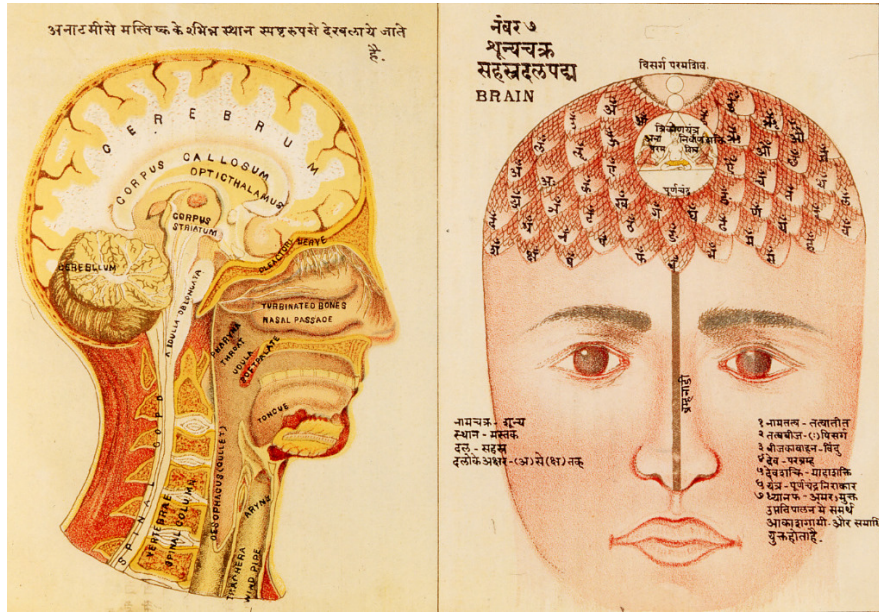


Fig. 10 *Ṣaṭcakranirūpaṇacitra: mastiṣka and brain.*

sophisticated understanding of cultural relativism, of “comparative rationalities” (Sahlins 1995, 14), or even of scientific method and its presuppositions (Wujastyk 1998). Nevertheless, works such as *Haṃsasvarūpa*’s are very interesting as representing a serious attempt at an integrative approach to understanding the world. Such efforts are underpinned by the assumption that the world is one, that both traditional and modern visions of the world are true, and that all true explanations of the world can be made, somehow, to coincide. Such a belief also underlies efforts from the other side, such as that of Breton (1825), who attempted to unify and make equivalences in physiological vocabulary.

### *The wrestler’s body*

Traditions of exercise and gymnastic training are very old in India, and are related both to traditions of medicine and of yoga, as well as to martial arts and asceticism, in a fascinating and complex set of social and historical relationships (Farquhar 1925; Fedorova 1990; Roṣu 1981; Deshpande 1992; Staal 1993; Alter 1997; Zarrilli 1998). Many of these traditions are still alive in Kerala, in parts of Karnataka, and elsewhere. The body of the martial arts gymnast is understood in a number of modalities, but one particularly interesting concept is the body-map of *marmans*. According to the medical author Vāgbhaṭa, who wrote in about CE 600, a *marman* is a point,

... which pulsates irregularly and which hurts when pressed. It is a point at which the flesh, bone, sinews, pipes, ducts, and junctions all meet, where life is strongly present. ... the breath of life is located in them... (Wujastyk 2003, 241).

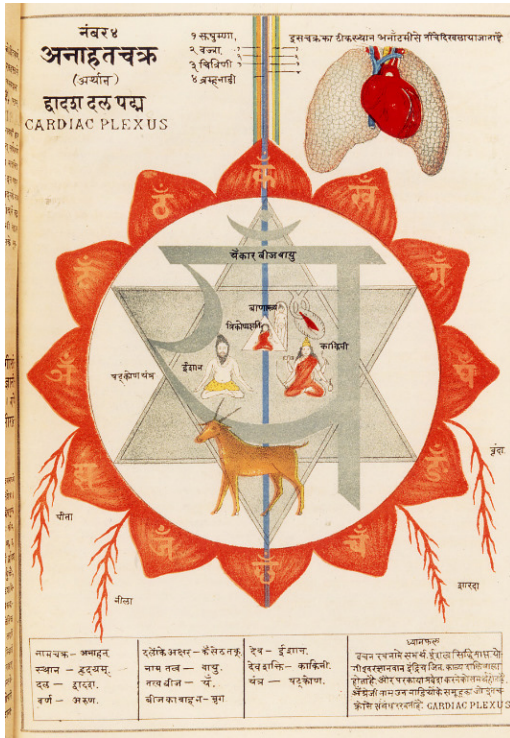
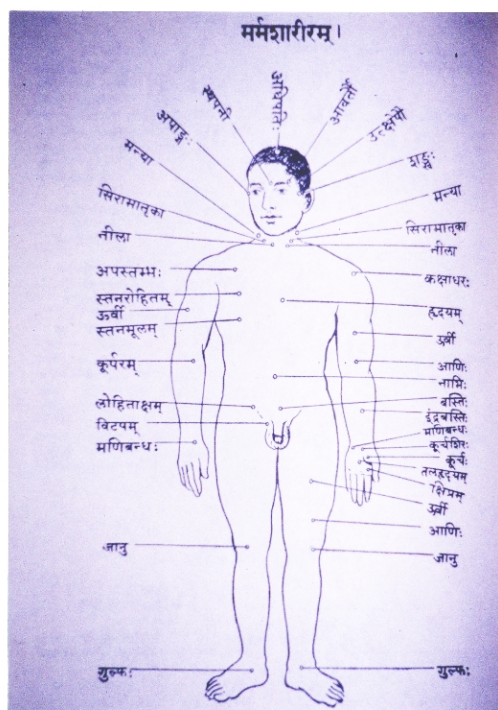


Fig. 11 *Ṣaṭcakanirūpaṇacitra: anāhata cakra and cardiac plexus.*

There are 107 canonical *marman* points (see Fig. 12), and a rich and subtle branch of the martial arts literature discusses them principally as target points for attack (Zarrilli 1998, ch.6). In medicine too, the *marmans* are danger points which the surgeon must on all accounts avoid. If a patient is wounded in a *marman*, he is in grave danger of death. As the *Suśrutasamhitā* teaches, if a *marman* is of a “fiery” nature (*āgneya*), the patient may die suddenly, if it is “cooling” (*saumya*), he may die slowly (Su.śā.6.16). But die he will.

There exists a fashion in complementary health circles dating from the late twentieth century of reinterpreting *marmans* as points for therapeutic attention, as though they were an Indian analogue to Chinese acupuncture or moxa points. Popular literature on this subject has typically asserted that this practice can be found in lost ayurvedic source texts (Thatte *et al.* 1988; Ros 1994). This has no historical foundation. The appeals made to lost texts or unknown parts of ayurvedic literature have now been conclusively quashed by the completion and publication in 2002 of Meulenbeld’s massive *History of Indian Medical Literature* that surveys the whole of ayurvedic literature comprehensively.<sup>4</sup> In Sanskrit ayurvedic literature, on the contrary, *marman* points are repeatedly described as points that the physician should avoid damaging at all costs, since they are lethal

<sup>4</sup> Reviewed in Wujastyk 2004. The five volumes of this extraordinary survey contain over four thousand pages with 36,600 footnotes, and the general index does not even contain the word acupuncture, although the fascinating historical links between ayurveda and Chinese medicine are explored in several places.



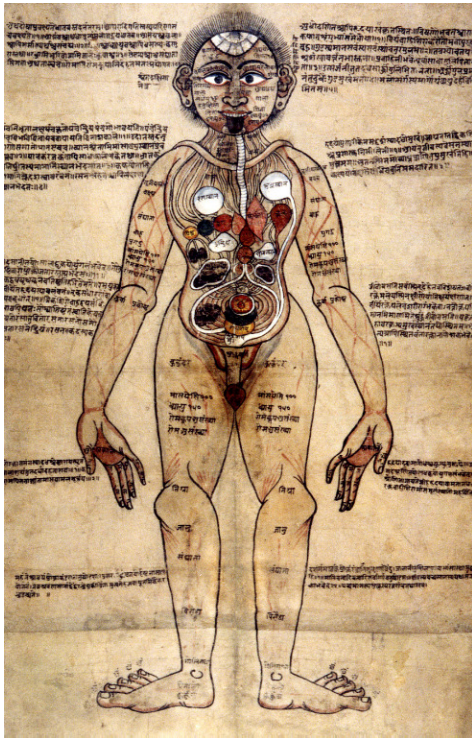
**Fig. 12** The *marmans* on the front of the body, from Kiñjavekara 1938–40, facing śā.53. Wellcome Or. P.B.Sansk.702. Wellcome Library, London.

(Wujastyk 2003, 242–44). They may be pressed, punched, stabbed or kicked if the goal is to harm an opponent in martial combat (Zarrilli 1998).

## Part II: the medical body

The bodies mentioned so far by no means exhaust the typology of bodies available for study in pre-modern India. The dead body, the gendered body, the erotic body, the caste body, all demand notice, to name but a few. And as mentioned at the outset, each of the categories would richly reward detailed study in its own right. The point has been to mark the boundaries between different body discourses, boundaries that were sociologically and epistemologically real: people who used these different discourses in pre-modern India did so in compartmentalized ways, at least as far as we can tell from the surviving historical sources. The meditating yogin (*cakras*) would talk in a completely different way about his body than the surgeon (cutting, probing, excision) or the martial-arts practitioner (lethal *marmans* points). This becomes important when considering the massive conflation of categories that has taken place in the course of the modernization and globalization of Indian concepts from the twentieth century onwards. All these discrete body narratives are merged and overlaid in the bricolage of contemporary popular discourse about Indian culture.





**Fig. 13** The āyurvedic body, c. 18th century, probably of Nepalese provenance. Wellcome IC #347674. Wellcome Library, London.

I shall now turn specifically to the case of the medical body as it is revealed to us in the sources, since it provides good evidence for the evolution of thought about a body image from pre-modern times until the present.

The chief locus for knowledge of the medical body is of course the literature of classical medicine, *āyurveda*. In a penetrating study of this literature from the point of view of body-knowledge, Zimmermann (1983) addresses two points particularly: the epistemological position of anatomical knowledge, and the images underlying the doctrine of the humours, especially those concerning unctuousity or oiliness. One of the central claims that Zimmermann makes in this study is that there is no “real” anatomy in the āyurvedic literature. By “real”, Zimmermann means that those parts of the body which modern medicine calls organs and views as small factories or machines for manufacturing or transforming nutrients etc., and which may be enumerated, dissected, and so forth, are not, in āyurveda, viewed in the same way at all. Rather, in āyurveda (Zimmermann 1983, 11),

... the humours are vital fluids, and the frame of the body is a network of channels through which vital fluids must be kept flowing in the right direction. The nature and function of organs like the heart, which is the centre of the network, stay indeterminate.

Zimmermann’s argument is persuasive, and has a great deal of merit. It also reminds us of several ideas from the Buddhist interpretation of the body, in which process is privileged over substance. However, I think that it is possible

to find in āyurvedic literature a more substance-oriented understanding of the body. The image in Fig. 13 is a unique, probably eighteenth-century image of the human being. At first it may be tempting to align it with the earlier images we have seen in the course of this paper, the Virāt image (Fig. 2) or the tantric man, perhaps (Fig. 6). But this would be quite wrong. A close examination of the figure shows no *cakras*, no universe in miniature. The image is completely medical, in the āyurvedic sense. The text labels are extracts from one of the later classic works of āyurvedic literature (in which, we recall, the *cakras* and other tantric items do not appear), the *Bhāvaprakāśa* of Bhāvamiśra (fl. 16th century; see Wujastyk in press [2008]). The channels and organs drawn in the torso are, in fact, enumerated very explicitly in āyurvedic chapters on the body. And the organs are named, often as *āśayas* or receptacles for one or other of the organic fluids. While we can agree with Zimmermann that the organs are not, by and large, engaged in the kind of processing which modern biomedicine expects of an “organ”, they are nevertheless clearly and substantially understood repositories for biological substance.

It is important to emphasise that the image in Fig. 13 really is unique. In studying thousands of Sanskrit manuscripts and paintings, I have never seen another image that even approaches it in theme or treatment. In fact, all āyurvedic manuscripts I have studied have been empty of accompanying illustrative materials. There are small sketches of chemical apparatuses in some alchemical manuscripts, notably those of the *Rasendramāṅgala* and some of the *Rasaratnākara* (Wujastyk 1984a). But no single manuscript I have seen contains even so much as an anatomical sketch, a line drawing for surgical guidance, or any other visual representation of the medical body. This underlines the great importance of the image in Fig. 13. It is possible that its provenance is Nepalese, although this is not certain. But as is well known, some Sanskrit texts and traditions have survived in Nepal when they have vanished in peninsular India. And the proximity of Tibet, where traditions of manuscript illustration are much stronger, may also be relevant. The Tibetan line drawing in Fig. 14 shows bloodletting and moxibustion drawing points. The Tibetan text labels begin, “Those marked in red are bloodletting points and those marked in black ink are moxa points.” Compare the treatment, especially hands and feet, with the āyurvedic anatomical man in Fig. 13. This evident continuity of artistic style suggests that the Indian/Nepalese figure was inspired to some extent by Tibetan traditions of body illustration.

With the customary interest in itemization, the āyurvedic literature is keen to enumerate the receptacles, ligatures, conduits, orifices, and tissues which can be found in the body. The *Śārṅgadharaśaṃhitā* offers a fairly standard and clearly presented version of such a list (Wujastyk 2003, 270 ff.). There are: seven receptacles (*āśaya*); seven body tissues (*dhātu*); seven impurities of the body tissues (*dhātumala*); seven subsidiary body tissues (*upadhātu*); seven membranes (*tvac*); three humours (*doṣa*); 900 sinews (*snāyu*); 210 ligaments (*sandhi*); 300 bones (*asthi*); 107 lethal points (*marman*); 700 ducts (*sirā*); 24 pipes (*dhamanī*); 500 muscles (*māṃsapeśī*); 20 extra ones for women; sixteen tendons (*kaṇḍarā*); ten orifices of the male body; thirteen orifices of the female body. Although these items may not in all cases be organs in the modern biomedical sense, there is a definite sense that āyurveda views the body as a locus of medical organs





**Fig. 14** Tibetan drawing of bloodletting and moxibustion points, n.d. To be compared with Fig. 13, especially the treatment of hands and feet. Wellcome Or. Tibetan chart 48(1). Wellcome Library, London.

and processes which would be recognisable in general outline and principle to a modern anatomist.

The fluids in the body are transported from place to place by three principle types of conduit: ducts (*sirā*), pipes (*dhamanī*), and tubes (*srotas*). Surprisingly little work has been done on clarifying what these conduits do, and how they are explained in āyurvedic theory (exceptions include Dasgupta 1969, ii, ch. 13 and Kutumbiah 1999 [1962], ch. 2). Chinese medical books abound in diagrams of the body carrying lines illustrating channels of *chi*, but no Indian book or manuscript to my knowledge shows maps of the ducts, pipes, or tubes.

According to the *Suśrutasamhitā*, the function of the 700 ducts is to carry wind, bile, phlegm and blood around the body, starting from their “root” in the navel. In a vivid pair of metaphors, one agricultural and one botanical, Suśruta’s text describes the ducts as follows (Su.śā.7.3, Ācārya 1915, 293):

There are seven-hundred ducts. This body is irrigated by these, just like a garden by water channels, and a field by ditches. And it is assisted by special contractions and expansions. Their ramifications are like those of the veins on the leaf of a tree. Their root is the navel. From there, they spread out upwards, downwards and horizontally.

A point of particular interest is that the ducts are coloured according to what they carry (Su.śā.7.18, Ācārya 1915, 294):

In that context, those that carry wind are tawny; these ducts (*śirā*) are filled with air. Because of bile they are hot and dark blue, and because of phlegm they are cool, white, and steady. Those ducts that carry blood are red, not too hot or too cool.

These distinctions seem likely to be based on the observation of different-coloured conduits under the surface of the skin.

The 24 pipes function in connection with the transportation of wind, and resemble the Greek *pneuma*-carrying arteries of Praxagoras of Cos (Phillips 1973, 137). In another botanical simile, Suśruta likens the pipes to the stem and stalk of the lotus plant, which have tiny holes (*kha*) in them (Su.śā.9.10). The pipes arise from the navel. Ten travel upwards and carry sense impressions, breath, speech, tears, and so forth. Ten travel downwards and carry wind, urine, feces, semen, menstrual blood and so on. They also carry the juice of digested food to the upward directed pipes in the body, distributing nourishment. The remaining four pipes ramify into thousands of vessels, which lead to the hair follicles, and transport sweat outwards, and oil, water, etc. inwards. They also function as carriers of sensation from the skin.

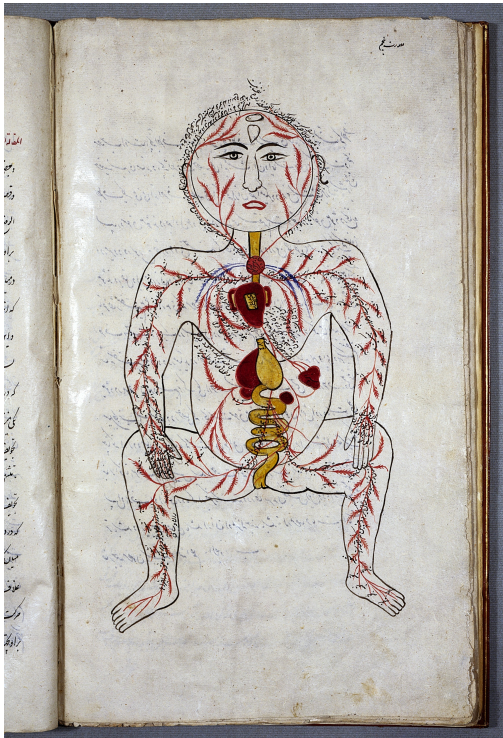
Finally, the 22 tubes carry breath (*prāṇa*), food (*anna*), water (*udaka*), flesh (*māṃsa*), fat (*medas*), urine (*mūtra*), feces (*purīṣa*), semen (*śukra*), menstrual blood (*ārtava*), chyle (*rasa*), and blood (*rakta*). The pathways of these tubes in the body are very complex. They start and end in different places, sometimes connecting organs or receptacles, sometimes connecting with pipes (Su.śā.9).

It is interesting to note that in Suśruta's time there was controversy about all these conduits. The *Suśrutasamhitā* records a view that all these tubes, pipes, and ducts are in fact all the same thing. But the view is rejected on the basis of differences in appearance, source, and function (Su.śā.9). In the light of this ancient debate it is interesting to see that tubes are ignored by Śārṅgadhara.

### *Persian anatomical images in India*

The ayurvedic image of the human anatomy in Fig. 13 is, as I have argued elsewhere, quite exceptional, and may be amongst the very earliest *medical* images of the body in India (Wujastyk 2007). An estimated dating places the image in the early eighteenth century (Wujastyk in press [2008]). However, an exciting recent discovery has led to the recognition of a new type of indigenous medical painting in India, which may be as old as the image in Fig. 13.

Medical historians have known for some time that there was a Persian tradition of anatomical illustration, commonly accompanying manuscripts of the anatomical work *Taṣrīḥ-i Maṅṣūrī* (French 1984; Savage-Smith 1997). This is the tradition of the so-called *fünfbilder* or "Five-picture series" following the early study by Sudhoff (1907). In fact, as the series has become better known from more manuscripts, it has become clear that it consists of six, seven, or even more standard images. This anatomical illustration tradition is known from Persia, from the late 14th century, and there are many interesting features and questions associated with it, which have recently been discussed by Savage-Smith (1997), French (1984) and others. For the present purposes, however, it is sufficient for us to see one of these images, in order to recognise the main pictorial details of this tradition. Fig. 15 shows an example. These figures typically face the



**Fig. 15** An anatomical image from the *Taṣrīḥ-i Maṣṣūri* tradition, nineteenth-century. Wellcome Or. MS Persian 612. Wellcome Library, London.

viewer (although one of the other standard figures faces away), the legs are bent, the hands are on the thighs, the head is circular, the internal organs, including intestines, are displayed, and labelled with text.

After Islam, and especially the Mughal dynasty, had established itself decisively as a cultural power in the subcontinent, manuscripts such as these were copied in India as well as Persia and elsewhere. Storey (1958–[1997], ii.226–8) lists a manuscript copy in Lahore. Indeed, it is likely that image in Fig. 15 was actually painted in India, since the bulk of the Wellcome Persian collection was acquired in India. However, documentation for the provenance of this particular manuscript is not available.

Having familiarized ourselves with the stylistic features of the *Taṣrīḥ-i Maṣṣūri* anatomical images, let us turn to a newly identified image of the same type, but in a Hindu setting. Fig. 16 This image was first published in a study of tantric art (Mookerjee 1982, 15). The image was identified as a tantric image illustrating the “*nāḍīs*, subtle channels of the human body”. However, an acquaintance with the *Taṣrīḥ-i Maṣṣūri* series makes it immediately clear that Fig. 16 is an adaptation derived from the Persian tradition of anatomical illustration. It is a medical, not a tantric image. The image does not illustrate *nāḍīs*, but the veins, arteries, and intestinal tract. The text surrounding the image is old Gujarati, which places the image in Western India. The painting was formerly in the Hamburg collection of Jan Wichers, but has recently come into the collection of Wellcome Library in London. The text and image await



Fig. 16 Indian anatomical painting c.18th century, Western India. In the *Tasriḥ-i Manṣūrī* style, but in an old-Gujarati manuscript. Wellcome MS Indic ̢74. Wellcome Library, London.

detailed study, but it is plain that the text presents a mixture of ideas from medicine and the tantric view of the body. The text labels on the body are a mixture of Sanskrit medical names and Persian names in both Persian and Devanāgarī scripts. In spite of the purely medical and non-Indian background of the *Tasriḥ-i Manṣūrī* tradition which clearly inspired the Indian image, it does appear that *cakras* have been added to the spinal column, albeit very faintly and imperfectly. This suggests that the Indian artist may have felt impelled by his artistic and cultural background to Indianize the image by assimilating it, in a limited way, to the normal type of *cakra*/meditator image.

The image in Fig. 16 is not dated, but may be placed to approximately the same period as the Nepalese anatomical painting, if not slightly earlier. If it is earlier, then it is the first Hindu anatomical painting known from the Indian subcontinent.

### Print and Western anatomy

In the mid-nineteenth century, the *Tasriḥ-i Manṣūrī* was began to appear in print in India, with editions known from Delhi in 1848, and Lahore in 1878 (Storey 1958–[1997], 227).





**Fig. 17** Rājavidya Muralīdhara Sharma of Farrukhabad, ca. 1895, from the frontispiece of his edition of the *Suśrutasamhitā* (Muralīdharaśarman 1895–1899, iv). Wellcome P.B.Sansk.187. Wellcome Library, London.

This period also saw an intensification of the Indian medical encounter with European anatomical learning and traditions, which were appearing in India in European medical books and teaching. Many European medical publications, for example, are known to have entered the personal library of the Mahārāja Serfojī II of Thanjavur (1798–1832), since they appear in the catalogue of his collection (Perumal 1989, 59–76). And evidence of early anatomical teaching in Calcutta is present in the publications of Breton (1825) and the other staff members of the Native Medical Institution in Calcutta. The Indian response to these new foreign influences was variously accommodation, adaptation, absorption and, later, syncretism.

Illustrations of the āyurvedic body began to appear in print from the late nineteenth century. These evidenced the beginnings of a more widespread indigenous attempt at anatomical illustration. An important innovator in this respect was Muralīdhara Sharma (see Fig. 17). Muralīdhara was royal physician at the court of Farrukhabad. In 1898, in a seminal collaboration with the publisher Khemarāja Śrīkr̥ṣṇadāsa at the Śrīveṅkaṭeśvara Press in Bombay, Muralīdhara produced an edition of the *Suśrutasamhitā* which was graced with an unprecedented number of very interesting medical images. These images have continued to be reproduced not only in reprints of Muralīdhara’s edition, but also in editions of many other āyurvedic medical texts right up to the present, but almost always without attribution.

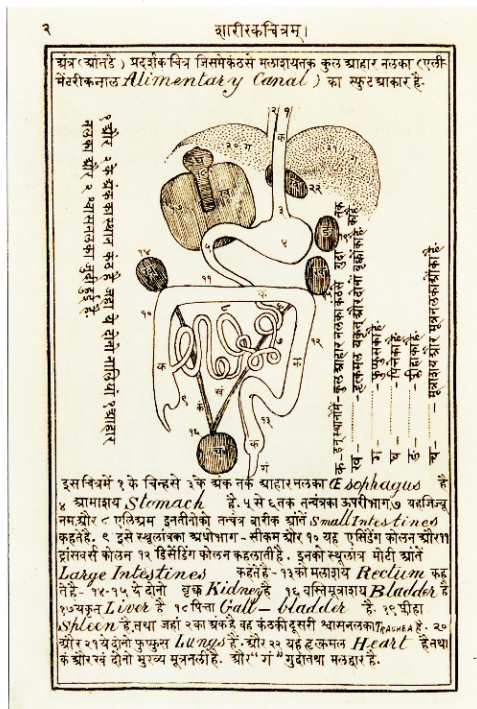
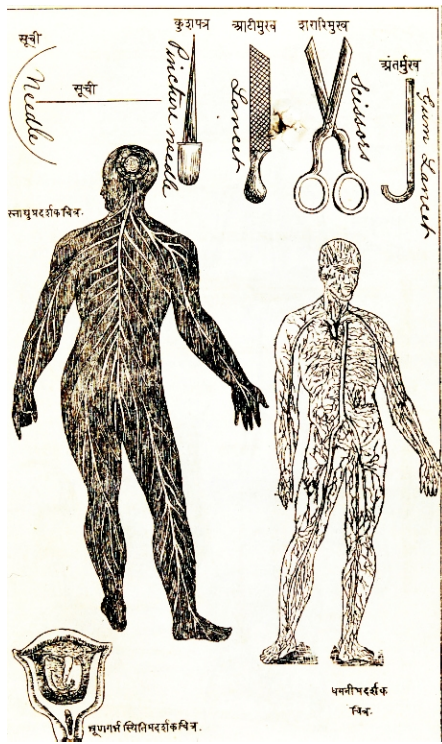


Fig. 18 The digestive tract, from Muralidhara Sarman’s edition of the *Suśrutasaṃhitā*, (Muralidhara Sarman 1895–1899, ii.2). Wellcome P.B.Sansk.187. Wellcome Library, London.

What was Muralidhara Sarman seeking to achieve? His introduction does not mention the illustrations, so we must deduce what we can from the images themselves. They contain a mixture of elements from various traditions. The digestive tract, for example, in Fig. 18, has a carefully labelled drawing of the organs, and the accompanying text is keyed to the labels with explanations in Hindi and technical terms in English. This is clearly an attempt to provide a syncretic view of the human anatomy. For Muralidhara, it was still possible that the āyurvedic and “English” (*anigrezi*) medical systems could share, unite, and provide a true explanation of the body. In fact, while Fig. 18 and many of the other images appear to be original artwork, the two standing figures in Fig. 19 seem to have been copied from a Western anatomical source book. For Muralidhara, it appears, there was no real distinction between āyurvedic and English anatomy. Both were valid, and they could be unproblematically synthesized. One of the surprising elements in Muralidhara’s edition is the absence of polemics. The edition is offered as a useful and attractive working tool for the scholar and physician, as the publisher repeatedly emphasizes in his forewords.

A limited amount of further insight into Muralidhara Sarman’s intellectual orientation is provided by a book he produced on the topic of plague (Muralidhara Sarman [1899]). In his introduction, Muralidhara Sarman noted that,

This pamphlet about the origin of Plague and its [c]ure has been prepared on the basis and references of most of the learned and experienced Vaid and in the proofs the shloks (*sloka*) of the worthy and much valued old



**Fig. 19** Surgical instruments, the sinews (*snāyus*, left) and pipes (*dhamanī*, right) and a gravid uterus, from Muralīdharaśarman's edition of the *Suśrutasamhitā*, (Muralīdharaśarman 1895–1899, i.3). Wellcome P.B.Sansk.187. Wellcome Library, London.

Sanskrit Vaidic books are given and it is proved also with the discussion and experience according to present age. Every body can undoubtedly know that how higher and prosperous was the enquiry and experience of the old Indian Vaidis and how many good things are found buried often from the Indian Sanskrit Vaidic knowledge.

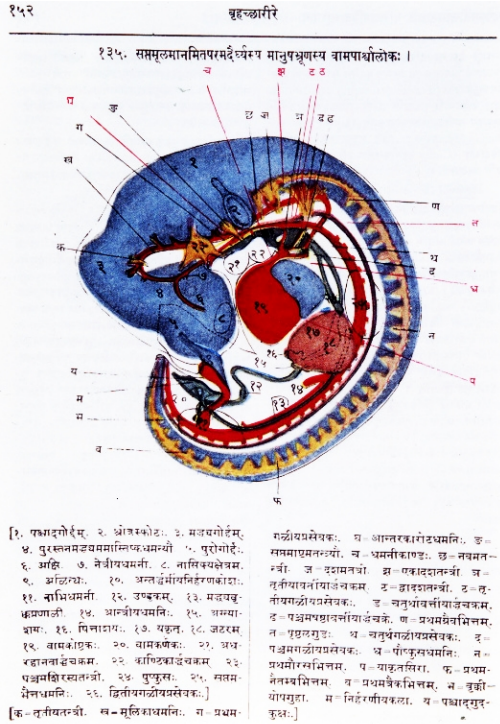
Muralīdharaśarman appears from these sources to be a physician deeply versed in the classical Sanskrit literature of ayurveda, deeply enough to produce an edition and *bhāṣā* (Hindī) translation of the *Suśrutasamhitā*. However, he felt it important to enhance this edition with a series of illustrations, some originated by himself or the Śrīveṅkaṭeśvara press, and some sourced from European anatomical textbooks (and ultimately from Vesalius). He therefore felt that he had a role as a modernizer or at least that he could show the relevance of ayurveda to the contemporary European medicine of the late nineteenth century that he saw around him. His plague tract was published in Bombay in 1899, the year after the Bombay outbreak of bubonic plague in 1896–1898, part of the Third Plague Pandemic. Once again, his introduction presents the idea of an age of great knowledge in India's past, and of its relevance and importance in meeting contemporary health problems.<sup>5</sup> Muralīdharaśarman's work as a whole is of value

<sup>5</sup> Muralīdharaśarman's introduction continued with a survey of the contents of his tract: "The following are the contents of the pamphlet. 1. The prayer of God and beginning of pamphlet 2. The sorts of Plague 3. Discussion on Plague 4. The reason of present prevailing Plague









**Fig. 22** An embryo, with Sanskrit exposition. From P. S. Varier's *Bṛhaccharīram* 'The Great Anatomy' (Varier 1942,1969, 152). Wellcome Library, London.

company he founded in 1902, Arya Vaidya Sala, made him rich.<sup>7</sup> By the 1920s Varier was a prominent citizen and in a position to take up a new initiative. This he did, publishing his *Aṣṭāṅgaśārīram* in 1925, and his *Bṛhaccharīram* "Great Anatomy" in 1942. These works shared the goals of Sena's earlier Calcutta publications. They were written in Sanskrit, were scientific, precise, syncretic, and heavily illustrated. The Sanskrit title-page of the *Bṛhaccharīram* included the English explanation: "An up-to-date and detailed work on human anatomy and physiology in Sanskrit combining the ancient and modern knowledge on the subject with various illustrations and coloured plates".<sup>8</sup>

Zimmermann (1978) has focussed attention rightly on the epistemological dissonance which is evident in these works; but perhaps because of this very dissonance, they made great strides in the medical illustration of Indian medical texts, even though they were hybrid, syncretic texts.

<sup>7</sup> The Keraleeya Ayurveda Samajam of Shoranur ([www.sama.jam.org](http://www.sama.jam.org)) claims priority as the earliest professional association of ayurvedic practitioners.

<sup>8</sup> On P. S. Varier's life, the anodyne biography by Krishnankutty (2001) supplements but does not supersede Nair (1954).

नायासुत(Nucleic  
तद्विदो वदन्ति ।

लकान्तरालसंलग्नः  
प्राय एकोऽनेको वा  
क्ति(Refractibi-  
भिप्रायः । अय-  
धीनजालकग्रन्थयः  
भ्रान्ति जनयेयुः ।  
कृत्य(Pseudo-nu-  
श्यते । तथाऽपि  
तृष्णा च भ्रान्ति-

वपि शलकेषु नव-  
मानं स्वच्छयलास-

### १६. आकारिकविभागचित्रम् ।



[क = मातृशलकं. ख = बीजकशलकयोर्विभागारम्भः.  
ग = शलकविभागपूर्तिः. घ = द्वयोरपत्यशलकयोः  
परिणामः.]

आकारिकविभागोत्पन्नमपत्यशलकमादौ मातृश-  
लकादणुतरं भवति । तथाऽपि क्रमात् पुष्टं मातृशल-  
कतुल्यपरिमाणतां भूयोविभागयोग्यताञ्च प्रतिपद्यते ।  
यद्यपि श्वेतगर्भकेषु अस्थिशलकेषु मूत्राशयश्लेष्मधरा-

Fig. 23 Cell division, with Sanskrit exposition. From P. S. Varier's *Bṛhaccharīram* 'The Great Anatomy' (Varier 1942,1969, 152). Wellcome Library, London.

#### The divergence of medical body narratives

The syncretic work of Sena and Varier at the beginning of the twentieth century was earnest, ideologically informed, and the product of real learning both in Sanskritic ayurveda and in anatomy.

But already the attempt to create a meaningful anatomical picture of the human being out of both āyurvedic and Western traditions, however theoretically unsound, was being abandoned in other quarters. In its place was, and remains, a deeply flawed epistemological situation in which two quite different and essentially incompatible anatomical models of the body are held in mind at once, in acquiescence to a schismatic world-view. This is well illustrated by the edition of the *Śārngadharaśaṃhitā* (Śāstrī 1931). The editor of this work, Paraśurāma Śāstrī, abandoned any attempt or even pretence of using body images meaningfully in his text. The edition he produced fell back on a merely iconic use of anatomical illustrations. This reminds us very much of the practice of the very earliest book illustrations known from India in which images of the Buddha were added to *Prajñāpāramitā* manuscripts to provide them with magical power and protection (Losty 1982, 24). But these images had no more narrative connection with the surrounding text than do the anatomical images in Paraśurāma Śāstrī's edition.

In Fig. 24 we see an illustration of a skeleton which at first glance appears to be part of the presentation of medical information in the book. But a closer examination reveals that the lines pointing to parts of the figure end in stubs with no labels or keys. In fact, the picture has simply been cut out of some other book and pasted into the edition, with all the contextual information – the

मिति । अथि सारभूतं हरिरेखाधारसं व कथितम् । सतोपरं समंस्तमिति । मनीषि जीवसाधारणानि तानि सप्तश्लिष्टतारसंस्थानि । तथा विराः सप्तश्लिष्टतानि चिति । दौषधातुजलवाहिन्यः विराः कथिताः, चकारादन्तु न च सप्तशतं निरन्तरं अन्त्याश्च सन्तीत्येके भाषन्ते; तदुक्तं—“द्विसप्तश्लिष्टतारानि शरीरानां तद्विनिर्गताः । तान्ये विनिर्गता नाभ्यस्ताभ्योऽशान्याः पुनः पुनः ॥ तावन्तो नाभ्यो देहे श्वसन्ते तेमकृत्पकाः । स्फुटन्त्याः कुसुम्यामाः पदरेखाजगतवत्सु” इति । धमन्तो नाभ्योदेहाधुविसलितंस्वकाः कथितास्ताश्च रसवाह्यं हेवाः, विरा धमन्तो नाभ्यश्च परस्परसंयोजकका हेवाः, निष्कलमासां कावेत्यात् । मांसपेश इति—रुणां पुरुषाणां मांसपेशः पञ्चशतसंख्यकाः समाख्याताः । तुषितिशिष्यः । पेशो योर्मांसकृतिमांसकाः, कर्परेखुरस्ता पेशोर्युज्यते । तथाचोक्तम् “चतुरसा भवेत् पेशो दूतः पिण्डो धमः स्थूलः । श्यामलीसुक्काकारामुदं परिचक्षते” इति । क्वाणां विश्वस्यिका इत्यनेन मांसपेशः कथिताः, अथिकाश्च पञ्चशतान्, तेन विश्वस्यिकान्तरमांसपेशः क्वाणां भवन्तीत्यभिप्रायः । विश्वोद्विस्तरणमाह—खान्योः पश्च पश्च, चतस्रश्च योनौ, गर्भमासे तिस्रः, गर्भोत्पत्ते च तिस्र इति । कण्ठराश्वं पौडशेति—कण्ठरा महाहायुः । पौडशेति पौडशसंख्यकाः । तस्य—चतस्रः पादयोः, हस्तयोश्चतस्रः, शीघ्रांशं चतस्रः, गृध्रे चतस्रः । रुदेहे दश रुद्राणि । नारीदेहे त्रयोदशेति । रुदेहे पुरुषशरीरे दशसंख्यकानि रुद्राणि छिद्रानि सन्तीत्यव्याहार्यम् । नारीदेहे शीघ्ररीरे त्रयोदश रुद्राणीति भावः । तान्येन वक्ष्यमाणानि ज्ञानव्यापि । एतत् सर्वं कवचिकं समासतः संक्षेपात् प्रोक्तं कथितमित्यर्थः ॥ १-५ ॥

१०—अधुना सर्वेक्षणसम्बन्धं कलावं शरीरं व्याख्यास्यमः । रुदेहे सप्त कलाः सन्ति, सप्त आशवाः सन्ति, सप्त पादाः सन्ति, तन्मखाः शेषां धातूनां सप्तोपधातवः सन्ति, सप्त त्वचः प्रकीर्तिताः । देहे त्रयः दोषाः सन्ति, नवशतं आयुषां सम्बन्धः सन्ति । तपेत्युक्त्यात्, दशसंख्यकं आशवः सन्ति, तावद् शायुषां सम्बन्ध उक्ताः, रुदेहे अस्त्रिसंख्यं विश्वते, देहे सप्तोपरं सारं मनीष्यमासि, तथा विरा सुस्या नाभी सप्तशतशतसि, रुदेहे

१ 'मिण्डो' वा  
शा० सं० ६

रसवाहिन्य धमन्तः चतुर्विंशतिः शाह्यताः कथिताः । अत्र विराहायुधमन्तानां भेदोक्ति स्वरूपं कथितम् । रुणां देहे कांसपेशः मांसपेशः बुधैः पञ्चशतं समाख्याताः । क्वाणां देहे मांसपेशः विश्वस्यिका आख्याताः । रुदेहां देहे कण्ठरा महानाभ्याः पौडश श्चमाख्याताः । रुदेहे दश रुद्राणि सन्ति नारीदेहे त्रयोदश रुद्राणि छिद्रानि धमन्तीत्यर्थः । एतत्कवचिकं समासतः प्रोक्तं कथितम् अधुना उज्यते ॥ १-५ ॥

नरकहाकः ( श्वशतो दृष्टः ) ।



Fig. 24 A skeleton image with merely iconic value. From Paraśurāma Śāstrī's edition of the *Śārṅgadharasaṃhitā* (Śāstrī 1931, 41).

actual meaning of the image – left behind. The final irony is that the Sanskrit text surrounding the image of the skeleton is not concerned with the topic of bones or skeletons; it is discussing humours, ducts, pipes, and other topics.

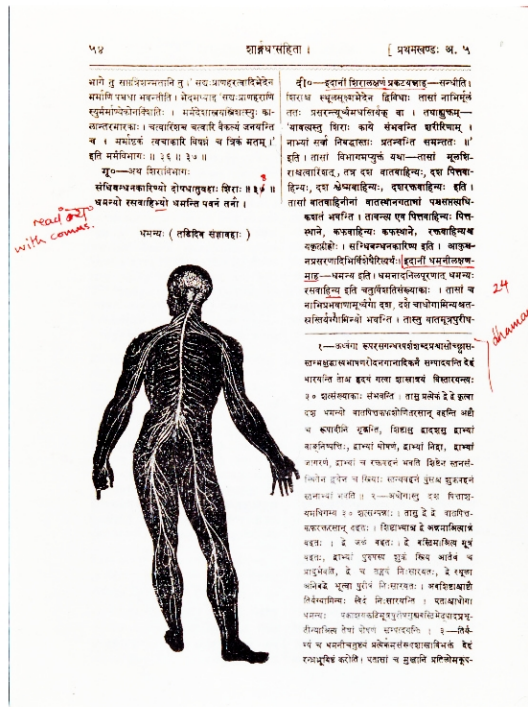
Fig. 25 is another illustration of the same phenomenon; this time the pictures of the digestive tract etc. do have labels, using Sanskrit letters. But these are not referenced in the text, nor is there a key. Once again, the images are irrelevant and unconnected to the text in any meaningful manner.

Finally, in Fig. 26, we see an anatomical-type figure, illustrating a verse of the text which is discussing the pipes (*dhamanis*) in the body. The figure even has a correct title to this effect. But now we can see exactly where the image came from. A brief reference to Muralīdhara's 1898 edition of the *Suśrutasaṃhitā*, Fig. 19, confirms that this edition is recycling a figure from the nineteenth-century, with no change, again stripped of contextual meaning. If confirmation were needed that a serious engagement with comparative anatomy had been abandoned, one need only notice that Paraśurāma Śāstrī's edition labelled this diagram as illustrating the pipes (*dhamanis*), whereas in its original setting in Muralīdhara's edition, it is an illustration of the sinews (*snāyus*).

The abandonment of any attempt at comparative and observational anatomy in the Śāstrī (1931) edition is coupled with a scientism in the editor's explanation of respiration, on which I have commented elsewhere (Wujastyk 2003, 259 f.). Śāstrī (1931) reads a reference to “oxygen” into this Sanskrit text, which was composed c. 1350. This combination of elements, i.e., the loss of interest in ob-







**Fig. 26** Anatomical figure labelled “pipes (*dhamanyah*)”, illustrating conduits in the body. From Paraśurāma Śāstrī’s edition of the *Śārṅgadharaśaṃhitā* (Śāstrī 1931, 54).

place in a digestive fire (Skt. *agni*), and this may be affected in various ways by the three humours (Skt. *vāta*, *pitta*, *kapha*). The following two questions deal with concepts of hormonal secretion and urine production that assume the world view of modern establishment medicine, a world view that uses terminology, methods and fundamental assumptions that are theoretically at odds with the body controlled by fire, wind, bile and phlegm.

The late nineteenth and early twentieth-century efforts by Indian ayurvedic physicians and publishers to provide a new descriptive and visual narrative of the human body that took account of both ayurvedic tradition and European knowledge represented the birth of a genuine and internalized form of modernity. These efforts were integrative in thrust and sought to develop a new and unified account of human physical embodiment that was meaningful for practicing physicians in the tradition of ayurveda. This account was profoundly traditional, and often expressed in Indian languages, including Sanskrit. Yet it incorporated, adapted and absorbed new knowledge to produce anatomical accounts such as those of Sen and Varier. These may appear surprising but they can be appreciated without engendering disabling levels of cognitive dissonance. These modernizing efforts also produced large-scale linguistic efforts to produce a new Sanskrit vocabulary for medicine and anatomy, enriching and adapting traditional terms, and using newly coined compound words to express the new medical knowledge. In the later twentieth century, these efforts were pushed aside by a wholesale espousal of Western models of bodily knowledge that paid only superficial homage

Model Paper I	7
<p>C) Sādaka pitta D) Avalāmbaka kapha</p> <p><b>50. Body movements are mainly controlled by</b> A) Prāna vāta                      B) Udāna vāta C) Apāna vāta                    D) Vyāna vāta</p> <p><b>51. Normal R.B.C. count in infants immediately after birth</b> A) 5.5 millions/ml                B) 6.8 millions/ml C) 4.8 millions/ml                D) 7.2 millions/ml</p>	

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<p><b>50. Which of the following is not true in case of Agni</b> A) Viṣamāgni is due to Vāta predominance B) Tīkṣṇāgni is due to pitta predominance C) Samāgni is due to Kapha predominance D) None of the above</p> <p><b>51. Vasopressin is Secreted by</b> A) Thalamus                      B) Hypothalamus C) Liver                            D) Kidney</p> <p><b>52. The process requires for urine formation</b> A) Glomerular filtration B) Tubular reabsorption C) Tubular secretion        D) All the above</p>	

Fig. 27 Some model āyurvedic examination questions (Rao 1994, 7, 210).

to ayurvedic forms that in fact remained unassimilated and alien even within India.<sup>10</sup> The ayurvedic practitioner's curriculum, standardized in the 1970s and still in force today, continues to inculcate this epistemological split. In the words of two contemporary ayurvedic practitioners and researchers,

... from one perspective, the inner state of Ayurveda [today] is a picture of struggle to establish its epistemological identity and retain its integrity. From another, it is a picture of unhappy compromise with modern medicine seeking justification in terms of modern medical theory and its parameters, and trying unsuccessfully to prove itself to be scientific. (Shankar and Manohar 1995, 104)

<sup>10</sup> For an account of the formation of Indian government policy regarding education in ayurveda see Wujastyk (2008).

Whether or not the epistemological tensions faced by ayurvedic practitioners find a resolution in the future remains a matter for epistemological reflection, social action and educational reform. But from the point of view of body image, the science remains at present fundamentally fractured, incapable since the mid-twentieth century of producing coherent new visual representations that are organically evolved from its own deep cultural past.



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