PŪRVĀPARAPRAJÑĀBHINANDANAM
EAST AND WEST, PAST AND PRESENT

Indological and Other Essays in Honour of Klaus Karttunen

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Bertil Tikkanen & Albion M. Butters

Studia Orientalia 110

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THE CLASSICAL ĀYURVEDIC REPRESENTATION OF HUMAN ANATOMY

Rahul Peter Das

ABSTRACT

This article gives a short overview of problems related to the study of anatomy in Āyurveda, not only with regard to the question of empirical observation, as well as concepts and terminology, but also to possible distortions arising from explanatory frameworks basically alien. It attempts to contribute to the development of an appropriate epistemology for understanding Āyurveda in its own right.[1]

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Āyurveda, "The Knowledge of the Life Span", refers, as the name makes clear, to the knowledge of how to ensure that an individual's life is lived optimally to the full extent of the span allotted by nature, this span traditionally usually being taken to encompass a hundred years. However, since the major factors of relevancy in this context are such as we would regard as being of medical nature, it is obvious that Āyurveda has to concern itself for the most part with such medical factors. This justifies the usual translation of the Sanskrit term as "medicine", though it should be borne in mind that the two are not exact equivalents.

In modern South Asia, and especially in India,[2] Āyurveda is not something relevant merely from a historical perspective, but is a living system, even though it is today not identical with the system the classical texts portray. Especially, though not only, due to the prominent role it played in the anti-colonial movement during the British period as an example of the superiority of indigenous traditions over Western ones at least in ancient times, it is even today one of the chief areas of cultural conflict between South Asia and the West. As such, it is

1 This is the reworked and updated version of a lecture delivered, on the invitation of my friend Klaus Karttunen, in January 2001 at a meeting of the *Societas Historiae Scientiarum Fennica* in Helsinki.

2 "India" referring to the present denotes the modern state of India, whereas when referring to the past it is used in a more traditional sense to refer to South Asia.

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an important source for nationalistic assertiveness, and not merely something interesting only practitioners, historians of science or philologists.

A major problem when dealing with ancient Indian Āyurveda is the unreliability of a large part of the modern secondary literature which bears on its fundamentals, especially much literature that originates from South Asia itself, or is current in some Western subcultures, particularly those influenced by New Age thought. A most problematic characteristic of such literature is the tendency to project what is modern back in time into ancient Indian medical texts. I shall not go into the hows and whys of this,[3] but only mention that one could consider this to be a sign of great disrespect for the thoughts and achievements of ancient Indian medical authorities, as such thoughts and achievements are, in this manner, utilised only as malleable matériel for the implementation of modern agendas and not studied with a view to understanding them in their own right; they are measured against an alien standard of reference and only deemed to be worthy of serious consideration if they are found to be, or are interpreted as being, in conformity with this standard.[4]

The tendencies mentioned are extremely evident in much that has been written on anatomy in the so-called classical Indian medical texts.[5] Complicating matters is the widespread use of traditional Sanskrit terms, but with implications different from their traditional usage, to reproduce non-indigenous terminology (as a rule from European languages), or the creation of calques or "loan-translations" using Sanskrit words, for the same purpose; such Sanskrit terms or calques can easily be used by various modern South Asian languages. Because such modern terminology is derived from Sanskrit in form, if not in meaning, such usage greatly facilitates the projection of modern concepts back into ancient Sanskrit texts.[6] For example, the use of terms from ancient Indian medical texts to translate modern concepts from the system which I prefer to call allopathic, but which is also called Western/Occidental, biomedical or cosmopolitan,[7] has led to modern classifications of diseases being projected into ancient Indian texts which have different classificatory systems. Those responsible for this seem quite

3 On these, see Das (1997: 200–205); Zysk (2001). Much is reminiscent of what Nanda (2003) describes (though see on this work also Jayaraman 2005).

4 See also Das (2003: 6 n. 11). It is obvious that there is an inherent inconsistency in highlighting autochthonous tradition as superior to the alien, but in then using the alien as the yardstick for measuring the value of the autochthonous. On similar inconsistencies with regard to Chinese medicine, cf. Hsu (1999: 173–174).

5 *Carakasaṃhitā* and *Suśrutasaṃhitā*, as well as *Aṣṭāṅgahṛdaya* and *Aṣṭāṅgasaṅgraha*, attributed traditionally to Caraka, Suśruta, and Vāgbhaṭa (or two Vāgbhaṭas) respectively.

6 See on this issue also Das (2003: 7 n. 12).

7 On this terminological issue, see e.g. Bode (1997: 180 n. 1).

unaware of the problems associated with such uncritical equations, for not only are individual symptoms or syndromes not necessarily subsumed under the same headings and associated with the same aetiologies in different medical systems,[8] but various cultures and the medical systems that are part of these do not even necessarily categorise the same phenomena as diseases.[9]

Similarly, it is, in the field of anatomy, most problematic to equate specific terms in ancient Indian medical texts with concepts such as "arteries", "veins", "hormones", "glands" and so on without critical examination, just because these same terms are today used in South Asian languages to translate such modern concepts. A major source of confusion in this regard has been Gaṇanāth Sen's well-known three-volume *Pratyakṣaśārīram*, whose first volume came out in 1913, and which has seen various editions and reprints since then. In this work, Sen basically describes the anatomical knowledge of allopathic textbooks of his times in Sanskrit, using ancient Sanskrit medical terms and also calques to reproduce the contemporary allopathic terminology, while rejecting a large part of the actual anatomy of the ancient Indian texts as spurious because of its – in his opinion – not being in keeping with modern "scientific" anatomy. In an age of strong nationalistic ferment, Sen was not only keenly interested in re-establishing what he believed to be the lost glories of ancient Indian medicine, which he held to be in line with modern knowledge, but also in propagating a syncretistic form of Āyurveda strongly influenced by allopathic medicine.[10] Both these characteristics have continued to dominate Āyurveda in South Asia to this day, and both have been heavily influenced by persons hailing, like Sen himself, from Bengal.[11] It is obvious that such an atmosphere was, and continues to be, most conducive to the process of transposing modern concepts into ancient texts. Of course, Sen was not the only prominent person influencing this process, but his works did leave a marked imprint. In any case, he may serve as an example of the tendencies which have contributed to complicating the study of anatomical knowledge in ancient Indian medicine.

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8 Cf., e.g. Bode (1997: 187–188); Smit et al. (1997: 115–116) on what problems may result from the uncritical equation of modern allopathic disease classifications with Āyurvedic classifications.

9 Cf. on this, e.g. Hahn (1984); Kaiser (1992: 143, with further references); Meulenbeld (1974: 505). A most interesting example is the classification of hunger and thirst as diseases in traditional Indian medical theory; see on this Müller (1961a); (1961b) (cf. also the discussion on *tṛṣṇā-* in Das 2003: 289 ff.). On the disease of spermatorrhoea see Bottéro (1991). Conversely, it bears investigation whether the scarcity of hot flashes in Asian women, as compared to North American women, may in fact lie in culturally determined symptomatics, and not necessarily be the result of a certain diet, as has been speculated.

10 On Gaṇanāth Sen see, e.g. Pāhārī (1997: 68); Sen'gupta & Basu (1988: 126–127).

11 On this process see Leslie (1992); Roşu (1982); Kaiser (1992).

One of the problems in this context is the question of what empirical basis the knowledge of anatomy in ancient India had or could have had. Unless one assumes, as even today some continue to do, that Indian medical knowledge is by nature divine and therefore was and is not in need of any basis of human thought or observation, one has to concede that the only way in which empirical anatomical knowledge could have been gained would have to have been by actual observation. But under what circumstances could the human body have been observed not only externally, but also internally? The battlefield and the execution ground are two places where such observation might have occurred. Furthermore, the Vedic sacrificial ritual offered the opportunity to observe the internal portions of mammal bodies, possibly including those of humans.[12] However, a detailed examination is more often than not impossible under such circumstances, or else, even when observations are precise, the focus of observation, such as ritual carving up of a sacrificial victim, or tending to persons wounded in battle, precludes thorough scientific investigation. What is required for this is purely investigatory dissection allowing detailed observation; the processes of opening bodies we have mentioned here are not dissection.[13]

Moreover, accurate information on human anatomy cannot be gained by means other than examining humans. Animals may be acceptable substitutes in many cases, but carrying observations made from animal bodies over on to humans can often lead to serious misconceptions, as for instance in the postulation of several uteri or stomachs in the human. Examples for such misconceptions are known from Greek medicine, and seemingly also present in some South Asian medical thought, though not in the classical Āyurvedic texts as far as I know.[14] With respect to the dissection of humans for anatomical study, a comparison between ancient Greek and ancient Indian medicine is most interesting. In the sphere of Greek culture, examination by dissection seems to have been either absent or rare among the Hippocratic physicians, but practised extensively with regard to animals by Aristotle, and systematised, also with regard to humans, in the Hellenistic period among the Alexandrians. It seems that knowledge was also gained by vivisection of animals, including pregnant females, and it may be that the Alexandrians vivisected humans too; in any case, dissection for examination and demonstration, whether of animals or humans, living or dead, seems in part

12 On the question of human sacrifices in ancient South Asia, see Wezler (1992: 304–306); also Aguilar i Matas (1991: 94); Bodewitz (1992: 28).

13 Neither is, of course, the observation of decomposing corpses, as found in certain meditative practices in India.

14 Cf. Bodewitz (1992); Das (2003: 506–507).

to have also been public.[15] By contrast, hard and fast data containing unequivocal evidence for examination of the body, whether of animals or humans, through investigative dissection in ancient India is so sparse as to be nearly negligible. Several scholars have mused on the how and why of this state of affairs,[16] but this is not our concern here; what we must hold on to is the paucity of clear data on dissection for investigative purposes, unless we try apologetically to manufacture data speaking for extensive dissection by interpreting and explaining our evidence tendentiously.

But even the evidence for what seems to have been some sort of dissection that we do come across does not seem to show dissection of a sort conducive to gaining accurate knowledge of the interior of the human body. Commenting on the well-known passage at the end of *Śārīrasthāna* 5 of the *Suśrutasaṃhitā* in which the layers of a not too strongly decomposed body are rubbed off one by one in flowing water, I. Fišer and O. Fišerova have remarked:

> And now we come to another important question in this respect, i.e. what could the Old-Indian physicians actually observe by using the described method of dissection?
>
> It appears most probable that this kind of examination of human bodies provides the dissecting surgeon with a certain rough information on soft tissues. He could possibly examine the tendons, ligaments, nerves, veins and muscles and so he was able to get an idea of their course. Nevertheless, he could not distinguish them from each other, and estimate their physiological functions; he merely learned that these structures are not to be damaged in the course of an operation.
>
> It is difficult for us to form any accurate idea of what the entrails looked like after the process of preparation. It seems that the dissector could obtain a mere glimpse of their appearance and location, at best.[17]

It is obvious that both the paucity of definite data on actual dissection and the nature of the dissections we do have data on make it a priori seem more than probable that we should not expect a very accurate knowledge of anatomy to have prevailed. This is in spite of the fact that the observatory powers of ancient Indian medical, as also sexological, authorities were extremely keen. Thus, long before modern researchers in the West trumpeted out what seemed to them to be revolutionary discoveries, they knew, by way of example, of the Gräfenberg

15 For bibliographic references see Das (2003: 507 n. 1714).
16 Cf. the literature cited by Wezler (1992: 304 n. 38); also Chattopadhyaya (1991: 209–214).
17 Fišer & Fišerova (1963: 321).

or G-spot, of the ejaculation of a fluid, not identical with the lubricating fluid, by women due to an orgasm, and of the excitability due to stimulation of the cervical part, the portio vaginalis, of the uterus.[18] But it is important to note that these are cases not requiring dissection for observation.

In this context we should remember that many other cultures too did not have much anatomical knowledge based on actual observation by dissection. Moreover, the state of affairs today internationally predominating, especially in allopathic medicine, more often than not makes us forget not only how recent much of our modern anatomical knowledge is, but also that such knowledge was not necessarily considered very prestigious until quite recent times. As late as the beginning of the nineteenth century many eminent Western surgeons not only had very little knowledge of human anatomy, but even considered this superfluous.[19]

We know from various cultures around the world that, when empirical observation does not take place, various other sources are used to create a picture of the inside of the body. Such sources may be the carrying over of observations made on animal bodies, of analogies drawn from nature both animate and inanimate, of schematisation based on theoretical considerations or partial observation, or even pure and simple speculation. There may also be religious or mystical notions at work, such as that of the correspondence between the macrocosm and the microcosm, which we find, for instance, in the Upaniṣads. Analogies may even be drawn to everyday life, as for instance in medical theories in which the metabolism of food is likened to cooking in which a pot containing water with food sits on a stove with fire below blown upwards by wind. This has even influenced anatomical notions.[20]

But instead of elaborating further, I think it would be best to give some examples of anatomical data on individual organs culled from the classical medical texts; this will give a far more effective impression of the matter than any long theoretical or general discussion.

Let us, for instance, take the data on the various tubelike structures and vessels situated in the body according to the medical texts, structures called *dhamanī-*, *sirā-*, *nāḍī-* etc. Many modern scholars have very confidently equated these with individual structures such as veins, arteries, nerves and so on, even though the texts themselves allow no such clear identifications, and even though individual types of these structures are said to carry a variety of substances, including energy

18 For further particulars see Das (1998). These matters are discussed in detail in Das (2003).
19 Fišer & Fišerova (1963: 326).
20 Cf., e.g. Das (2003: 213–215).

and sound – a variety which is at variance with the functions of individual types of structures actually perceivable in the body. The postulated course of these structures in the body also differs from what actual observation through dissection reveals. Lest all this be taken to be the opinion of mere supercilious Western Orientalists, I may point out that even a traditional Vaidya like Vaidyapañcānana Kṛṣṇaśāstrin Kavaḍe has, in his Sanskrit work on the structure called *kloman-*, unequivocally said that no one can legitimately claim that the texts refer to such structures in any one particular meaning.[21] The picture of several types of such tubelike structures radiating outwards from the navel, traversing the body from there and finally ending at the pores of the skin, is also clearly at variance with what we actually find in the interior of the body.[22] The whole is complicated even more when we include a discussion of the structures called *srotas-*, which according to the contexts in which they are mentioned are usually explained as "apertures" or "channels", and about whose identity even the classical medical and later texts give conflicting information.[23]

Or let us look at the structure usually called *hṛdaya-*. From the descriptions of this it seems clear that what is meant is the heart. This is connected not only with various tubelike structures and vessels carrying all sorts of substances, structures called *dhamanī-*, *sirā-*, *nāḍī-*, *srotas-* or the like, but also, in a pregnant woman, with the umbilical cord of the child within her. A connection is also supposed to exist between the heart and the still not clearly identified organ *phupphusa-*. Apart from this, the *hṛdaya-* is also considered to be the receptacle of various substances created through the metabolic change of food. This is a most complicated matter that can hardly be discussed in detail here.[24] But I may at least mention that it seems that behind this at first glance quite confusing diversity of substances residing within the heart there seems to be a very ancient notion that, going by the evidence from both medical and non-medical texts, probably goes far back in time; it is the notion of a fluid of power or energy having its chief seat in the heart of humans, and which can manifest itself through various metabolic processes in various fluid forms, including *rasa-*,[25] blood, semen, milk and female procreatory-menstrual fluid. In this connection it must be highlighted that, though the texts

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21 Kavaḍe (1929: 52): *sirādhamanīnāḍyādayaḥ śārīrasaṃjñā api kenāpy ekenaiva viśiṣṭārthena prayuktā iti vaktuṃ na ko 'pi samutsaheta.*

22 Cf. Das (2003: 462–463).

23 Cf. Das (2003: 585–590).

24 For details, see Das (2003: 590–593). The problem is complicated even more by the fact that *hṛdaya-* does not necessarily describe only an actual physical organ; on this compare, e.g. Sellmer (2000).

25 Literally "juice" or "sap", often translated as "chyle". The nutrient fluid, the first product of food metabolism, is *rasa-*, but *rasa-* may also be used for certain other fluid substances.

do presuppose a special connection between the heart and blood, Indian medical tradition more often than not does *not* see the heart as the special storage place of blood, that is, as the *raktāśaya-*, *raktasthāna-* or the like.[26] Where exactly this latter lies is a problem.

There also seems to have been a theory according to which ingested food went into the heart before it entered the place of undigested food, the *āmāśaya-*. Though the notion of food first entering the heart is known from various cultures around the world, it has in the South Asian context nevertheless occasioned not only later apologists, but also translators of relevant passages some headache. A modern Indian work even tries to solve such problems by seeing in *hṛdaya-* not the heart, but "the cardiac end of the oesophagus"; to it the heart is not the *hṛdaya-*, but the *raktāśaya-*.[27] But be that as it may, one must in any case ask what sort of anatomical notion was connected with the ingress of ingested substances into the heart.

It is, however, not only the heart; indeed, one can take various other internal organs mentioned in the classical texts and find similar problems pertaining to them. Even though in the case of some organs such as *yakṛt-*, *plīhan-* and *vṛkka-* there is no scope for doubt as to what is meant, namely liver, spleen and kidney respectively, in the case of many others there is a lot of confusion when one attempts to correlate them with modern anatomical knowledge. For instance, the organ called *kloman-* has been variously identified on the basis of the textual descriptions as, in today's terminology, the lungs, a part of the lungs, the pancreas, the pharynx, the gall bladder, the trachea, the bladder and so on.[28] Another problematic term is *phupphusa-*. In modern terminology, *phupphusa-* and its various New Indo-Aryan relatives are used to denote the lungs, and this identification is often applied to the classical medical texts too. However, it is anything but certain;[29] the organ has even been identified as the pancreas.[30] There are various other problematic organs of this sort, examples being *uṇḍuka-*, *ḍimba-*,[31] *vapā-*,[32] etc., but this is not the place to discuss them all.[33] In the case of some of the organs described in the texts one even suspects that they may have been imagi-

26 On this organ, see Das (2003: 577–578).
27 Nagaratnam & Madhavi (1989: 18).
28 Meulenbeld (1974: 457–458).
29 Cf. Meulenbeld (1974: 458).
30 Nagaratnam & Madhavi (1989: 13).
31 On these two, cf. Meulenbeld (1974: 458).
32 Cf. Burrow (1987: 62).
33 On the visceral organs, see Meulenbeld (1974: 457–458), on various individual organs, also Das (2003: *passim* (see the indexes)).

nary structures which have no actual counterparts in the viscera; an example is the organ called *grahaṇī-*.[34]

A most interesting organ is the receptacle of semen, *śukrāśaya-* or *śukrasthāna-*. It is known that, unlike Tantric theory in which semen is taken to be stored in the head, in Indian medical theory semen permeates the whole body, and has to be collected before ejaculation. There is in this connection a problem in that semen permeates the body of both males and females, whereas in the context of reproduction as a rule only the semen of males seems to play a role, but a discussion of this would be out of place here.[35] Suffice it to say that the problem of various theories on the location of semen, including those of semen located in the head and semen permeating the whole body, has its parallels in ancient Greek medicine too.[36]

What is, however, of interest to us here is the organ in which semen is collected prior to its ejaculation. That such an organ is presupposed is without doubt, but it is unclear where exactly the classical medical texts locate it, and this is even more so the case with regard to the corresponding structure in women, the place of collection of the procreatory-menstrual fluid; this structure is not even mentioned in the texts, but must have been presupposed because of the theory pertaining to the process of intercourse.[37] According to this theory, the woman too ejaculates her procreatory-menstrual fluid through an orgasm in exactly the same manner as the male ejaculates semen, the only difference being that her ejaculation is internal, into the uterus. The organs of storage of male and female presupposed here, as also, incidentally, in Tibetan medical theory, cannot but be the result of theoretical systematisations, and it is only through Procrustean means that one can hope to find actual correspondences for them in the human body.

But better than through all descriptions, the differences between traditional Indian and modern allopathic anatomical notions can be shown clearly by means of a diagram. I know of only one authentic diagram of medical nature which has survived – for what mostly passes in published books for traditional Indian medical anatomical diagrams is in fact not so, but consists of modern drawings claiming to reproduce ancient anatomical ideas, more often than not in the unreliable manner which has already been remarked upon above. The diagram which I am referring to hails from Nepal and probably dates to the late eighteenth

34 See on this Das (2003: 544–545).
35 The problem is discussed in detail in Das (2003).
36 See Das (2003: 498–499).
37 Cf. on these structures Das (2003: 71–80, 487–488).

century;[38] it is kept in the library of the Wellcome Institute for the History of Medicine in London under the accession number 347 674.[39] Whether it is of true or of pseudo-medical nature I cannot say, but it definitely presupposes medical theories and is quite different from Tantric and similar diagrams showing structures called *cakra-*, *nāḍī-* and so on, which are relatively common. Just a cursory glance at the viscera of the male figure, in which various receptacles for various substances are arranged schematically and connected in most interesting ways; in which the receptacle of semen (*śuklasthāna-*), situated above where we would seek the heart, is connected with the bladder (*mūtrāśaya-*) and thence with the penis, without the testes even being shown;[40] and in which the digestive system too consists of various receptacles connected with other receptacles in an intriguing manner,[41] shows that this diagram has little in common with modern anatomical notions, even though it clearly belongs to some sort of tradition either claiming to be or authentically medical.

The figure is framed by extracts from medical texts, all hailing from the sixteenth century *Bhāvaprakāśa*,[42] albeit in a corrupt form showing that the scribe can have had little knowledge of Sanskrit, if at all. This work was composed in a period in which the Āyurvedic system had, even before the advent of colonialism proper, already undergone considerable change and was in a state which many scholars today tend to describe as static or decaying. We find in this period several efforts to collect medical knowledge in a more or less encyclopaedic manner, the *Bhāvaprakāśa* seemingly being one outcome of such effort, combining material from various sources some of which are quite obviously not part of what is usually regarded as classical or "mainstream" Āyurveda; this includes the views of several ancient authorities which were superseded by the texts today regarded as authoritative, as well as works much more recent.

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38 According to Wujastyk (2008: 204), it shows Tibetan influence.

39 For a full reproduction as well as details, see Wujastyk (2008). Reproductions in colour may also be found on the covers of Comba (1991) and Meulenbeld & Wujastyk (1987).

40 All the picture has is the scrotum, hanging – to all intents uselessly – below the viscera and not connected with anything within the latter.

41 Such receptacles are those of *indriya-*, *pitta-*, *vāta-*, *kapha-*, etc., as well as an *ojaḥsthāna-* (written *aujasthāna-*), a *rasasthāna-*, a *[ra]kta[sthā]na-* and so on. On the latter, see Das (2003: 77 n. 249). Wujastyk (2008: 233) (on receptacle G) terms the reading "illegible"; however, the *kta* is clearly visible (right under the "G" that has been inserted into the reproduction), and the *na* too is legible, though most of it is no longer in the receptacle itself, but to the right of it, in the narrow space between the brown receptacle and the white duct to its right.

42 Das (2003: 77 n. 249) first drew attention to the fact that the texts on this painting studied by the author hailed from the *Bhāvaprakāśa*. Wujastyk (2008) subsequently identified all the texts and discussed them.

Since the diagram in question obviously seeks to affiliate itself with the *Bhāvaprakāśa*, it follows that the tradition to which it reckons itself is not directly the classical tradition we are here dealing with, though nonetheless authentic. Indeed, *āyurveda-* is no trademark, and it is known that there were various parallel traditions in vogue, handed down in various ways not necessarily written. The tendencies to synthesise these various traditions are already evident and explicitly acknowledged in the two later of the ancient works attributed to the triad of Caraka, Suśruta and Vāgbhaṭa (or two Vāgbhaṭas).[43] These tendencies gained ever more ground as time went on, so much so that today it is nearly regarded as heresy in certain circles when one points out that traditionally there was no such thing as *one* Āyurveda; nevertheless, various traditions confined to certain families, schools or localities have survived until the present. No one would, however, dream of refusing any of the various traditions the designation "Āyurveda", and hardly anyone would dare to assert that their doctrines were or are so different from each other as to make them mutual strangers. Thus even if the diagram referred to here is not directly a part of the classical medical tradition we are dealing with, it is methodically no fault to assume that what it presupposes cannot be too far removed from what this tradition too presupposes, all the more so since individual aspects are indeed in accord with various descriptions of the classical texts, provided these allow a more or less clear interpretation at all.

So what follows from all this? The point that I hope has been made is that the anatomical doctrines of classical Āyurveda are not in accord with modern allopathic ones, and that it is absurd to try by hook or by crook to make the two fit. For someone maintaining that modern allopathic, i.e. mostly so-called Western, models of knowledge are the only ones that are legitimate or objectively "true", and who therefore must try to fit Āyurveda into this dominant scheme to legitimise it and show that it too is worth considering, this amounts to a catastrophic result, for if Āyurveda can be shown not to measure up to allopathic medicine in this respect, then it must in some way or the other be "inferior", which is not only relevant in a scientific or scholarly context, but also in one of nationalistic and cultural conflicts.

However, as I have pointed out elsewhere[44] and also mentioned at the beginning of this small overview, such a comparison of the two systems of medicine does not do justice to the matter, and is indeed like comparing apples with oranges. We are dealing with different sets of axioms on which different systems are based; if the axioms are distorted, then the internal coherence of the systems

43 Cf. n. 5.
44 Das (1997: 203–204).

is destroyed. It may be that from the point of view of another system, or even from an empirically ascertainable objective point of view that brooks of no other interpretation, one set of axioms can be labelled "false", but that does not necessarily mean that the system which is based on this set of axioms is for that reason ineffective or invalid.[45]

But if Āyurveda is indeed effective,[46] but cannot be explained in terms of allopathy, how can one understand it and its workings? Clearly, one can hardly do so if one distorts the axioms and principles on which it is built. The system must be understood on its own terms, and it is only then that one can think of comparing its workings with that of another system based on different axioms and principles. One might have to convert its notions into those of the other system, in the same way as in mathematics the binary number 101101 is not equivalent to the decimal number 101101, but to the decimal number 45: trying to find out empirically, for instance, what the statement "the stimulus or substance X works on the organ Y to produce Z" means when Y may in actual fact not even exist, is a problem that can only be solved by examining the workings of X to produce Z within the non-Āyurvedic system, and not by arbitrarily creating one-to-one correspondences between different Ys.

But how to go about this? In a paper on Chinese medicine, Shigehisa Kuriyama has noted with respect to what Europeans regarded as "the difference between practical knowledge and theoretical incoherence":[47]

> Earlier in this talk, I pointed out how John Floyer attempted to resolve the conflict between practical efficacy and conceptual incoherence by divorcing experience from theory, by intimating the possibility of pure empirical knowledge, prior to and undistorted by theoretical imagination. He was right to highlight the roles of experience and imagination, but he was wrong about the relationship between them. The core of Chinese pulse mastery lay not in experience prior to imagination, but on the contrary, in experience made possible by imagination. It lay in imaginary knowledge.[48]

I do not know if all or most of those involved in the study of Chinese medicine will unhesitatingly agree with Kuriyama that actual practical applications did in fact follow from "imaginary" theoretical considerations. I myself know too little

45 Cf. in this respect the remarks of Das (1992: 163–165).

46 As in the case of allopathy too, "effective" is not to be understood in absolute terms, but as confined within certain limits. No known medical system is always effective, though the degrees of effectiveness vary.

47 Kuriyama ([1996]: 104).

48 Kuriyama ([1996]: 111).

of Chinese medicine to dare to venture an opinion on this.[49] However, ultimately that is not the point. For whether theory be secondary to practice or whether it be primary, it is in both cases more often than not "imaginary" in the sense of not being in keeping with the observations of modern allopathy.

But in spite of what from the point of view of allopathy is not based on empirical, demonstrable truth, the Chinese system is effective[50] and can in some cases lead to results which allopathy cannot always reproduce, even though its workings seem all too often unfathomable from the allopathic perspective. Nevertheless, for a long time forces were at work trying to make the Chinese system conform both theoretically and practically to allopathic notions, or to incorporate such notions into it.[51] It is only now that one has gradually started taking the system seriously in its own right and has come to realise that causes and effects may be correlated in it in a manner that allopathy cannot explain with the means at its disposal, though a further systematic search for explanations might yet lead to insights that can be explained in its language. But to be perceived thus, Chinese medicine had first to be perceived as Chinese medicine in its own right and not as a poor copy of allopathy.

Turning to Āyurvedic anatomy, we could deliberate on whether some process similar to the one Kuriyama posits might be operative here too. As Dominik Wujastyk remarks in his study of the diagram we have discussed above:

> For a physician who knew, because his authoritative and trusted scholarly education told him so, that certain receptacles, pipes, and other entities were to be found in the human body, those entities would be evident to the interpreting eye.[52]

One could, in this context, also draw attention to what was pointed out above, namely that surgeons practising pre-allopathic medicine in the West too seemingly did not consider anatomical knowledge based on actual observation by dissection all that important.

However, we should not overlook the fact that there is a difference between describing, and maybe drawing, an illustration of the human body, and actually practising invasive surgery upon this based upon knowledge not gained by actual observation of the interior of the body. Which leads us smack into the middle of the old debate on the relationship between theory and practice in Āyurveda:

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49 In particular, I dare not venture any opinion on how "traditional" "Traditional Chinese Medicine" is. Cf. on this Hsu (1999: 6–8, 213–215).

50 Cf. on this n. 46.

51 Cf. Unschuld (1992).

52 Wujastyk (2008: 207).

are the theoretical parts of the relevant texts actually necessary for Āyurvedic practice, or are they just secondary padding? In other words: was the craft of the Āyurvedic physician, and, more importantly for us, the surgeon dependent upon theoretical considerations relating to the interior of the human body, or did theory and practice coexist without really relating to each other?

On perusing traditional Āyurvedic works one does indeed often gain the impression that theoretical considerations do seem to play such a subservient role to actual practice, from which one might deduce that they are secondary to practical usage. But impressions cannot substitute for facts. Nevertheless, it is clear that for the understanding of the workings of Āyurveda it does make a difference whether we regard it as a coherent system with theoretical underpinnings, or primarily as a collection of empirical observations and practices without regard to underlying causes. Thus, even though one may not argue against the call to take Āyurveda seriously in its own right and not as something which has to conform to the norms of allopathy, how to go about this remains a problem.

Finally, it bears mention that there are also some who would go so far as to deny most traditional healing systems, including Āyurveda, any medical efficacy at all. But even from this perspective sooner or later attempts to understand such systems on their own terms will have to be undertaken. Especially in an age characterised by what is commonly labelled "globalisation", in which individuals from societies with often widely varying cultures and values have to interact directly on a scale hitherto unprecedented, it is of increasing importance that factors informing the cultural determinants of individuals from varying backgrounds be adequately taken into consideration. In various cultures this includes a certain view of history, and in several cases traditional medical systems play an important role in forming this view, as both Āyurveda and Chinese medicine show: the past may inform the present; indeed, it may be a part of the present. As Dominik Wujastyk and Lawrence I. Conrad have pointed out:

> The firm distinctions between ancient and modern learning common in Western thinking, along with their judgemental implications concerning the progress of science, clearly become problematic in other cultural contexts in which medical texts written over a millennium ago are routinely printed as contributions to contemporary medicine, not as historical sources.[53]

But there is more to consider. Whether one like it or not, societies all over the world, including those of the so-called West, retain to this very day a conception of the body which is in accord with the conceptions of traditional medical systems,

53 Wujastyk & Conrad (2000: xviii).

conceptions which are usually labelled "humoral" by scholars.[54] This conception is very evident in popular culture, and the so-called modern "scientific" outlook forming the basis of the allopathic system is much too recent in the context of human history in its totality to have affected humanity on a subconscious, and even on a conscious, level as markedly as its proponents would like to assume. Trying to gain an understanding of traditional medical systems like Āyurveda on their own systemic terms is thus, even if one should go so far as to deny them any medical efficacy, nevertheless a very worthwhile endeavour.[55]

APPENDIX

Extracts from the above were published, in condensed form but with some additions, in Bengali as Dās 2009. Unfortunately, the text was tampered with, resulting in mistakes making parts unintelligible. I would like to correct these mistakes here:

P. 52, l. 3: Read *taddhārār* for *taddbārār*.

P. 53, l. 22f.: Read *... rakamer padārtha bāhī dhamanī, ...* for *... rakamer padārtha, yeman – bāhī, dhamanī, ...* .

P. 53, l. 24; p. 54, l. 16 and l. 19: Read *'phupphus'* for *'phus'phus'*.

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54 Note too the remarks on the "felt body" by Sellmer (2000: 384–386).

55 Cf. in this context also Leslie ([1996]).

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