

The relationships between *doṣas* and *dūṣyas*:

A study on the meaning(s) of the root *murch-/mūrch**

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Glaubst du denn: von Mund zu Ohr
Sei ein redlicher Gewinnst?
Überlieferung, o du Tor,
Ist auch wohl ein Hirngespinst!
Nun geht erst das Urteil an;
Dich vermag aus Glaubensketten
Der Verstand allein zu retten,
Dem du schon Verzicht getan.

Johann Wolfgang Goethe,
West-östlicher Divan,
Buch des Unmuts, Wanderers Gemütsruhe

Die hierbei zur Herrschaft kommende Tradition
macht zunächst und zumeist das, was sie “übergibt”,
so wenig zugänglich, dasz sie es vielmehr verdeckt.
Martin Heidegger, Sein und Zeit, 21.

Intimate knowledge of āyurvedic theory is in my view an absolute requirement for any serious research on texts relating to Indian medicine. Viewed against this background the paucity of studies on theoretical concepts is astonishing. By far the larger majority of writings on Indian medicine, in particular those by Indian authors, are concerned with practice and its justification, not with its theoretical basis. Studies on philosophical concepts that form an integral part of medical thought form an exception.

This state of the art, though regrettable, is easily understandable. The theory of āyurveda is intricate, the differences of opinion on all kinds of topics are

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numerous and the basic concepts together with the ways in which they are interconnected are far from transparent.

Doṣa

Let me start with the central concept of āyurveda, the term *doṣa*. Several years ago, I made an attempt at finding out whether or not the texts and commentaries contain statements enabling one to define the core characteristic of a *doṣa*. This project resulted in the discovery that the central function of a *doṣa* consists of its *ārambhakatva*, its ability to set in motion a process ultimately leading to a diseased condition. This finding supported my choice of translating *doṣa* as morbid agent.

The explanation, common in the commentaries, that a *doṣa* got its name from its *dūṣaṇatva*, its ability to corrupt other components of the body, is, as many of these etymological explanations, merely tautological.

I leave out of account the other side of the coin, the fact that a *doṣa* in its normal state is called a *dhātu* since it supports the body when healthy.

My study on the essential characteristic of a *doṣa* revealed that *ārambhakatva* is also attributed to blood (*rakta*), which is normally regarded as one of the seven bodily elements called *dhātu*.

I devoted another study to the position of blood within āyurvedic theory and concluded that blood can oscillate between the status of a *dhātu* and that of a *doṣa*.

Inconsistency of the texts has to be accepted as an undeniable fact.

Yet, most Indian āyurvedists **sternly refuse to accept such an opinion, holding on to the *śāstra* declaring that the number of *doṣas* is three.**

Moreover, it is not only blood that has an ambiguous theoretical position. Since the presentation of this paper is not the proper place to expatiate on this topic, a few remarks must suffice. Other constituents of the body without a clear status are *ojas* and *āma*. The former differs from the *dhātus* in being an essence, the latter is one of the rare substances that can mix with a *doṣa* and change its properties. *Agni*, the transforming fire of the body, deserves attention too because, under its influence, the *doṣas* can become burnt (*vidagdha*) with a resulting change of some of their qualities.

These issues are closely linked up with the importance of numbers, in particular the number three, a sacred number with respect to the *doṣas*. The elaboration of this interesting topic has also to wait for another occasion.

Dhātu

The second basic concept, that of the nature of a *dhātu*, has not yet been the subject of a thorough investigation. The number of *dhātus* is seven and the commentators stress that it is unthinkable to accept an eighth one.

Actually, I do not consider the seven bodily elements as a homogeneous cluster. Moreover, it is generally known that early lists begin with *tvac*, skin, instead of *rasa*, nutrient fluid. Traces of this old series are still to be found in the āyurvedic classics.

In my view, the series of bodily elements consists of six members, with the addition of a seventh one, semen (*śukra*), which is the essence of the preceding ones, thus resembling *ojas*, which is a kind of quintessence. It is therefore not a matter of surprise that there are many links between the two.

Returning now to the concept of *dhātu*, attention has to be paid in the first place to its theoretical status.

In very general terms the relationship between a *dhātu* and a *doṣa* is defined as that between substrate (*āśraya*) and that which inheres in the substrate (*āśrayin*). This type of interrelatedness (*āśrayāśrayibhāva*) has a wide range of application. It is also employed to describe the relation between a *dhātu* as *āśraya* and a *mahābhūta* as *āśrayin*,¹ as well as the similar connection between a *doṣa* and the organ or organ system where it gets lodged.² Synonymous with *āśrayāśrayibhāva* is the term *ādhārādhāribhāva*.³

Doṣa and *dūṣya* are further related to each other as *karṭṛ* and *karman*.⁴

A *dhātu* is with regard to medicine and in particular to treatment in the first place a *dūṣya*, an element of the body corruptible by the *doṣas*. This term too is not exclusively employed with respect to the *dhātus*. It is also applicable to the secondary bodily elements, the *upadhātus*, and the excretory products, the *malas*, such as faeces and urine. In an extended sense, many components of the human body may be subject to corruption (*duṣṭi*), for example the channels (*srotas*).

The terms *doṣa* and *dūṣya* reflect the active-passive axis pervading āyurvedic theory. *Doṣas* are active, *dūṣyas* are passive. These positions are parallel to a male-female dichotomy. This explains that an intermediate status like that of blood is unacceptable for it would be equivalent to the toleration of bisexuality.

In spite of many statements to the contrary, it may happen that one of the

¹ See A.h.Sū.11.26 and the commentaries.

² Manoj Sankaranarayana (2007), 53.

³ See Hemādri and Śrīdāsapaṇḍita ad A.h.Sū.11.26–29ab.

⁴ See Ḍalhaṇa ad Su.Sū.19.10 and Aruṇadatta ad A.h.Sū.1.13.

dhātus, in particular blood, is referred to as an agent corrupting a *doṣa*.⁵ This boils down to a reversal of the traditional relationship.

A specific characteristic of a *dhātu*, apart from its corruptibility, has still to be discovered.

Disease

The next topic to discuss is the way in which a disease can arise from the interaction of *doṣa* and *dhātu*. In this respect one has to keep in mind that numerous slight disorders, treated by āyurvedic physicians, are not diseases (*vyādhi* or *roga*) but only disorders of the type called *vikāra*.

Imbalances of *doṣas* brought about by a faulty regimen during the parts of day and night and during the various seasons, are disorders of the *vikāra* type. In order to fully understand this it will be useful to dwell, rather shortly, on the concept of *kriyākāla* as elaborated by Suśruta. His treatment of this subject, of prime importance for treatment, is superior to what the other classical treatises can offer us. The chapter which deals with it, *Sūtrasthāna* 21, has an extensive commentary by Ḍalhaṇa, as to be expected from an author well aware of the decisions that one has to take during āyurvedic therapy.

The relevant chapter of the *Suśrutasaṃhitā* distinguishes six *kriyākālas*, opportunities to initiate treatment. Six stages in the evolution of a disease are therefore dealt with.

The first stage (Sū.21.18) is called *caya* or *saṃcaya*, accumulation, defined as an accumulation of the *doṣas* in their own seats. They exhibit the signs characteristic of them. Ḍalhaṇa adds that *caya* is a particular form of increase, *vṛddhi*, to wit a solidified increase, *saṃhatirūpā vṛddhiḥ*. The example adduced is, how could it be otherwise, that of solid ghee.

The second stage (Sū.21.19–27) is called *prakopa*, excitation, not defined in the text itself. Suśruta makes clear, however, that the *doṣas* now show signs of morbidity. Ḍalhaṇa adds that *prakopa* is the form of increase, *vṛddhi*, in which the accumulated and solidified *doṣas* liquefy and may begin to leave their own seats; he defines *prakopa* for that reason as *vilayanarūpā vṛddhiḥ*. The example is molten ghee.

These first two stages give rise to conditions which are called *vikāra*.

The third stage (Sū.21.28–32) is called *prasara*, diffusion. The *Suśrutasaṃhitā* compares it with the process of fermentation and also with what happens when, due to a considerable increase of its level, water overflows a dam and merges

⁵ See The position of blood, p.99.

with the water surrounding it.

The fourth stage (Sū.21.33) is called *sthānasaṃśraya*, settlement at a particular location. This is the stage in the development of a disease in which the prodromes manifest themselves.

The fifth stage (Sū.21.34), called *vyakti*, is that of the full appearance of a particular disease in which the symptoms become perceptible.

The sixth stage (Sū.21.35), called *bheda*, is that of diseases which become chronic and may lead to incurability.⁶

Sthānasaṃśraya

I have now come to the point on which I want to focus.

The remainder of this study will be devoted to a particular aspect of the fourth stage, that of *sthānasaṃśraya*. In this stage the excited *doṣas* have left their natural seats and have spread over the body. They become localized at some place due to the derangement of local channels (*srotovaigunya*) and at that place interaction of *doṣa* and *dūṣya* begins.

Sammūrchana

It is my aim to try to shed some light on this interaction, in many cases called *sammūrchana*. Does this term elucidate what is going on between the two? The texts themselves do not explain it and suppose the readers to know. The commentaries give more than one meaning, sometimes useful, sometimes confusing.

The meanings of *sammūrchana* and related words as found in the dictionaries leave many options open.

Petersburg Dictionary:

mūrch: (1) gerinnen, erstarren, fett werden; (2) fest werden; (3) ohnmächtig (starr), betäubt werden; (4) fett werden, sich verdichten, intensiver werden, Macht bekommen; (5) betäuben: (6) kräftig ertönen lassen.

Monier-Williams:

murch-/mūrch-: to become solid, thicken, congeal, assume shape or sub-

⁶The interpretations of this stage disagree with one another. See Manoj Sankaranarayana (2007), 74.

stance or consistency, expand, increase, grow, become or be vehement or intense or strong; to fill, pervade, penetrate, spread over; to have power or take effect upon (loc.); to grow stiff or rigid, faint, swoon, become senseless or stupid or unconscious.

sam-murch-/ sam-mūrḥ-: to congeal into a fixed form, become dense, thicken, coagulate; to become stupid or senseless; to acquire consistency or firmness or strength, increase, expand, become powerful, make a loud sound.

These strings of meanings in the dictionaries make it troublesome to imagine how the semantic spectrum of *murch-* might look like, which sense is the centre from which the other meanings radiate in different directions.

After surveying many occurrences of the term in texts and their explanation in commentaries it still proves to be a hard job to find one equivalent that may represent the core. Two meanings dominate in the texts and their commentaries: (1) unification of two entities after their mutual interaction and (2) increase.⁷

Sometimes the meaning seems to be unambiguous, clear and distinct. This is particularly the case when *sammūrḥana* is employed as a pharmaceutical term. In the context of that science it is about the same as *miśraṇa*, mixing.

In pharmacy, however, mixing two or more substances is not as simple as it may appear to be. The properties of a mixture need not be a blend of the properties of the ingredients. New properties, unexpected, may manifest themselves. These novelties are attributed to a particular kind of *prabhāva*, called *saṃyogaprabhāva*. This is from our western point of view an empty word, in the same way as other kinds of *prabhāva* distinguished, terms coined to denote some phenomenon that cannot be explained, something *acintya*. Yet, it points to observational accuracy by medical practitioners who had no knowledge of an adequate chemical theory.

The question we are now faced with is whether or not some process similar to what happens in making a blend of two medicinal substances can be applied to a mixture of *doṣa* and *dūṣya*.

This interaction is not a mere association or contact but a morbid interaction between them,⁸ as described in the *Suśrutasamhitā* itself (Sū.15.36): excited *doṣas* cause decay of the bodily elements through their inherent power, in the same way as a flaming fire does to the water in a vessel. Ḍalhaṇa illustrates this by the following examples: *pitta* acts this way by its pungent taste and its innate heat, *vāta* by its desiccating property, and *kapha* by causing obstruction.

Some reflection is unavoidable in this stage of our deliberations.

⁷ See Manoj Sankaranarayana (2007), 166–167.

⁸ Manoj Sankaranarayana (2007), 72.

A question comes across our mind: is the action of a corrupted *doṣa* on a *dūṣya* a sufficient condition for the production of a disease? The answer must be negative. Both the corruption itself and the interaction with a *dūṣya* are not sufficient but necessary conditions. For a disease to arise it is also a necessary condition that antagonistic factors are absent. This is expressed in the *Carakasamhitā* (Ni.4.4). A disease will be brought about only when *doṣa* and *dūṣya* are homologous, i.e., when *sāmānyaguṇādidharmayoga* is present. This implies that a physician is supposed to possess knowledge on the relations and affinities between the *doṣas* and the seven bodily elements, and their connections with the *mahābhūtas*.

Caraka describes therefore two states: (1) antagonistic factors are present, i.e., there exists a state called *vikāravighātabhāva*, and (2) these factors are absent, and there exists a state called *vikāravighātabhāvābhāva*.⁹

Other terms employed to describe aspects of the relationship between *doṣas* and *dūṣyas* have already been referred to: *samānaguṇatva* and *asamānaguṇatva*. Homologous entities are called *samānaguṇa*; they are *asamānaguṇa* when non-homologous.

These concepts are also employed with regard to the interaction between two *doṣas* and that between *nidāna* and *doṣa*.¹⁰

All these interactions are to be taken notice of since they determine whether a morbid condition will result from them or not.

The symptoms of a disease once arisen depend on the type of interaction of all the factors contributing to its coming about. In cases where these factors are homologous, the symptoms can be inferred from the causative factors and are said to be *prakṛtisamasamavāyārabdhā*; if the conditions are otherwise, they are called *vikṛtviṣamasamavāyārabdhā*.¹¹ Commentators repeatedly point to this difference and single out symptoms of the second type.

After all these digressions I return to and focus all my attention on the possible meanings of *sammūrchana*.

Almost all books on āyurvedic theory fail to give this term the attention it deserves. The only exception I am so far aware of is the very useful book on “Roga vijñāna and vikṛiti vijñāna” by Manoj Sankaranarayana.

As I shall try to make clear, it is far from easy to find the right interpretations of the term in its various contexts. The commentators had already their problems with it and the equivalents found in translations are more confusing than clarifying.

⁹ Ca.Ni.4.4.

¹⁰ See Cakra ad Ca.Ni.4.4. Cf. Manoj Sankaranarayana (2007), 168.

¹¹ See Ḍalhaṇa ad Su.Sū.21.38. Cf. Manoj Sankaranarayana (2007), 211.

(Sam)mūrchanā as the mixing of two substances

Instances where *(sam)mūrchanā* simply appears to denote the mixing of two substances during the preparation of a medicinal compound are:

Example 1

Ca.Si.7.18: mixing with *dadhimaṇḍa*

vacānāgaraśaṭyēlā dadhimaṇḍena mūrchitāḥ / peyāḥ prasannayā vā syur ariṣṭenāsavena vā //

Translation:

(The patient) may take a drink with (powdered) *vacā*, *nāgara*, *śaṭī*, *elā*, thoroughly blended with the scum (*maṇḍa*) of *dadhi*, or with *prasannā*, or with an *ariṣṭa* or an *āsava*.

Kaviratna:

The patient may as well drink the pulvs of *Vacā* (*Acorus calamus*), *Nāgara* (dry ginger), *Śaṭhi* (*Curcuma zerumbet*), and *Elā* (*Elettaria cardamomum*), mixed with the cream of curds or with the spirit known as *Prasannā*, or with the spirituous liquor known as *Ariṣṭha* or *Asava*.

Gulabkunverba:

Or the patient may drink whey mixed with sweet flag, dry ginger, long zedoary and small cardamom in conjunction with *Prasannā* wine or medicated or simple wines.

P.V. Sharma:

He may also take *vacā*, *śuṇṭhī*, *śaṭī* and *elā* mixed with curd-scum along with clear wine, *ariṣṭa* or *āsava*.

R.K. Sharma and Bhagwan Dash:

The powder of *vacā*, *nāgara*, *śaṭī* and *elā* should be added with whey. This recipe should be taken along with *prasannā*, *ariṣṭa* or *āsava*, which are types of alcoholic preparations.

Jejjaṭa: no comment on *mūrchita*.

Cakra: *mūrchitā iti āloḍitāḥ*.

Gaṅgādhara:¹² ... *dadhimastunā mūrchitāḥ samyag āloḍitāḥ peyāḥ pātavyāḥ* ...

Brahmanand Tripathi: ... *dahī ke pānī meṃ gholkar*¹³ ...

Jayadeva (Si.7.17): ... *inheṃ dahī ke jal meṃ milākar* ...

Mihiracandra: ... *dadhike maṇḍmeṃ milākar*

Narendranātha: *mūrchayatīti mārgarodhāt kopayati*.

Pade: ... *dahī ke jal meṃ pīs kar*

Rāmprasād and Shiv Sharma (7.16): ... *dahīke maṇḍmeṃ milakar*

Vāsiṣṭha and Śarmā: ... *pīs kar*

Cakrapāṇi and Gaṅgādhara interpret *mūrchita* as *āloḍita*, i.e., mixed, blended. Jayadeva and Mihiracandra, as well as Rāmprasād and Shiv Sharma agree: *milānā* means to mix. Pade says, in agreement with the text, that the drugs mentioned have to be crushed in the watery part of *dadhi*. Vāsiṣṭha and Śarmā express the same opinion.

Ariṣṭa and *āsava* are names of fermented medicinal beverages, but not spirituous liquors as Kaviratna says.

The translations of this seemingly simple verse show that its interpretation is not easy at all. The English translations assume that all four plant parts mentioned have to be mixed with the scum of *dadhi*.¹⁴ The text is not explicit on this point, nor are the Sanskrit commentators. The Hindī commentary of Brahmānand Tripāṭhī clarifies that equal parts of all four have to be taken. Jayadeva's remark implies several drugs since he uses the plural *inheṃ*. These commentators add that the powdered drugs are meant. The fluid to be employed is the upper part of *dadhi*, more or less transparent and without the residu.

The sense of *peyā* in this context is 'to be drunk'. Its technical meaning¹⁵ is not appropriate here.

Pādas cd are correctly translated by Kaviratna: instead of the scum of *dadhi*

¹² III, p.3725: 7.9cd.

¹³ Hindī *gholnā* means to dissolve.

¹⁴ See on *dadhi*: G.J. Meulenbeld (1974): 468–469.

¹⁵ See G.J. Meulenbeld (1974): 476–477.

one may also employ *prasannā*,¹⁶ an *ariṣṭa*,¹⁷ or an *āsava*.¹⁸ Terms like ‘along with’ and ‘in conjunction with’ are incorrect and give a false impression: the scum of *dadhi* should not be mixed with other liquids, which are mentioned as substitutes.

Example 2

A.h.Ci.3(*kāsa*).37cd–38ab = A.s.Ci.4.42: mixing with ghee

*śaṭīhrīberabṛhatīśarkarāviśvabheṣajam // piṣṭvā rasam pibet pūtaṁ vastreṇa
ghṛtamūrchitam //*

Translation:

(The patient) should drink the juice from crushed *śaṭī*, *hrībera*, *bṛhatī*, sugar, and *viśvabheṣaja*, purified by straining it through a cloth, and intimately blended with ghee.

Hilgenberg and Kirfel:

Hat man ... zerrieben, trinke man den mit einem Tuche geklärten und mit Schmelzbutter versetzten Saft.

Srikantha Murthy (A.h.):

... are macerated well with water and filtered through cloth. It is consumed mixed with ghee.

Srikantha Murthy (A.s.):

... are macerated in water and filtered through cloth; this juice should be taken mixed with ghee.

Valiathan (317): ... taken with ghee.

Aruṇadatta: *śaṭyādīn jale piṣṭvā vastreṇa pūtaṁ rasam ghṛtamiśritaṁ pibet.*

Hemādri: ... *mūrchitam bhrṣṭam.*

Indu (A.h.): *ghṛtamiśrita.*

¹⁶ See G.J. Meulenbeld (1974): 514–516 (s.v. *surā*).

¹⁷ See G.J. Meulenbeld (1974): 441–442.

¹⁸ See G.J. Meulenbeld (1974): 445–446.

Indu (A.s.): *ghṛtamiśrita*.

Atrideva (A.s.Ci.4.48cd–49ab): *ghīmeṇ milākar (choṃkkaṛ-baghārkaṛ)*.¹⁹

Atrideva: *ghī se saṃskṛt karke*.

Gopālprasād “Kauśik”: *ghṛt milākar*.

Shiv Sharma: *ghīmeṇ chaṃkkaṛ*, i.e., seasoned with ghee.

Aruṇadatta explains *mūrchita* as *miśrita*, mixed, Hemādri as *bhṛṣṭa*, roasted, fried, an unusual and in this example improbable interpretation.

Mixed is the equivalent chosen by the translators.

Example 3

A.h.Ci.18(*visarpa*).7: mixing with ghee

*dārvīpaṭolakaṭukāmasūratripthalās tathā / sanimbayaṣṭītrāyantīḥ kvathitā
ghṛtamūrchitāḥ //*

Translation:

(Or the patient should drink a decoction of) *dārvī*, *paṭola*, *kaṭukā*, *masūra*, and *triphalā*, boiled together with *nimba*, *yaṣṭī*, and *trāyantī*, thoroughly mixed with ghee.

Hilgenberg and Kirfel: ... mit Schmelzbutter vermischt.

Srikantha Murthy: ... mixed with ghee.

Valiathan: ... mixed with ghee.

Aruṇadatta: *tathā dārvyādīn nimbādibhiḥ saha kvathitān sarpirvimiśritān pibet*.

Aruṇadatta gives *vimiśrita*, mixed, as an equivalent of *mūrchita*.

Hemādri’s commentary is absent.

Indu: ... *ājyamiśram*.

¹⁹Hindī *choṃknā* and *baghārnā* = to season.

Atrideva: *ghī milākar*.

Gopālprasād “Kauśik”: *ghṛt milākar*.

Shiv Sharma: *ghṛt milākar*.

‘Mixed with’ is the generally chosen translation of *mūrchita*.

The parallel from A.s.Ci.20.14 has:

(*pibed kaṣāyaṃ*) *ghṛtamiśraṃ vā dārvītvaktiktāpaṭolayaṣṭyāhvāriṣṭamasūra-triphalātrāyamāṇānām*.

Indu remarks that *tiktā* is identical with *kaṭukā* and *ariṣṭa* with *nimba*.

The technical term *mūrchita* is probably made use of because mixing of the particular substances mentioned results in a homogeneous whole.

Mūrchita* erroneously regarded as identical with (pra)*kupita

In other examples *mūrchita* is erroneously regarded as identical with (pra)*kupita* by commentators and translators.

Example I

An example is Su.U.3.3:

prthag doṣāḥ samastā vā²⁰ yadā vartmavyapāśrayāḥ /
sirā vyāpyāvatiṣṭhante vartmasv adhikamūrchitāḥ //
vivardhya māmśaṃ raktaṃ ca tadā vartmavyapāśrayān /
vikārāṇ janayanty āśu nāmatas tān nibodhata //

Translation:

When *doṣas*. separately or jointly, taking recourse to the eyelids and permeating (their) vessels, have become seated in the eyelids, intimately blended (with the local tissues), they make the fleshy tissue and the blood increase and cause quickly disorders; listen to their names.

Bhishagratna (U.3.2–3; p.125):

The *doṣas* of the body jointly or separately expanding through the nerves and

²⁰Hārāṇacandra’s edition reads *samastās ca*, which cannot be correct.

veins (*Sirā*) of the eye-lids (*vartma*) bringing about an augmentation of the quantity of the blood and the growth of the flesh in the localities (accumulation of blood towards the formation of fleshy growth in the affected parts) gives rise to a host of local diseases which are known as ...

Singhal c.s.:

When the highly aggravated *doṣas* individually or collectively appear in the channels of the eyelids, they cause an increase in the *māṃsa* and *rakta* and quickly produce diseases of the eyelids.

P.V. Sharma:

When *doṣas*, separately or jointly, severely aggravated are located inside the eye lids permeating the blood vessels therein, they increase *māṃsa* and *rakta* and thereby produce diseases in eyelids quickly.

Hemanta Panigrahi: more aggravated.

Ḍalhaṇa: *yadā prthak samastā vā adhikamūrchitā atiśayaprakupitā doṣā vartmavyapāśrayāḥ ...*

Ambikādatta: ... *atyadhik prakupit ...*

Atrideva: ... *atiśaya prakupit ...*

Kṛṣṇa Lāl: ... *atiśaya kupit ...*

P.V. Sharma translates *adhikamūrchita* as “severely aggravated”, the sense as found in Ḍalhaṇa’s commentary. In Sanskrit this would be *atiprakupita*; Ḍalhaṇa chooses *atiśayaprakupita*. *Prakopa*, however, is in the *Suśrutasamhitā* not the *kriyākāla* in which the *doṣas* can become located in the eyelids, and *ati-* or *atiśaya-* cannot change this. The proper stage for this to occur is, as explained, *sthānasamśraya*.

Bhishagratna seems to omit *adhikamūrchita* in his translation.

Singhal c.s. accept, as P.V. Sharma, Ḍalhaṇa’s interpretation.

Hemanta Panigrahi also renders *adhikamūrchita* as ‘more aggravated’.

Ambikādatta’s and Atrideva’s Hindī translations agree with Ḍalhaṇa.

The reading of the text is clear: *sirā vyāpya*, followed by *avatiṣṭhante vartmasu*. They have moved to the eyelids and, after reaching this *sthāna* during the stage called *prasara*, they stay there (*ava-sthā*) in the stage called *sthānasamśraya* and become thoroughly mixed (*adhikamūrchita*) with the lo-

cal tissues.

If we hold on to the basic meaning of *murch-* it seems more appropriate to translate “they are thoroughly mixed (i.e., with the local *dūṣyas*).

A second problem of the verse is *vivardhya māṁsaṁ raktaṁ ca*. Can this be reconciled with the *kṣapaṇa* action of excited *doṣas* on *dūṣyas* ?

Third, the two verses explicitly declare that the local diseases generated are *vikāras*, whereas they ought to be called *vyādhis* according to Suśruta’s *kriyākāla* chapter.

This third point need not surprise. One can find many passages where *vikāra* has a wide range of meanings.

Example II

Su.U.42.131cd–132:

kaphapittāvaruddhas tu māruto rasamūrchitaḥ //
hṛdisthaḥ kurute śūlam ucchvāsārodhakaṁ param /
sa hṛcchūla iti khyāto rasamārutasaṁbhavaḥ //

Translation:

Vāta, obstructed by *kapha* and *pitta*, and intimately mixed with *rasa*, brings about, when staying in the region of the heart, a stabbing pain that hinders expiration severely. This (disease), called *hṛcchūla*, arises from *rasa* and *vāta*. Bhishagratna (42.121; p.444):

The deranged bodily *Vāyu* aggravated by the vitiated *Rasa* (chyle) and incarcerated in the region of the heart through the action of the deranged *Pitta* and *Kapha*, produces *Śūla* (pain) in the heart and gives rise to difficulty of respiration. This disease which is called *Hṛc-chūla* (cardiac colic) is ushered in through the action of the deranged *Vāyu* and *Rasa* of the body.

P.V. Sharma (42.131–132ab):

Vāyu mixed with *rasa* and obstructed by *kapha* and *pitta* gets located in heart and causes pain creating severe difficulty in respiration. This is known as “*hṛcchūla*” caused by *rasa* and *vāyu*.

Singhal c.s.:

Vāta obstructed by *kapha* and *pitta* and engulfed by *rasa* gets localised in the cardiac region and produces severe pain which causes great difficulty in respiration. This condition is known as *hṛdśūla* (cardiac pain) and is due to *vāta* and *rasa*.

Valiathan:

When *vāta* laden with *rasa* is stopped by *kapha* and *pitta* and lodges in the heart, the patient experiences severe pain and difficulty in respiration. This is termed *hṛcchūla*.

Ḍalhaṇa: *rasamūrchito rasasaṃyutaḥ*.

Ambikādatta: *ras se miśrit hokar*.

Atrideva: *ras se miśrit*.

Kṛṣṇa Lāl (p. 1188): *ras se milkar*, mixed with *rasa*.

This description is an excellent example of the typical *mūrchana* between a *doṣa* and a *dhātu*. Nevertheless, Ḍalhaṇa simply gives ‘joined to’ (*saṃyuta*) as his equivalent, ignoring its specificity. P.V. Sharma, in the same vein, translated *mūrchita* as ‘mixed with’. Ambikādatta’s Hindī translation also has *ras se miśrit hokar*. Bhishagratna completely fails to understand the text in rendering ‘*vāyu*, aggravated by the vitiated *rasa*’, which would promote *rasa* to the status of a *doṣa*. In my opinion it would have been better to search for a word only employed to render *mūrchita*. So far I often used ‘coalesced’ as an equivalent in order to point to the specific character of the process. I still think this not to be a bad decision. Other suitable expressions are: intimately blended or mixed.

A second feature of the process described, the obstruction (*avarodha*) of *vāta* by *kapha* and *pitta* requires for its elucidation a separate paper. I refrain therefore from comments and restrict myself to indicating that interactions between *doṣas* that appear to hamper their proper functioning are frequent in āyurvedic texts despite the general doctrine that they never hurt each other.

Example III

A.h.Ni.3(raktapittakāsanidāna).2 = A.s.Ni.3.3:

*kupitaṃ pittalaiḥ pittaṃ dravaṃ raktaṃ ca mūrchite /
te mithas tulyarūpatvam āgamya vyāpnutas tanum //*

Translation:

Pitta, when fluid, excited by the (mentioned) factors capable to excite it,²¹ and blood, when coalesced together, assume the same form and pervade (in that

²¹ A number of these factors are enumerated in Ni.3.1.

state) the whole body.

Hilgenberg and Kirfel:

Da die Galle das Blut verändert, sich mit ihm verbindet und es auch verdirbt, ...

Srikantha Murthy (A.h.):

By these causes, both pitta which is in liquid form and rakta (blood) which possess closer affinity get vitiated, mix together, assume identical qualities, spread throughout the body, ...

Srikanthy Murthy (A.s.): ... which tend to increase pitta, bring about the increase of pitta which combines with the liquid rakta (blood). Both of them, thus attaining identical properties spread to the entire body.

Valiathan:

... increase pitta which is liquid. As a result of excess, pitta and blood get perturbed, mix together and spread throughout the body. ... Pitta is a product of blood, similar in colour and smell, ...

Indu:

bhṛṣoṣṇatīkṣṇādibhiḥ kodravoddālakaiś ca tadyuktair atisevitaiḥ pittaṃ dravaṃ kupitaṃ raktaṃ ca tanuṃ śarīraṃ vyāpnutaḥ. kiṃ kṛtvā 'ha. raktapitte dve api mūrchite ekatvaṃ prāpte.

Aruṇadatta: ... *te dve api raktapitte mūrchite miśratāṃ gate* ...

Hemādri: -

Śrīdāsapaṇḍita:

pittalaiś ca dravyair atisevitaiḥ kupitaṃ svabhāvato dravaṃ pittaṃ tena duṣṭaṃ raktaṃ ca, te kupite dve api pittarakte mūrchite miśrite ekatvaṃ prāpte mithaḥ parasparaṃ savarṇatām āgamya tanuṃ śarīraṃ vyāpnutaḥ.

Atrideva Gupta:

tathā pittakāraḥ kāraṇomse kupit drava pitta aur rakta paraspar milkar – ve āpasmeṃ ek samān rūp hokar śarīrmeṃ phail²² jāte haiṃ pitta patlā²³ hokar raktameṃ mil jātā hai.

²²Hindī *phailnā* = to spread, to pervade.

²³Hindī *patlā* = liquid.

Gopālprasād “Kauśik”: *rakta se milkar*.

Shiv Sharma: *rakta meṃ mil jātā hai*.

This example illustrates very well what happens between a *doṣa* and a *dhātu* in the process called *mūrchana*. *Pitta* and *rakta* are both referred to here as *mūrchita*, which indicates that *mūrchana* is not an action of a *doṣa* towards a *dhātu* undergoing this action, but a process to which both are subjected. The result of this process is their unification, as remarked by Indu,²⁴ not simply their mixing as Aruṇadatta says, as well as some Hindī commentators.

The text of the *saṃhitā* itself explains *mūrchita* as a condition in which the two come to possess a similar *rūpa*. Aruṇadatta assumes that the same colour (*samarūpatva*) is meant. Hemādri is more specific in declaring that usually the colour red is meant but sometimes the colour *harita* and similar ones which have the same qualities as red.

I tend to understand this expression as pointing to one undivided whole with indistinguishable components.

The interpretation of Ni.3.1–2 presents a number of difficult points related to āyurvedic theory which show that a literal translation is insufficient for the understanding of all the implications of the verses.

Aruṇadatta says that the *pittala* factors of Ni.3.1 are not comprehensive, whereas *kupitaṃ pittalaiḥ* of Ni.3.2 refers to anything that excites *pitta*, including substances that do not fit into the categories of Ni.3.1.

Not all sour (*amla*) substances, for example, are *pittala*, though they form part of the list of Ni.3.1ab. Exceptions to the rule are *dāḍima* and *āmalaka*. The addition of *kupitaṃ pittalaiḥ* in Ni.3.ab is for that reason necessary.

The most important of the substances listed in Ni.3.1 are those with which the list begins, i.e., those which are exceedingly heating (*bhṛṣoṣṇa*). Aruṇadatta goes on to explain that this does not mean that substances without this property are unable to arouse *pitta*. *Vrīhi* has this capacity, though to a minor degree. This too makes the addition of *pittalaiḥ* in Ni.3.2ab understandable.

The remarkable mention of *kodrava* and *uddālaka* in Ni.3.1c is in need of elucidation. Aruṇa provides the information that these two substances, notwithstanding their cooling character (*śītavīrya*), are *pittala* in combination with *bhṛṣoṣṇa* articles of food, as mentioned in the text itself (*tadyuktair*).

This point has not been understood by some translators. Srikantha Murthy simply omits *tadyuktair* in his translation.

The way Hilgenberg and Kirfel interpret the verse gives rise to confusion in

²⁴Indu: *raktapitte dve api mūrchite ekatvaṃ prāpte*.

some respects: Da die Galle das Blut verändert, sich mit ihm verbindet und es auch verdirbt, ...

Srikantha Murthy gives two different translations of *pittaṃ dravaṃ raktaṃ ca*: (a) liquid *pitta* mixes with blood,²⁵ and (b) *pitta* mixes with liquid blood.

Grammatically, *dravaṃ* can belong to both *pittaṃ* and *raktaṃ*. The two *pādas*, however, read: *kupitaṃ pittalaiḥ pittaṃ* and *dravaṃ raktaṃ ca mūrchite*.

Are two or even three interpretations possible indeed ?

One can argue that liquid as an attribute of blood is tautological and superfluous and should be connected with *pittam*. On the other hand, blood may be specified as liquid in this instance with a view to its ability to assume the same state as *pitta* and blend with it.

What, however, is liquid bile ? Is this too tautological?

The commentators are very helpful on this occasion.

Hemādri restricts himself to the remark that *pācakapitta* is meant, without further elucidating this specification.

Aruṇadatta is more elaborate. First he remarks that the addition of *drava* to *pitta* is unsuitable and unnecessary (*vyabhicārābhāvāt*), referring to A.h.Sū.1.11ab: *pittaṃ sasnehatīkṣṇoṣṇaṃ laghu visraṃ saraṃ dravaṃ: pitta* is essentially of a fluid nature. Second, he draws attention to A.h.Sū.12.10–12, where *pācakapitta* is described as *tyaktadrava*, having lost its fluidity.

These verses run:

... tatra pakvāmāśayamadhyagam / pañcabhūtātmakatve 'pi yat
taijasaguṇodayāt // tyaktadravatvaṃ pākādikarmaṇā 'nalaśabditam / pacaty
annaṃ vibhajate sārakiṭṭau prthak tathā // tatrastham eva pittānāṃ śeṣāṇāṃ
apy anugrahaṃ / karoti baladānena pācakaṃ nāma tat smṛtam //

Translation:

Among these (five kinds of *pitta*) that one which is present between *pakvāśaya* and *āmāśaya*, which, though consisting of the five *mahābhūtas*, has lost its fluidity due to the predominance of the fiery properties, is designated as fire on account of its digestive, etc., actions.

This means that *pācakapitta* has lost the general *dravatva* of *pitta*; it acquires the property called *kaṭhina* according to Aruṇadatta.

Hemādri's short remark that the specification *drava*, added to *pitta*, has the function of excluding *pācakapitta* indicates that he shares Aruṇadatta's opinion.

²⁵ Translation of A.h.Ni.3.2ab: Both *pitta*, which is in liquid form and *rakta* mix together.

There exist passages referring to *pitta* as liquid fire, a *modus* in which water as one of its *mahābhautika* components dominates its physical behaviour instead of fire.

A third option is to consider that *dravam* has been placed intentionally between *pittam* and *raktam*.

Example IV

Ca.Si.1.57cd–59ab:

medaḥkaphābhyām anilo niruddhahḥ śūlāṅgasuptiśvayathūn karoti //
snehaṃ tu yuñjann abudhas tu tasmai
saṃvardhayaty eva hi tām vikārān /
rogās tathā 'nye 'py avitarkyamānāḥ /
paraspareṇāvagrhitamārgāḥ //
saṃdūṣitā dhātubhir eva cānyaiḥ /
svair bheṣajair nopaśamaṃ vrajanti //

Translation:

Vāta, obstructed by *medas* and *kapha*, brings about piercing pain, numbness of the limbs of the body, and swelling.

An injudicious physician who applies oleaginous substances makes these alterations increase.

Other troubled states too, when they cannot be determined accurately, when they have mutually obstructed each other's pathways, (and when) corrupted by bodily elements of quite another category, do not subside under the influence of the medicines that are appropriate.

Kaviratna: The wind obstructed, by fat and phlegm, generates Śūla pains, want of tactile sense in the limbs of the body, and swellings. Unwise physician, by administering 'sneha' (to such a patient) increases those derangements.

Thus there are other complicated (lit. hard to ascertain) diseases which overtaking the ducts of one another and vitiated by other elements do not yield to their proper medicine.

Gulabkunverba:

The *Vāta* being obstructed by accumulations of fat or of mucus, gives rise to colic, numbness of the limbs and edema. The ignorant physician giving an unctuous enema in such conditions, will only further aggravate those very conditions. Similarly, other disorders which overlap each other in their courses and get mixed up with the morbidity of other body-elements and consequently prove

difficult for diagnosis fail to yield to the specific remedies.

P.V. Sharma:

Vāyu obstructed by medas and kapha produces pain, numbness in body parts and swelling. such case, if unction is applied, it only aggravates the disorders. Other such diseases also if not diagnosed correctly when they mutually obstruct their passages and are affected by other dhātus do not get pacified by their respective remedies.

R.K. Sharma and Bhagwan Dash:

If the *vāyu* gets occluded by *medas* (fat) and *kapha*, then it gives rise to colic pain, numbness of the body and oedema. When an ignorant physician administers *sneha* (unctuous recipe in order to alleviate these ailments) then they actually get aggravated.

Similarly, other *doṣas* [the term *roga* in the text does not refer to 'disease' but to 'doṣas'] overlap each other in their courses (pathways) and get afflicted with tissue elements of different nature. If not determined (diagnosed), these ailments do not get alleviated eventhough specific remedies are administered.

Cakrapānidatta:

rogaśabdenātra doṣo 'bhipretaḥ. paraspāreṇa pratibaddhamārgā ato durgahā bhavanti, tathā dhātubhiś ca raktādibhiḥ saṃdūṣitāḥ saṃmūrchitāḥ santo durjñeyā bhavanti. ... evaṃ ca doṣāṇāṃ paraspārāvarodhān tathā dhātusaṃmūrcha naviśeṣāṇiś cāvagamya ...

The term *roga* denotes a *doṣa* in this case. These *doṣas* can no longer freely move due to the mutual blocking of their pathways. Moreover, it becomes difficult to attain knowledge (about their composition) since they are corrupted, i.e., have become intimately blended with blood and other bodily elements. ... After thus having taken into consideration the mutual obstruction of the *doṣas* and the particularities about their intimate blending with bodily elements, ...

Gaṅgādhara:

anilo medaḥkaphābhyāṃ niruddhaḥ saṃśulādīnkaroti. ... abudho vaidyaḥ yeṣāṃ vikārāṇāṃ praśamāya yasya shehaṃ niyuñjan tasya janasya saṃvardhayati. tathānye 'pi rogāḥ paraspāreṇa grhītamārgāḥ santo vitarkyamānāḥ syuḥ. an-yair dhātubhiś ca sandūṣitā rogāḥ svair bheṣajair praśamaṃ na yānti.

Gaṅgādhara reads *vitarkyamānāḥ* instead of *avitarkeyamānāḥ* and interprets: other diseases should also be carefully ascertained.

Brahmanand Tripathi: ... *jin rogoṃ kī yahāṃ kalpanā bhī nahīṃ kī jā saktī* ...

This author quotes as an example of the problems in the treatment of these disorders: *kupīte mārgasaṃrodhān medasā vā kaphena vā / ativrddhe 'nīle nādaḥ śastaṃ snehena bṛṃhaṇam //*, i.e., When *vāta* is excited due to obstruction to its pathway by *medas* or *kapha*, then roborative treatment by means of fatty substances is not recommended.²⁶

Jayadeva: ... *ata eva durvijñeya hone ke kāraṇ (nidān) thīk na hone se* ...

Jayadeva cites this verse in his comments on Si.1.56cd–57ab.

Pandeya and Chaturvedi: ... *jin rogoṃ kī kalpanā bhī unmeṃ nahīṃ kī jā saktī* ...

These authors present the same quotation as an illustration of the problem.

Ramprasad and Shiv Sharma:

is prakār ek doṣkā mārg anyā doṣse rukjānepar aur bhī isī prakārke anek rog utpanna hojātehaiṃ. un sab rogoṃkā yathārtha niścay karnā kaṭhin hotāhai.

Vasiṣṭha and Śarmā:

iske atirikt anyā bhī anek rog haiṃ jinkā sahaj kī anumān se bhī jñan nahīṃ hotā ...

Example V

A.h.Ci.9.2cd–3ab:

doṣāḥ saṃnicitā ye ca vidagdadhāhāramūrchitāḥ //
atīsārāya kalpante teṣūpekṣaiva bheṣajam /

Translation:

Accumulated *doṣas*, thoroughly mixed with (ingested) food in a *vidagdha* state, lead to (the development of) *atīsāra*. Treatment consists in not paying attention to it under the following circumstances.

Hilgenberg and Kirfel:

Wenn sich Doṣa's angesammelt und mit zersetzter [d.i. halb verdauter] Speise vermengt haben, ...

²⁶Cf. Si.1.57cd–58ab.

Srikantha Murthy:

Doṣas which have increased greatly and associated with āma (improperly digested food) make for the onset of diarrhoea ... then the treatment is to neglect them (allow to go out).

Valiathan (384): Excess of doṣas in combination with poorly digested food ...

Aruṇadatta:

ye ca doṣāḥ saṃñicitāḥ atīśayena vṛddhiṃ gatāḥ, tathā vidagdhenā pakvāpakva-rūpeṇa mūrchitāḥ ekatām prāptāḥ atīsārāya kalpante.

Hemādri: -

Indu: no useful comment.

Atrideva: *kupit dravapitta evaṃ rakta paraspar milkar.*

Gopālprasād “Kauśik”: *tathā vidagdha arthāt pakvāpakva āhār se milākar.*

Shiv Sharma: *vidagdha hue āhārse mil jāte.*

A parallel passage is found at Ca.Ci.19.14:

*doṣāḥ saṃñicitā yasya vidagdhāhāramūrchitāḥ /
atīsārāya kalpante bhūyas tām saṃpravartayet //*

“Kaviratna” (1546):

Of him whose accumulated faults, provoked by food which causes a burning sensation, generate diarrhoea, the faults should be expelled by administering purgatives.

Gulabkunverba:

The patient in whom all the morbid humors are aggravated by the undigested food accumulated in the intestines and cause diarrhea ...

P.V. Sharma:

In the case where doṣas accumulated due to mixing up with the undigested food are responsible for diarrhoea, they should be eliminated.

R.K. Sharma and Bhagwan Dash:

When the diarrhoea is caused by the accumulated (aggravated) *doṣas* impelled by *vidagdha* (undigested) food, ...

Cakra: no comment on *mūrchita*.

Gaṅgādhara:²⁷

doṣā ityādi. yasya narasya saṁnicitās doṣā vidagdhāhāramūrchitāḥ kupitā atisārāya kalpante ...

Brahmanand Tripathi: *āhār ke vidagdha ho jane ke kāraṇ kupit vātādi doṣ ...*

Jayadeva (Ci.19.17):

āhar kī vidagdhatā (fermentation) ke kāraṇ kupit hue doṣ saṁcit hokar ...

Mihiracandra: no explanation of *mūrchita*.

Pade (Ci.19.17):

jis rogī ke doṣ ekatra hokar vidagdha (amlībhūt) āhār se mil āte haiṁ

Pandeya and Chaturvedi:

atisār rog meṁ vidagdha āhār ke kāraṇ kupit hue doṣ śarīr meṁ saṁnicit hokar atisār rog ko utpanna karte haiṁ.

Rāmprasād (10.17): *jiske doṣ āhārke vidagdha honese kupit aur saṁ hokar*

Vāsiṣṭha and Śarmā:

doṣ ekatra hokar vidagdha (amlībhūt) āhār se mil jāte haiṁ

These passages show that *mūrchana* is a process that not only takes place in a complex of *doṣa* and *dhātu*. It occurs as well between a *doṣa* and the not yet completely digested food in its *vidāha* stage, before it is transformed into *rasa*. Srikantha Murthy interprets this as the stage in which *āma* is present. In this he may be right. Aruṇadatta is of the opinion that *mūrchita* means ‘unified’, *ekatām prāptaḥ*. This is a stronger term than Srikantha Murthy’s ‘associated with’ and ‘vermengt’, i.e., mixed, the equivalent of Hilgenberg and Kirfel.

This passage indicates that *mūrchana* presupposes that two entities are so thoroughly mixed that they become a homogeneous whole. This is also the

²⁷ III, p. 3079: 19.15ab.

sense the term has in pharmaceutics.

The term *saṃnicita* is rendered as ‘angesammelt’, i.e., accumulated by Hilgenberg and Kirfel,²⁸ which is a literal translation, and as ‘increased greatly’ by Srikantha Murthy who follows Aruṇadatta.²⁹ The latter’s interpretation, not translation, is to be preferred, yet not precise. The text says that the *doṣas* interact with incompletely digested food. This means that the stage of *sthānasamśraya* has been reached, beyond that of *caya* and *prakopa*.

Example VI

Ca.Ci.22(trṣṇā).20:

*gurvannapayaḥsnehaiḥ saṃmurchadbhir vidāhakāle ca /
yas trṣyed vṛtamārge tatrāpy anilānalau hetū //*

Translation:

Also when someone is (abnormally) thirsty due to the blocking of channels by the thorough mixing of heavy foods, milk and fatty foods (with the other ingested articles of food) and due to the process of digestion being incomplete, the same *vāta* and *pitta*³⁰ are the causative agents.

Kaviratna (1615):

One feels thirsty when the ducts (of wind and fire) are obstructed by heavy food and milk and oils which mix with one another at the time of the digestion. In the engendering of such thirst also, the causes are the wind and the fire.

Gulabkunverba:

Even in a condition, where a person having taken heavy food, milk and unctuous articles, feels thirsty owing to the channels being occluded by the food-mixture during the digestive process, the *Vāta* and the thermal element act as the causative factors.

²⁸Their translation runs: “Wenn sich Doṣa’s angesammelt und mit zersetzter [d.i. halb verdauter] Speise vermenget haben, führen sie zu Durchfall; bei ihnen ist schon Zuwarten das Heilmittel.”

²⁹Srikantha Murthy translates: Doṣas which have increased greatly and associated with āma (improperly digested food) make for the onset of diarrhoea, hence when ... then the treatment is to neglect them (allow to go out).

³⁰This refers to Ca.Ci.22.19.

P.V. Sharma:

One who suffers from thirst due to mixing of heavy food, milk and fatty substances and also during burning of food by obstruction in the passage, there also the agents are the same e.g. vāta and pitta.

R.K. Sharma and Bhagwan Dash:

Even when a person taking heavy food, milk and fat, suffers from thirst during their digestion because of obstruction of the channels by their mixture, it is the vāyu and pitta which are responsible for the manifestation of this ailment.

Cakra: *saṃmūrchadbhir iti ekatāṃ gacchadbhiḥ ...*

Gaṅgādhara:³¹

gurvannetyādi. vidāhakāle pākakāle saṃmūrchadbhiḥ parasparaṃ saṃyoga-vibhāgābhyāṃ ekībhāvam āpadyamānair gurvannapayaḥsnehair vṛta-mārgē pavanatejasor gativartmāvaraṇe ...

(When someone suffers from thirst) because the pathways are covered, i.e., when the passages through which vāta and pitta move are covered, by heavy foods, etc., i.e., when these foods during (the stage of) vidāha, i.e., (the stage of) digestion, mutually coalesce, i.e., become one mass as to their saṃyoga and vibhāga, ...

Brahmanand Tripathi:

... in dravyoṃ kā udarpradeś meṃ jākar jab saṃmūrchan (paraspar saṃmiśraṇ) hotā hai, ...

vaktavya: ... saṃmūrchan (ek sāth milā denā) ...

Jayadeva (Ci.22.19):

saṃmūrchanāt āśayoṃ meṃ gati vāyu kā hī kārya hai aur pacānā pitta kā kārya hai.

Mihiracandra: *inke saṃmūrchan (mel) meṃ.*

Pandey and Chaturvedi:

... in bhojan dravyoṃ kā saṃmūrchit hone se arthāt ye sabhī anna jab ek meṃ miśrit hote haiṃ, tab inke vidāha ke samay (viśeṣ pāk ke samay) ...

vimarś: ... prakṛtisamasamaveta

³¹ III, p.3157: 22.10.

Rāmprasād and Śivaśarman:

*bhārī anna, dūdh aur ghṛt ādikoṃke paripākke samay jo pyās lagtī hai uskā
bhī agni aur vāyu hī kāraṇ hai kyomki bhārī annādikoṃke saṃmūrchan hokar
paripākke samay vāyu aur agni rukkar prabal hote haiṃ isliye trṣā lagtī hai.*

Vāsiṣṭha and Śarmā:

*bhārī anna khāne par dūdh aur sneha ghṛt tail ādi ke padārtha adhik sevan
karne par ...*

In this example we see that *sam-murch-* refers to the thorough mixing of different kinds of food, in this instance heavy foods, milk and fatty substances, thus forming one mass. The process resembles that of blending medicinal substances with ghee. The commentators and translators agree on the interpretation. Cakrapāṇi and Gaṅgādhara, for example, say that the substances mentioned go to form one whole mass.

The outcome is said to be obstruction of the channels. The commentators and translators are at variance on the causation of the obstruction of the channels. Gaṅgādhara is of the opinion that the mixture in the stomach blocks the channels during the digestive process. The Gulabkunverba group is of the same mind on this point. P.V. Sharma remains very close to the text with its *vidāhakāle ca* and translates: and also during burning of food by obstruction in the passage.

P.V. Sharma's use of the expression 'burning of food' as the equivalent of *vidāha* is peculiar, even more so its being caused by obstruction. Usually, *vidāha* denotes incomplete digestion, which may bring about the production of *āma*, which is a substance capable of obstructing channels.³²

Example VII

Ca.Ci.13(udara).39–40:

*pakṣmabālaiḥ sahānnena bhuktair baddhāyane gude /
udāvartais tathā 'rśobhir antrasaṃmūrchanena vā //
apāno mārgasaṃrodhād hatvā 'gñim kupito 'nilaḥ /
varcaḥkaphapittān ruddhvā janayatya udaram tataḥ //*

Translation:

When eyelashes (or other) hairs have been ingested together with the food,

³²Cf. A.h.Ci.9.2cd–3ab.

when *udāvarta*³³ or piles are present, or when the intestines have lost their normal functions, the excited wind brings about, the pathway of the rectum having been checked, an enlargement of the abdomen, after suppression of the digestive fire by *apāna* due to blocking of the pathways and on account of the obstruction to faeces, *kapha* and *pitta* (by the excited wind).³⁴

“Kaviratna” (1340):

In consequence of feathers and hairs devoured with the food one eats, the anal canal becomes obstructed. The same result is produced by epistaxis, or piles, or the inflammation of the intestines. Through such obstruction, the passage of the ‘*Apāna*’ or downward wind becomes obstructed. Provoked by this, the wind destroys the digestive fire ...

Gulabkunverba:

If the gastro-intestinal channel gets obstructed by the accumulation of hair ingested along with the food, or by misperistalsis or by piles or by paralysis of the intestines (volvulus), the *Apāna Vāta* gets provoked as a result of this obstruction in its passage and impairs the gastric fire; ...

P.V. Sharma:

Due to obstruction in anal passage caused by ingestion of eye lashes, hairs etc. with meals, reverse peristalsis, piles or intussusception, *apāna vāyu*, because of obstruction in passage, gets vitiated and by extinguishing (digestive) fire and causing retention of ... produces *udara roga*.

R.K. Sharma and Bhagwan Dash:

Vāyu gets aggravated as a result of the obstruction in the passage of the rectum because of the following: (I) Intake of small hair, like eye-lashes along with food; (II) *udāvarta* (upward movement of the wind in the abdomen); (III) piles; (IV) *antrasammūrchana* (intussusception) or intrusion of the intestine into its lumen; and (V) obstruction to the passage of *apāna vāyu* (flatus).

This aggravated *vāyu* suppresses *agni* (activities of enzymes responsible for digestion and metabolism) ...

³³ A disorder caused in most cases by the suppression of natural urges and characterized by reverse peristalsis.

³⁴ An alternative translation is possible with *apāno 'nilaḥ kupitaḥ* as the subject. Gaṅgādhara and P.V. Sharma prefer, possibly rightly, this option which is in agreement with the parallel found in the *Aṣṭāṅgahṛdaya*.

Cakra:

antrasaṃmūrchanena antraparivartanena. ... pakṣmabālair ityādinā aneka-hetukṛto gudanirodhaḥ; tena gudanirodhakatvarūpeṇaika rūpam eva baddha-gudodaram janayati; tena pakṣmādigudanirodhahetupañcakajanyatvād baddhagudodarāṇāṃ pañcatvaṃ nohyam.

Translation:

Because of *antrasaṃmūrchanā* means ‘because of *antraparivartana*’. The words *pakṣmabālaiḥ*, etc., indicate that blocking of the rectum is brought about by several causes. Since (all these causes) result in this same checking of the rectum, only one form of *baddhagudodara* is generated. Though checking of the rectum arises from five causes, i.e., *pakṣmabāla*, etc., one may not conclude that *baddhagudodara* is of five types.

Gaṅgādhara:³⁵

baddhodaram āha – pakṣetyādi. pakṣiṇāṃ pakṣair nṛṇāṃ keśair annena bhujyamānena saha bhuktair gude baddhāyane baddhapurīṣanirgamapathe sati tadā ... saṃmūrchanena kopanena mārgasaṃrodhād apāno ’nilaḥ ... udaram janayati.

Translation:

Pakṣabālaiḥ, etc., means ‘by feathers of birds (or) human hairs being ingested together with the food and when the *ayana* of the *guda* is *baddha*’, i.e., when the passage through which the faeces come out is checked, then ... by *saṃmūrchanā*, i.e., excitement, the *apānavāyu* brings about enlargement of the abdomen through blocking of its pathway.

Brahmānand Tripathi:

pakṣmoṃ (palakoṃ) ke bāl athavā śir ādi ke bāl yadi peṭ ke bhītar cale jāte haiṃ.

Jayadeva: *pakṣma (palakoṃ) ke bāl athavā śir ādi ke bāloṃ ke andar jāne se.*

Mihiracandra:

annake saṅg bhojan kiye hue pakṣma aur bāloṃse ... aur āntoṃke saṃmūrchan (ikaṭṭā) hone se.

³⁵Ci.39.20: III, p.2823; v.l. *pakṣabālaiḥ*.

Pandeya and Chaturvedi:

palak kā bāl yā sir kā bāl yadi udar ke andar calā jātā hai.

Rāmprasād and Śivaśarman:

bhojan ke sāth palakoṃke khāye jānese athavā keśmile bhojanke kiye jānese.

Vāsiṣṭha and Śarmā: *pakṣma kā pakṣa (śir ādi sthānoṃ) ke bāl*

Pakṣmabāla

These verses are peculiar by their mention of the ingestion of eyelashes or other hairs as a cause of obstruction of the rectum.

Cakrapāṇi regards *pakṣmabāla* as a *dvandva* since he distinguishes five causes of *baddhagudodara*. Details about the two elements of the compound are not given. Gaṅgādhara reads *pakṣabāla* in text and commentary, a variant that does not make them more intelligible. It is not easy to imagine why someone might be tempted to swallow a quantity of feathers. This commentator also considers two items, feathers and human hairs, to be intended. Kaviratna obviously used the same text as Gaṅgādhara; he translates 'in consequence of feathers and hairs devoured'. 'Feathers' are also found in the Tibetan translation of the *Siddhasāra*.

The Gulabkunverba translation and that by R.K. Sharma and Bhagwan Dash differ in taking *pakṣmabāla* as meaning 'hair' or 'small hair, like eye-lashes'. Jayadeva is of the opinion that hairs of the eyelids or hairs of the head, etc., are intended. Pandeya and Chaturvedi agree with him.

The parallel passage of the *Suśrutasamhitā* (Ni.7.17–19a) refers to hairs (*bāla*) and stones (*aśman*). Its text runs:

yasyāntram annair upalepibhir vā bālāśmabhir vā / sahitaiḥ³⁶ pṛthag vā / saṃcīyate tatra malaḥ sadoṣaḥ / krameṇa nāḍyām iva saṃkaro hi // nīrudhyate cāśya purīṣaṃ / nireti krcchrāḥ pī cālpam alpam / hr̥nnābhimadhye parivrddhim eti / yaccodaraṃ viṣāmagandhikaṃ ca / pracchardayan baddhagudī vibhāvyaḥ.

Translation:

When someone's intestines become obstructed by articles of food that adhere to the mucous membrane, by hairs or pebbles, collectively or separately, impure matter gradually accumulates there, together with the *doṣas*, like rubbish

³⁶ V.l. *pihitam*.

in a drain. His faeces become obstructed and come out only with difficulty and in small amounts, repeatedly. His abdomen increases in size in the region between heart and navel. Vomiting matter with a fecal smell, he should be regarded as someone suffering from baddhaguda.

Bhishagratna:

The fecal matter, mixed with the deranged Vāyu, Pittam etc. of the body, lies stuffed in the rectum of a person whose intestines have been stuffed with slimy food (as pot herbs) or with stones and hair (enteritis). They give rise to a sort of abdominal dropsy by swelling the part between the heart and the umbilicus which is called Vaddha Gudodaram. Scanty stools are evacuated with the greatest pain and difficulty and the patient vomits a peculiar kind of matter with a distinctly fecal smell (scyabalous?).

Bhishagratna omits to translate *sahitaiḥ prthag eva*. Moreover, *baddhagudodara* is not a sort of abdominal dropsy, since there is no accumulation of fluid in the abdominal cavity.

Singhal c.s.:

When food or slimy substances, hair or small stones gather collectively or separately in the intestines of the patient the faeces alongwith the *doṣas* gradually accumulate in him like that in a drain.

The faeces then get obstructed in his rectum and even when it comes out, it is in very small amounts and with difficulty. It distends his abdomen between the precordium and umbilicus and faecal smell is present in the vomitus; this condition should be known as *baddhagudodara*.

‘Food or slimy substances’ is not a correct rendering of *annair upalepibhiḥ*. ‘Faeces accumulate like that in a drain’ leaves *saṃkāra* untranslated.

P.V. Sharma:

When slimy food, hairs or stone pieces, combined or singly, get access into the intestines faeces with three *doṣas* accumulate there like rubbish in a drain, because of this obstruction is created to faeces in the anal passage which comes out with difficulty and in small quantity, abdomen is enlarged between cardiac and umbilical regions and the patient vomits with faecal odour. This is known as baddhagudodara (intestinal obstruction).

The *Aṣṭāṅgahrdayasaṃhitā* (Ni.12.28cd–32ab = A.s.Ni.12.30–31c) has, as the *Carakasamhitā*, *pakṣmabālaiḥ*, explained by Aruṇadatta as *pakṣmāṇi ca bālāś ca: pakṣmabālaiḥ sahānnena bhuktair baddhāyane gude // durnāmaḥ*

*udāvartair anyair vā ’ntropalepibhiḥ / varcaḥpittakaphān ruddhvā karoti kupi-
to ’nilaḥ //apāno jaṭharam.*

Translation:

When by the ingestion of eyelashes and/or (other) hairs, together with the food, by piles, *udāvarta*, or other things which form a layer adhering to the mucous membrane of the intestines, the passage of the rectum has been blocked, then the excited *apānavāyu*, checking (the movements of) faeces, *pitta* and *kapha*, brings about *udara*.

Hilgenberg and Kirfel:

Ist durch Wimper- und andere Haare, die man mit Speise zusammen genossen hat, durch Hämorrhoiden, Verhaltung der Ausscheidungen oder andere darm-verstopfende [Dinge] die Afteröffnung verschlossen, ruft der Darmwind, der [dadurch] in Wallung geraten ist, nachdem er Stuhl, Galle und Schleim zurückgehalten hat, eine Bauchschwellung hervor.

Hilgenberg and Kirfel translate *guda* as “Afteröffnung”, i.e., the anal orifice, not as rectum which it usually designates in medical writings.

Srikantha Murthy (A.h.):

By ingestion of eyelashes and hair along with food, by obstruction of the rectum by diseases like *durnāma* (piles) *udāvarta* (upward movement of *vāta*) or by anything forming a coating inside the intestines, *apāna vāta becoming aggravated*, obstructs the movement of *varca* (faeces), *pitta* and *kapha* and produces abdominal enlargement.

Valiathan:

Intestinal obstruction (*baddhodara*): brought on by eating hair, eyelashes; obstruction of rectum by piles; upward movement of *vāta*; **and factors which enhance** mucus lining of gut, which vitiate *apāna* and makes it block block the passage of feces; *pitta* and *kapha* get perturbed and cause abdominal swelling.

Valiathan’s “*pitta* and *kapha* get perturbed” does not form part of the text.

Srikantha Murthy (A.s.):

Eyelashes and hair consumed along with food causing obstruction of the rectum, piles, upward movement of *vāta*, foods which adhere to the interior of the intestines and such other causes, produce aggravation of *apānavāta* which in turn associates with *pitta* and *kapha* makes for increase of the faeces and obstruction (of the passage).

Ravigupta's *Siddhasāra* has the following verse (10.7):

*pakṣavālopalepyannaruddhāntramalasaṅgatam /
hṛnnābhimadhyavṛddhi syāt sthiraṃ baddhadudodaram //*

Its Tibetan translation runs:

*kha-zas bya-sgro dan / spu hdres-pa zos te / rgyu-ma hgags-te phyi-sa mi-
hbyuñ-ba-las gyur-pahi dmu-rjiñ sñiñ-ga dan / lte-bahi bar-gyi nañ-du dmu-
rjiñ skye-ba ni hbyañ dkah-ba yin-te gžañ hgags-pahi dmu-rjiñ žesbyaho.*

Translation R.E. Emmerick:

As for dropsy that has arisen due to eating as food bird feathers mingled with hairs so that the intestines are blocked and the faeces do not emerge, (that is) dropsy occurring in the middle space between heart and navel, it is difficult to clear up and is called 'dropsy of the blocked anus'.

Dropsy is not the right term to render *baddhagudodara*. Two kinds of udara are described: accompanied by the accumulation of fluid in the abdominal cavity (*jātodaka*) and without such an accumulation (*ajātodaka*).

Vaṅgasena's *Cikitsāsārasaṃgraha* (udara 225) has a text resembling that of Suśruta:

*yasyāntram annair upalepibhir vā bālāśmabhir vā pihitaṃ yathāvat / saṃcīyate
yasya malaḥ sadoṣaḥśanaiḥ śanaiḥ śarkaravac ca nāḍyām // nirudhyate tasya
gude puriṣaṃ nireti kṛcchrād api cālpam alpam / hṛnnābhimadhye parivṛddhim
eti tasyodaram baddhagudam vadanti //*

Nirmal Saxena:

Obstruction of the intestines by food materials, hairs, stones, etc., make for accumulation of wastes (Faeces) inside the intestines. The faeces is totally obstructed or eliminated in small pellets with great difficulty, abdomen is enlarged between the chest and the umbilicus. This condition is called as *Baddhagudodara* (intestinal obstruction).

The *Bhāvaprakāśa* (*cikitsāprakaraṇa* 8.19–20) has a related text:

*yasyāntram annair upalepibhir vā bālāśmabhir vā pihitaṃ yathāvat / saṃcīyate
yasya malo narasya śanaiḥśanaiḥ śaṅkaravac ca nāḍyām // nirudhyate tasya
gude puriṣaṃ nireti kṛcchrād ati cālpam alpam / hṛnnābhimadhye parivṛddhim
eti tasyodaram baddhagudam vadanti.*

The Hindī commentary interprets this condition as pelvi-rectal constipation.

Srikantha Murthy:

When the *añtra* (intestines) become blocked by either food or any other sticky materials coating the inside of the intestines, hairs, stones etc. then the waste products get increased and begin to block the intestines gradually as small particles block the holes of the sieve; then the faeces accumulates in the rectum and comes out in small quantities with great difficulty (after straining), the abdomen enlarges more between heart and umbilicus, this condition is called *Baddhagudodara*.

Ṭoḍara's *Āyurvedasaukhya* (IV, p.326) also has a text related to that of Suśruta and very close to that of the *Bhāvaprakāśa*:

yasyāntram annair upalepibhir vā bālāśmabhir vā pihitaṃ yathāvat / saṃcīyate tasya malaḥ sadoṣaḥ śanaiḥ śanaiḥ saṅkaravac ca nāḍyām // nirudhyate tasya gude purīṣaṃ nireti kṛcchrād api cālpam alpam / hrñnābhimadhye parivṛddhim eti tasyodaraṃ baddhagudaṃ vadanti.

Bhagwan Dash and Lalitesh Kashyap:

If the intestines of a person get obstructed by the intake of sticky material, hair or stone, then waste products along with *doṣas* get gradually accumulated in it as waste products get accumulated in the tube used in *śaṅkara sveda* (a type of fomentation by medicated steam). There is obstruction to the passage of stool in the rectum. The patient voids stool with difficulty and in small quantities. The abdomen between the heart and umbilicus bulges out. This is called *baddha gudodara*.

The *Yogarātnākara* presents the same reading as the *Āyurvedasaukhya*. Its Hindī translators, however, interpret *saṃcīyate tasya malaḥ ... saṅkaravac ca nāḍyām* as *mal saṃcit hokar ānt kī nāḍiyom meṃ ekatra jātā hai*, i.e., when impure matter has accumulated, it becomes one mass in the *nāḍīs* of the intestines. This translation is not justified by the text.

The *Āyurvedābhdhisāra* (verse 3303) presents the same reading; its commentary, however, interprets *bālāśmabhiḥ* as *vālukābhiḥ*, i.e., grains of sand, a meaning absent from the dictionaries.

The first problem raised by these verses is the assumption that so many eyelashes may be ingested together with the food that a part of the intestine is blocked by them. This being incredible, it is understandable that Gaṅgādhara adopted a variant or made an emendation and read *pakṣa-* instead of *pakṣma-*, which, unfortunately, is not helpful. No one will swallow such a quantity of feathers.

No translator or commentator is known to me who raised his eyebrows at

this passage.

It is curious to observe that the *Carakasamhitā* in its *udara* chapter nowhere else refers to eyelashes, only to hairs.³⁷

A solution of the problem caused by the mention of eyelashes hinges on the meaning of *pakṣman* in this particular context. All the commentators and translators take it for granted that the term has its common meaning, which leads them astray. A footnote in J.J. Meyer's German translation of the *Arthasāstra* may solve the puzzle. He observes that *pakṣman* can denote the hairs of a coat of fur.³⁸ This interpretation gives a better sense to the *pakṣman* of Ca.Ci.13.39. It remains questionable to what extent the sketched situation can be applied to humans. Animals are known to ingest animals together with their fur. A curious case is known to me personally. One of the cats of a relative developed as a habit to catch and eat squirrels together with their abundant coats of fur. The animal had to suffer, as one can imagine, for this choice of dietary item.

The question whether *pakṣmabāla* is a *dvandva* or a *tatpuruṣa* is a minor one. As the addition of *bāla* to *pakṣman* is unnecessary, the word is probably a *dvandva*.

Accumulation of the objects mentioned in the rectum and causing an obstruction is not entirely an absurdity from a medical point of view, though it may seem so to many. However, in cases where their swallowing together with the food factually occurs, their accumulation takes place primarily not at the end of the intestinal tract but higher up, in the stomach.

Balls of hair from the head in the human stomach are actually known to occur and called bezoars. They assume the shape of the stomach and may lie freely in the lumen for long periods. Incidentally, they may leave the stomach and cause intestinal obstruction.

Baddhodara and chidrodara

The tradition that *baddhodara* may be caused by the ingestion, together with the food, of foreign objects is also met with in post-classical works. An example is Ugrāditya's *Kalyāṇakāraka* (*mahāmayādhikāra* 134; p.219):

sabālapāṣāṇatrṇāvarodhāt /

³⁷ Ca.Ci.13.14: *arśobālaśakṛdrodha*; 13.32cd–33a: *strīdattaiś ca rajoromaviṇmūtrāsthina-khādibhiḥ // viṣaiś ca mandaiḥ*.

³⁸ J.J. Meyer (1977), 55, footnote 1. Meyer refers to *Śiśupālavadha* I.8 (The commentator Mallinātha interprets *pakṣman* as *loman*) and adds that *pakṣmala* means 'hairy' at IV.61 (Mallinātha interprets *pakṣmala* as *lomaśa*).

*sadāntram evāticitaṃ malaṃ yat /
mahodaraṃ baddhagudapratītaṃ /
karoty amedhyādikagandhayuktam //*

Translation:

When, due to obstruction of the intestine with hairs, small pebbles or grass, very much impure matter has accumulated, an enlargement of the abdomen occurs, called *baddhaguda*; this is accompanied by a foul smell, etc.

The same applies to *srāvyudara* (same chapter, 135):

*saśālyam ajñānata eva bhuktaṃ /
tad antrabhedaṃ prakaroti tasmāt /
parisravadbhūrirasapravṛddhaṃ /
mahodaraṃ srāvi bhavet sanāmnā //*

Translation:

When someone has ingested some sharp object together with the food, even when unaware of it, it brings about a fissure of the intestinal wall; enlarged by a profuse oozing out of *rasa*, (this kind of) abdominal swelling *mahodara* is called *srāvin*.

Very troublesome is what is called *antrasaṃmūrchanā* as one of the causes of *baddhagudodara*. This term will be addressed in my remarks on Ci.13.184cd–188.

Jayadeva Ci.13.38–39): ... *āntrasaṃmūrchan* (intussusception) *ke kāraṇ* ...

Pandey and Chaturvedi:

āntoṃ ke saṃmūrchan arthāt paraspar ek ke ūpar ek ke caṛḥ jāne ke kāraṇ.
vimarśa: 'āntrasaṃmūrchan' kā arth 'āntraparivartana' cakrapāṇi ke kiyā hai
arthāt ānt ulaṭ jātī hai aur ek par ek caṛḥ jātī hai. ise ājkal volvulus or intus-
susception kahte hai. ismeṃ vijātīya padārth se ānta kā mārg pūrṇ rūp se yā
apūrṇ rūp se ruk jātā hai.

Brahmanand Tripathi:

ek dūstre ke bhītar praveś.

vaktavya: antra-saṃmūrchan ko allopathic vidvān intussusception kahte haiṃ.
iskā arth hotā hai – āntrāntrapraveś. sāmānya rūp se antra-saṃmūrchan kā
arth hai – antra kī gati meṃ rukāvaṭ ā jānā. suśrut ke anusār iske lakṣaṇ
Su.Ni.7.17–18 meṃ dekheṃ.

Rāmprasād and Śivaśarman do not explain *saṃmūrchana*.

Cakrapāṇidatta offers *antraparivartana* as a synonym. This term, meaning coiling of the intestines, is inappropriate in this case and cannot sensibly be applied to the rectum, simply because that part of the intestine is unable to coil. He may have had the small intestine in mind, though not involved in *baddhagudodara*. Gaṅgādhara's *kopana* is very vague and unspecific, apart from the question whether *kopana* may be attributed to an organ.

Ca.Ci.13(*udara*).184cd–188:

idaṃ tu śalyahartrṇāṃ karma syād dṛṣṭakarmanām ||
vāmaṃ kuṣiṃ māpayitvā nābhy adhaś caturaṅgulam /
mātrāyuktena śastreṇa pāṭayen matimān bhiṣak ||
vipāṭyāntram tataḥ paścād vīkṣya baddhakṣatrāntrayoḥ /
sarpiṣā 'bhyajya keśādīn avamṛjya vimokṣayet ||
mūrchanād yac ca saṃmūḍham antram tac ca vimokṣayet³⁹ /
chidrāṇy antrasya tu sthūlair daṃśayitvā pipīlikaiḥ ||
bahuśaḥ saṃgrhītāni jñātvā cchitvā pipīlikān⁴⁰ /
pratiyogaiḥ⁴¹

Translation:

The following should be carried out by experienced surgeons:

A mindful physician should measure out on the left half of the belly a stretch of four *aṅgula* below the navel and open (the belly) with a sharp instrument of the appropriate size. After opening the intestine he should examine it for (the presence of) obstruction or a lesion. After anointing (the inside of the intestine) he should wipe off hairs, etc., and free it (from these obstructions).

Intestine that does not function properly due to an entangled mass (of obstructing matter) he should also (clean up and) free (from obstructions).

However, when perforations of the intestine are present, he should large ants incite to bite (the edges) and after ascertaining that they (the edges of the perforations) have been brought together at many places, he should cut (off the bodies of the ants), replace the intestine, and stitch up the wound with a needle.

Kaviratna:

The left part of the abdomen, four fingers below the navel, the physician of in-

³⁹ Gaṅgādhara: *avamokṣayet*.

⁴⁰ Gaṅgādhara: *pipīlikāḥ*.

⁴¹ V.l. *pratīpograiḥ praveśyāntram preyaiḥ sīvyed vranam tataḥ ||*

telligence should open by means of a lancet of the same length (i.e., the width of four fingers).

Having opened the entrail (i.e., caused the incision), the physician should look carefully into the entrail that has been stopped as also that which may be afflicted by sores.

He should then rub the afflicted entrail with ghee, and carefully feeling (with his fingers) take out the hairs or other foreign articles (that have produced the sore).

The particular entrail which happens to be obstructed in consequence of the attachment there to of hairs and other foreign matter, should be clean-out of the obstruction.

(In case of 'Ccidrodara') the 'ccidrodara' (or holes) in the entrail should be caused to be bitten by many large ants, the ants should be cut off (their mouths sticking to the entrails).

The entrails should then be thrust back i.e., restored to its place by proper means, and the incision made sewed up with a needle.

Gulabkunverba:

The following is the treatment to be performed by the practical surgeon.

The skilful surgeon should make an incision of the measure of four fingers-breadth on the left side of the abdomen below the umbilicus, with the appropriate cutting instrument.

Having opened the abdomen and then carefully examining the intestines for obstruction or perforation of the intestines and anointing them with medicated ghee and clearing the hair or other substances in them, the intestines should be put back. The intestines which have been benumbed due to obstruction should be released.

And if there is perforation of the intestines, the part should be made to be bitten by big black ants and seeing that the perforation is well closed by the firm bites by the ants, their bodies must be cut off. Then putting the intestines back in their place, the abdominal skin should be sutured with the needle.

P.V. Sharma:

Now comes the operation by experienced surgeons. After measuring four fingers below the umbilicus on the left side the wise physician should incise with measured instrument. After opening the abdomen, the intestines should be examined for obstruction or perforation.

By lubricating the loop he should remove the foreign bodies like hairs etc. and relieve the intestines of any obstruction due to interlocking. Holes of the perforated intestines should be got bitten by big ants and when they are united well

the bodies of the ants be cut and removed and restoring the intestines to their place the wound should be sutured with needles.

R.K. Sharma and Bhagwan Dash:

An expert surgeon should make an incision in the left pelvic region below the umbilicus leaving four fingers breadth of space (from the level of the umbilicus) with the help of an appropriate surgical instrument.

After opening the abdomen, the physician should carefully examine the intestines for strangulation and perforation.

The afflicted part should be anointed with ghee and foreign bodies, like hair etc. should be removed from the intestine. Thereafter, the afflicted intestine should be put in its appropriate place. If there is morbidity in the intestine because of obstruction, then the afflicted portion should be removed. The perforated or the cut portion should be made to be bitten by big-black-ants (*pipīlikās*). Having ascertained the cut portion well united, the body of the black-ant should be cut off. Then these intestines should be placed back into their appropriate place and the incised abdominal skin should be sutured with the help of a needle.

Cakrapānidatta:

*nābhyadhaś caturaṅgulaṃ iti nābher adho yathā bhavati tathā caturaṅgulaṃ vāmakukṣiṃ māpayitvā udaramadhyāc caturaṅgulaṃ tyaktvā vāmakukṣau nābhyadhastāt pāṭanaṃ*⁴². *kartavyam. vipāṭya codaraṃ baddhakṣatodarayoḥ antraṃ vīkṣya*⁴³ *yathocitakriyārthaṃ tata udare pāṭanaṃ keśādimārjanaṃ saṃmūḍhāntramokṣaś ca kartavyaḥ*.⁴⁴

chidrāntrasya tu antracchidrāṇi pipīlikair antracchidrapradeśe daṃśayitvā saṃgrhītāni yathā 'ntracchidrāṇi bhavanti tathā jñātvā pipīlikāśiracchedaḥ kāryaḥ. tatas tūbhayor baddhacchidrāntrayoḥ niḥsṛtāntrapraveśavidhiḥ pratiyogair ity anenoktaḥ kartavyaḥ.

Translation:

... An incision should be made in the left half of the belly below the navel at a distance of four *aṅgula* from the midline. After having made this incision (the surgeon) should examine the intestine of patients with *baddhodara* or *kṣatodara* and cut open the abdomen in order to perform the actions as they are suitable to the occasion. The hairs, etc., should be removed and the intestine that has lost its normal functions should be freed from obstructions.

⁴² Gaṅgādhara reads *ardhadalapāṭanaṃ*.

⁴³ Gaṅgādhara reads: *paścād baddhakṣatodarayor antara'ṃ vīkṣya*.

⁴⁴ Gaṅgādhara reads *drāmokṣayet*.

He should ants make bite the (edges of the) perforations of a patient with *chidrāntra* at the locations of the perforations and separate the heads of the ants (from their bodies) as soon as he knows that (the edges of) the holes are brought together and united. Then he should the intestine that has been taken out restore to its place both in a patient with *baddhāntra* as in one with *chidrāntra* and close the cut wound.

Gaṅgādhara (p.2855):

vāmaṃ kuṣīm udaraṃ nābher adhastāc caturaṅgulaṃ māpayitvā tanmātra-yuktena caturaṅgulaṃ śastreṇa matimān bhiṣak pāṭayet. vipāṭya tataḥ paścād antraṃ baddhagudasya kṣatāntrasya ca vīkṣya yatra keśakaṇṭakādīni tatra sarpiṣā abhyajya saṃsnihyāvamṛjya keśādīn vimokṣayet. yac cāntraṃ keśādibhiḥ mūrchanādekiḥbhāvāpādanāt sammūḍhaṃ tad antram avamokṣayed bahir niḥsāryya keśādīn vimokṣayet.

chidrāṇy antrasyetyādi. tataḥ paraṃ tasyāntrasya tu chidrāṇi bahuśaḥ sthūlapipīlikair daṃśayitvā taiḥ pipīlikair daṃśanena saṃgrhītāny antracchidrāṇi jñātvā tāḥ pipīlikāḥ śirobhāgād adhastāt kaṭīdeśe chittvā pratiyogair yathāyogenāntraṃ bahir niḥsāritam tatpratiyogānurūpayogaḥ preyaiḥ prayāṇair antaḥ praveśya tataś caturaṅgulaṃ tad vranam preyaiḥ sūcyāgraiḥ sīvyet.

Translation:

The mindful physician should make an incision in the left (half of the) abdomen, having measured out a distance of four *aṅgula* below the navel, with a sharp instrument of the same size, namely four *aṅgula*. Thereupon he should carefully examine the intestines of the patient with *baddhaguda* or *kṣatāntra*, anoint the places where hairs, thorns, etc., are present with ghee, and remove the hairs, etc., after pouring oil on them and cleaning by wiping (them) off.

Intestine that is in a confused state (no longer able to perform its normal functions) because the hairs, etc., have become entangled, i.e., have become one compact mass, should also be cleaned, i.e., it should be drawn outside (the belly) and the hairs, etc., should be removed.

As to holes in the intestine, (the physician) should make big ants bite them at several places, ascertain that the (edges of the) holes in the intestine have been drawn together by the bites of the ants, and cut (their bodies) below the location of the head, i.e., at their waists. After drawing out the intestine ... (the physician) should re-introduce it by means of ... motions. Then that wound measuring four *aṅgula* should be stitched up with ... needles.

Brahmanand Tripathi:

... un bāl athavā kāmṭe ādi ko nikālkar phenk deṃ ... mūrchan (āntom kā par-

*aspar ulajh*⁴⁵ *kar apnī kriyā na kar pānā*).

Jayadeva (Ci.13.185–187ab):

aur mūrchan (intussusception vā strangulation) ke kāraṇ vakrībhūt āntoṃ ko bhī churā de. ...

Mihiracandra: no explanations of *mūrchanā* and *saṃmūḍha*.

Pade (Ci.13.185cd–186): y

adī mūrchan arthā guñjhal yā dabāv paṛne se kahīm ānt śithil ho gaī hai usko bhī churā de.

Pandeya and Chaturvedi:

*yadi baddhodar kā kāraṇ āntoṃ kā ek ke ūpar ek kā caṛh jānā ho arthāt ṭeṛhā*⁴⁶ *ho gayā ho (intussusception or strangulation) to use churhā*⁴⁷ *de.*

Rāmprasād and Śivaśarman:

... antra saṃbaddha yā mūrchi honepar bhī śastradvārā sab doṣ nikalkar baddha khul jāyagā.

Vāsiṣṭha and Śarmā:

yadi mūrchan arthāt guñjhal yā dabāv paṛne se kahīm ānt śithil ho gaī hai, apne kām ṭhīk nahīm kar rahī hai usko bhī churā de.

These verses on *baddhodara* and *chidrodara* and their surgical treatment have been translated and interpreted several times. Despite these efforts, a satisfactory analysis and elucidation are not available due to the obscurities of the text and its brevity.

Fortunately, some aspects of the procedure described are simple and intelligible.

The physician to carry out the operation has to be a *śalyahartar*, not a general physician, but a specialist, a surgeon, ‘one who removes foreign objects (*śalya*) from the body’.⁴⁸ Such a surgical specialist has moreover to be one who can be called *dṛṣṭakarman*, experienced, literally who has seen the operation

⁴⁵ *ulajhnā* = to be entangled.

⁴⁶ Crooked, entangling.

⁴⁷ *churhānā* = to disentangle, liberate.

⁴⁸ These *śalya*-specialists are referred to at a number of places in the *Carakasamhitā*, for example Ci.6.58.

carried out (by his teacher). This is an important qualification with regard to the treatment of a dangerous condition. In spite of this, Kaviratna does not even translate the term and omits it.

The place where to make an incision in the abdominal wall is indicated in the text. This detail is necessary for a practitioner. The place to be chosen is the left half of the belly and four *āṅgula* below the navel according to some translations. If correct, this specifies the location where the incision should begin, not its length. The Gulabkunverba group understands that the measure of the incision should be four *āṅgula*, on the left side and somewhere below the navel. The wording of the text makes both interpretations possible, as shown by the literal translation by P.V. Sharma: 'after measuring four fingers below the umbilicus on the left side the physician should incise'.

A decision about the right solution of this problem can in my opinion be reached only when examining it with the eyes of a surgeon. What is of more importance to him, the place where to begin to cut or the length of the incision. It seems to me that he has to know where to apply the knife first; the length of the incision is of less significance since there is not much space available.

The instrument to be employed is not specified. The text says that it has to be *mātrāyukta*. This term is not uniformly translated. The Gulabkunverba group, as well as R.K. Sharma and Bhagwan Dash, render it by 'appropriate', which neglects *mātrā*-. P.V. Sharma's 'measured' is vague and omits *yukta*. Kaviratna employs 'of the same length, i.e., the width of four fingers', the measure already given for the place of the incision below the navel. The text does not support this view and Kaviratna neglects the *yukta*- element of the expression used. Moreover, why should the instrument have this width?

Mātrāyukta obviously means that the instrument should possess the dimensions required in this case. Of what kind these requirements may be remains a matter of speculation.

The next few words *vipātyāntram* have given rise to differences of opinion despite their simplicity. They mean unequivocally 'after cutting open the intestine'. Notwithstanding this straightforwardness, the Gulabkunverba group, P.V. Sharma, as well as R.K. Sharma and Bhagwan Dash translate: 'after opening of the abdomen'. Kaviratna is the only one to render: 'having opened the entrail (i.e., caused the incision)', but he too appears to refer to the incision of the abdominal wall.

The interpretation of the two words is of the utmost importance since the next passage remains unintelligible without an incision of the intestine enabling the surgeon to examine its contents. It is remarkable to notice that this did not dawn upon the translators.

The next action to be carried out is 'a close examination (of the intestine) for

the presence of *baddhāntra* or *kṣatāntra*.⁷

The following *ardhaśloka* prescribes that, after lubricating (the intestine) with ghee, the hairs (within it), etc., have to be removed. This pertains to cases of *baddhodara* where this kind of obstruction is present. The text is silent on the way how to carry this out. As lubricating the outer wall is senseless, lubrication of the inside must be intended, evidently with the surgeon's bare fingers.

The last part of the intervention is: (*antram*) *vimokṣayet*. Opinions differ as to the meaning of *vimokṣayati* in this context. Kaviratna's translation is imprecise; he says: '(the entrail) should be clean-out of the obstruction', in spite of the preceding 'he should take out the hairs'. P.V. Sharma appears to regard the verb as meaning 'to relieve (of any obstruction)'. The Gulabkunverba group, on the contrary, is of the opinion that it means 'to put back (the intestines)', which is close to the expression chosen by R.K. Sharma and Bhagwan Dash: 'to put in its appropriate place'. The Sanskrit commentaries give no hints on the correct interpretation. Brahmanand Tripathi explains in his Hindī commentary that the intestine should be pushed back (*phenk denā*). Several other Hindī translators/commentators abstain from giving an equivalent of *vimokṣayati* in this part of the text. The verb recurs in the next *ardhaśloka*.

No after-treatment is indicated; nothing is said about closure of the incisions made.

Many questions come to one's mind when reflecting on the description of this surgical intervention. The verses on the aetiology and pathogenesis of *baddhagudodara* give evidence that the most distal part of the intestinal tract is affected by the accumulation of undigestible material. This part, called *guda*, is the rectum or part of the sigmoid and the rectum. The location of the incision to be made is in conformity with this localization. Cakrapāṇidatta remarks that other causes of the same disorder, haemorrhoids and reverse peristalsis (*udāvarta*) affect the same region, namely the *guda*, specified as *baddhāyana*. Attention has already been drawn to the incompleteness of the instructions for the surgeon. More issues one would expect to be dealt with are completely absent.

Anaesthesia is unknown in *āyurveda*, but, in a number of other surgical interventions described, the texts are explicit in making remarks about the necessity of fixating the patient. The very painful and distressing opening of the abdomen would make this procedure unavoidable. Despite its obviousness, the text does not refer to such a procedure. The parallels in other treatises are also silent in this respect. This is remarkable because fixation of the patient is a regular feature of the description of other surgical procedures, also when much less complicated, as, for example, making an opening in the abdominal wall

and inserting a tube in order to drain out the watery fluid in cases of ascites.⁴⁹

A second point to consider is the absence of any attempt to control the profuse bleeding that would accompany the surgical action.

Third, a surgeon working with his bare hands within the abdominal cavity with instruments that have not been sterilized will always be the source of serious infections with a lethal outcome in most cases.

These considerations, taken together, justify doubt as to the practicability of the surgery described. The procedure may never have been carried out and prove to be a product of the imagination.

Mūrchana and saṃmūḍha

The next *ardhaśloka* is the most problematic part of the description of the surgical treatment of *udara*. Its text looks like an addition to the preceding verses because it ends with *tac ca vimokṣayet*.

The object of this action, *mūrchanād yac ca saṃmūḍham antram*, is obscure as to its meaning and has become a topic of speculative interpretations.

Two technical terms have to be elucidated: *mūrchana* and *saṃmūḍha*. As *mūrchana* is declared to be the cause of a *saṃmūḍha* state of the bowels, it seems to me that *mūrchana* has to be discussed first.

The meaning of this term in the context of the examples dealt with so far, namely ‘thorough blending resulting in a homogeneous whole’, cannot simply be adopted without having recourse to a metaphorical use, if one holds on to the conviction that *mūrchana* refers to a particular condition of the bowels. Other segments of the semantic field of *murch-* have in that case to be contemplated. Actually, when turning to the meanings one finds in translations and commentaries, these prove to be of a quite different character. The equivalents of *mūrchana* occurring in these sources are for a large part borrowed from modern medical science and have to be explained first.

A rather frequent equivalent is intussusception, a condition also known as invagination.

This disorder is correctly described in the Shorter Oxford English Dictionary as: the inversion of one portion of the intestine and its reception within an adjacent portion. The technical term intussusception would not be wholly beside the point if we would keep to the meaning of *mūrchana* as indicating ‘becoming an integrated whole’ because two portions of the intestine become such an integrated whole in this disorder. Gaṅgādhara may have chosen *ekībhāvāpādana* to explain *mūrchana* having intussusception in mind.

⁴⁹ See Su.Ci.14.28.

Other equivalents one comes across are strangulation (Jayadeva; Pandeya and Chaturvedi) and volvulus, conditions in which parts of the bowels are twisted around one another. The authors who regard intussusception and strangulation or volvulus as one and the same are medically ignorant.

The term employed by the Gulabkunverba group, namely obstruction, is too indefinite; *avarodha* would have been the Sanskrit term. Their translation (ad 38–39), paralysis of the intestines (volvulus), lacks from a medical point of view in precision. Paralysis of the intestines, called ileus in medicine, may have many causes and volvulus is only one of them.

P.V. Sharma's obstruction or interlocking suffers from the same defect: obstruction is vague and interlocking is close to strangulation.

R.K. Sharma and Bhagwan Dash employ the general term obstruction. Their rendering deviates from all the other ones in assuming that *vimokṣayati* means 'to remove' in this context: 'If there is morbidity in the intestine because of obstruction, then the afflicted portion should be removed'. Successful removal by the ancient Indian surgeons of a particular part of the bowel and joining the ends again is, however, inconceivable.

P.V. Sharma also uses the term obstruction.

Entanglement, though related to strangulation, is not exactly the same condition.

Cakra's Sanskrit equivalent (ad 38–39), *parivartana*, is ambiguous and has two meanings: turning round (one another) and inverting, putting anything in a wrong direction. Thus it can designate both strangulation and invagination, as pointed out by Pandeya and Chaturvedi, who use the Hindī expression *ulajh jātā*, i.e., entangled, as their own equivalent of *mūrchita*.

Gaṅgādhara's *kopana* (ad 38–39) is entirely beside the point.

Kaviratna's version is completely different from the other ones by taking *mūrchana* in the sense of attachment (of hairs and other foreign matter), an unprecedented translation without any parallel and without any support as to the recorded meanings of the root *murch-*.

Brahmanand Tripathi employs *antrāntrapraveśa* as the Sanskrit term for intussusception and *ek dūsre ke bhītar praveś* as the Hindī expression. Pandeya and Chaturvedi give a similar Hindī interpretation. These opinions do not offer any new point of view.

Cakrapāṇi elucidates that *udāvarta* and *arśāṃsi*, also leading to *baddhagudodara*, should, in the same way as the preceding causes, be interpreted as followed by *baddhāyane gude*.

He does not make the same remark with regard to *antrasaṃmūrchana*; since this fifth cause results, as the four preceding ones, in the same *gudanirodha*; no other location needs to be taken into consideration.

In general, all the translations and explanations have to be examined very critically, in particular those employing modern terms.

In the first place it is necessary to know whether or not intussusception and volvulus can occur with respect to the most distal parts of the intestine, sigmoid and rectum. According to the medical literature both conditions are known to occur.

The second point to consider is: can the ancient Indian physicians have been acquainted with these disorders?

In my view this is impossible. The only way to acquire this knowledge is the performance of laparotomies on a regular basis, which certainly has never happened. This is supported by the imperfect knowledge of the anatomy of the viscera in ancient Indian medicine. In addition, the text is completely silent as to an intervention enabling a surgeon to correct an intussusception or a state of strangulation.

Interpretations of *mūrchana* as intussusception and strangulation (volvulus) are therefore over-interpretations under the influence of modern medicine.

Who initiated this type of interpretation and which may have been the motives given the fact that the text gives no reason to it?

The term cannot be taken here to denote a thorough mixing of substances until a homogeneous whole is produced. Another, not unrelated, part of the semantic spectrum of *murch-* may have to be addressed, namely the range of meanings comprising to faint, to swoon, to become insensible, etc. *Mūrchana* of the bowels can indicate a state in which they do not perform their usual functions, in particular a loss of movement, resulting in the accumulation of faecal matter (*varcaḥrodha*). The text supports this in declaring that, due to the obstruction of its pathway, the *apāna* is blocked. This way of reasoning presupposes, as remarked earlier, that *mūrchana* denotes a particular state of the intestine.

A solution that makes sense and does justice to the text may be to take the verbs *murch-* and *muh-* in one of their usual meanings and to translate: 'One should also release the intestine that is senseless due to fainting', i.e., metaphorically, that part of the intestine that has become 'confused as to its functions because it has lost its ability to move'.

The origin of the confusion relating to the interpretation of *mūrchana* of the bowels may be found in Ḍalhaṇa's comments on Ca.Ci.14.17. He explains *saṃmūrchana* there as a mutual coalescence of parts of the intestine, thus hinting at a condition resembling coiling, strangulation or intussusception, without taking into consideration that only the most distal part of the bowels is affected in *baddhagudodara*. Accordingly, he prohibits making an incision and recommends loosening the 'knots' (*bandha*) with one's hand.

Actually, all these reflections are wide off the mark. All the translators and commentators are on a wrong track, with the exception of Gaṅgādhara, since they depart from the assumption that *mūrchanā* refers to a particular condition of the bowels. In fact, this is not what is intended. The term has the same meaning as in many other contexts and is applied to the obstructing contents of the intestine, as Gaṅgādhara has rightly understood. *Mūrchanā* has to be interpreted as the presence of a compact mass of entangled hairs, etc., forming an indistinguishable whole. The intestine should, as in the preceding case, be freed from it, as indicated by the verb *vimokṣayati*.

This ball of hairs makes the intestine *saṁmūḍha*, ‘stupefied’, unable to perform its normal functions.

Management of *chidrodara*

The next verses deal with the management of *chidrodara*. The aetiology of this disorder is found at Ca.Ci.13.42–43:

śarkarātrṇakāṣṭhāsthikaṇṭakair annasamṃyutaiḥ / bhidyētāntram yadā bhuktair jṛmbhaya ’tyaśanena vā // pākam gacched rasas tebhyaś chidrebhyaḥ prasravad bahiḥ / pūrayan gudam antram ca janayaty udaram tataḥ //

Translation:

When cracks occur in the intestine by having ingested, together with the food, gravel, grass, pieces of wood or bone, or thorns, or (when this happens) due to yawning or overeating, the *rasa*, flowing out through these holes, begins to suppurate and to flow out through these cracks. Filling up the rectum and the intestine, it then brings about *udara*.

Kaviratna:

In consequence of gravels, or grass, or wood, or bones, or thorns, devoured with food one takes, one’s intestines become pierced therewith. Wounds (and sores) sometimes, again, occur in the intestines owing to yawns and gorging the stomach with food.

These wounds ripen and suppurate, and the juicy matter escapes out of the holes caused (in consequence of the ripening and suppuration).

The juicy matter fills up the intestines and the anal canal, and produces a disease of the stomach.

Gulabkunverba:

When the intestines are perforated by sand, straw, pieces of wood, bone and

thorns, ingested along with the food or when they rupture owing to pendiculation after meals or owing to surfeit-meal, the intestinal content that flows out from this perforation, causes suppurative inflammation and fills up the pelvis and the abdominal cavity thus causing enlargement of the abdomen (perforative peritonitis).

P.V. Sharma:

If the intestines are perforated due to ingestion of grass, wooden or bony piece or thorn with food; yawning or over-eating and gets suppured, the chyle is discharged out of the holes and filling up the intestinal loop and anus produces *udara roga*.

R.K. Sharma and Bhagwan Dash:

The intestine gets perforated because of the following: (I) Piercing of the intestine because of the intake of sand, grass, pieces of wood, bone or nails along with food; (II) yawning (deeply); and (III) intake of food in large quantity.

The wound in the intestine, thus caused, gets suppured, and from these wounds the juice (thin paste of food) comes in the exterior of the intestine. The rectum and the intestines get filled up with this juice as a result of which *chidrodara* (acute abdominal swelling caused by intestinal perforation) is manifested.

The most noticeable feature of the description of its surgical treatment is the employment of ants to effect the closure of an opening in the wall of the intestine.⁵⁰ This is the only passage of the *Carakasamhitā* where this practice is made use of. It is referred to on the subject of abdominal wounds in the chapter on *sadyovraṇa* of the *Suśrutasamhitā*, as we shall see later. Hard to explain is the absence of the same practice for closing a wound in the preceding passage on *baddhagudodara* and in the chapters on wounds in general.

Making use of the bites of ants for the closure of external wounds is known from several parts of the world.⁵¹ The *Carakasamhitā*, however, mentions this practice exclusively in the present context for the closure of intestinal lesions. No less remarkable is the view that perforations of the intestine can be caused by the ingestion of sand, straw, etc., or even by yawning and overeating.

⁵⁰The *Suśrutasamhitā* (Ka.8.34) describes six kinds of ants. The *Rājanighaṇṭu* (19.11–12ab) distinguishes three kinds of ants: (1) *pipīlikā*, (2) *tailapipīlikā*, (3) *kṛṣṇapipīlikā*; the last type is described as large and living on trees.

⁵¹See G. Majno, 304–309. This author writes that the practice was known to inhabitants of Bhutan. The ants used in India may have belonged to the genus *Odontomachus*, found all over India.

The part of the intestine affected remains undetermined. Leakage of *rasa* through holes of the intestinal wall presupposes more likely the small intestine than the colon.

On the other hand, *rasa* is said to fill up the intestine and the rectum, despite the leakage.

Caraka's verses on the surgical treatment of *udara* are exceptional and raise doubts as to their genuineness. Nowhere else do we find descriptions of surgical procedures in the *Samhitā*. It is therefore astounding that no commentator or translator, with the exception of Kaviratna, has questioned whether or not they are *ārṣa*. P.V. Sharma is also silent in his "Critical notes". In my opinion they are very probably interpolated at a rather early date because Cakrapāṇi, who commented on them and more than once gives his opinion on the genuineness (*ārṣatva*) of verses of Caraka, accepted them. This is evident from his reference to the surgical treatment of *baddhaguda* and *chidrodara*; he remarks that the condition is incurable in most cases and that sometimes surgery may save the patient.⁵²

Unfortunately, the comments of Jejjāta have not been preserved.

The relevant verses of Caraka are to my knowledge rarely quoted in later works, which is significant in itself.

More research is needed to investigate where the description of surgery may come from. It seems reasonable to suppose that it was taken from some surgical treatise. Why it has become part of the *Carakasamhitā* is hard to explain. Surgical procedures, also minor ones, are usually absent from it, or dealt with shortly, without details, as, for example, the draining of fluid from the abdominal cavity in cases of dropsy.⁵³

The use of ants in abdominal surgery was known from hearsay to the Islamic medical author called Albucasis.⁵⁴ He writes in chapter 85 of his 'On surgery and instruments': "Some men of experience have said that when a wound occurs in the intestine and it is small, it should be sutured in this manner, namely: ants with large heads are taken; then the edges of the wound are brought together and one of these ants is applied by its open jaws to the two edges of the wound, and when it seizes it and closes its jaws then the head is cut off, and it

⁵² *jātodakaṃ chidrāntraṃ ca prāyo vināśāya bhavati; kadācid viśaśastrābhimatacikitsayā jātodakaṃ chidraṃ baddhagudaṃ ca sidhyatīti prāyaḥśabdena darśayati*, i.e., *Jātodaka* and *chidrāntra* usually lead to death. He shows by (employing) the word 'usually' that *jātodaka*, *chidra*, and *baddhaguda* sometimes can be cured by treating them with allowed poisonous substances and surgery.

⁵³ see Ca.Ci.13.189–190.

⁵⁴ This author lived in the second half of the tenth to the early part of the eleventh century.

will stick and will not loosen. Then another ant is applied near the first; and you proceed after this manner with a number of ants according to the size of the wound. Then reduce the intestine and sew up the wound; for the heads will remain sticking to the intestine until it is healed up; and no harm will come to the patient.”⁵⁵

Albucasis was a realistic and experienced surgeon, as appears from the final sentences of the chapter: “This kind of suture with the ants is by way of a remote hope. But if the opening be great and wide, and especially if it be in one of the small intestines, there is no technique to deal with it, nor any cure.”

The account of the procedure as found in the *Suśutasamhitā* (Ci.14.17) runs as follows:

baddhagude parisrāviṇi ca snigdhasvinnasyābhyaktasyādho nābher vāmataṣṭaṅgulaṁ apahāya romarājyā udaraṁ pāṭayitvā caturaṅgulapramāṇam antrāṇi niṣkr̥ṣya nirīkṣya baddhagudasyāntrapratirodhakaram aśmānaṁ bālaṁ vā 'pohya malaajātaṁ vā tato madhusarpirbhyāṁ abhyajyāntarāṇi yathāsthānaṁ sthāpayitvā bāhyaṁ vraṇam udarasya sīvyet. parisrāviṇy 'py eva eva śalyam uddhṛtyāntasrāvān saṁśodhya tac chidram āntaraṁ samādhāya kālapiṇīkābhir daṁśayet, daṣṭe ca tāsāṁ kāyān apaharen na śirāṁsi, pūrvavat sīvyet, saṁdhānaṁ ca yathoktaṁ kārayet, yaṣṭimadhukamīśrayā ca kṛṣṇamṛdā 'valipyā bandhenopacaret.

Translation:

When a patient who suffers from *baddhaguda* and one who suffers from *parisrāvyudara* have been subjected to *sneha*, *sveda* and *abhyāṅga*, (the surgeon) should cleave the abdominal wall on the left side, below the navel, four *aṅgula* away from the *romarājī*.⁵⁶ He should draw out (pieces of) intestine, four *aṅgula* in length, examine them and remove small stones, hairs, or (other) impurities that obstruct the intestine of someone suffering from *baddhaguda*. Next, he should anoint the intestines with honey and ghee, place them in their original position, and stitch up the external wound of the abdomen.

When a patient suffers from *parisrāvyudara* one should in exactly the same way remove the foreign object. The morbid matter issuing from the intestine should be cleaned up. The edges of the perforation of the intestine should be brought together and caused to be bitten by black ants. After they have bitten one should remove their bodies, not their heads. (The external wound) should be stitched up as in the preceding case. One should effect a joining (of the edges of the

⁵⁵ Albucasis, p.550.

⁵⁶ See on the *romarājī*: Sreeramula Rajeswara (1994); Rahul Peter Das (1991), (1994).

wound) in the way described. After besmearing (the surface of the wound) with black clay mixed with liquorice one should provide it with a bandage.

Bhishagratna:

In cases of the Vaddha-guda (Entertis) and the Parisrávi types Udara, patient should be first treated with emulsive measures and fomentations and then anointed with a sneha. Then an incision should be made on the left side of the abdomen below the umbilicus and four fingers to the left of the line of hair which stretches downward from the navel. The intestine to the length of four fingers should be gently drawn out; any stone, any dry hardened substance (Scybalum ?), or any hair found stiffing to the intestine should be carefully examined and removed. Then the intestine should be moistened with hand clarified butter. It should then be gently replaced in its original position and the mouth of the incision in the abdomen should be sewn up.

In cases of the Parisrávi type of Udara, the obstructing matter should be similarly removed (from the intestines), as in the preceding case, and the secreting intestine should be purified. The two ends of the severed intestines should be firmly pressed and adhered together large black ants should be applied to these spots to grip them fastly with their claws. Then the bodies of the ants having their heads firmly adhering to the spots, as directed, should be severed and the intestines should be gently reintroduced into their original position (with the severed heads of the ants adhering to the ends of the incision) and sutured up, as in the preceding case. A union or adhesion of the incidental wound should then be duly effected. The seam should now be plastered with black earth mixed with Yashtimadhu and duly bandaged.

Bhishagratna provides ants with claws they do not possess. The mandibles are meant.

Singhal c.s.:

Cases of *baddhagudodara* (intestinal obstruction) and of *parisrāvyudara* (intestinal perforation) should be oleated, fomented and anointed and then their abdomen should be incised below the navel, four fingers beyond the hairy line (midline) on the left side, and after bringing out the intestines four fingers in length at a time, they should be inspected and the stones, hair balls (footnote: trichobezoar) or faecoliths obstructing the intestines in intestinal obstruction (*baddhagudodara*) should be removed. After applying honey and *ghṛta* the intestines should then be put back in their original position and the external abdominal wound should be sutured.

Similarly in cases of *parisrāvyudara* (perforation), after removing the foreign body and cleansing the intestinal discharges, the edges of the hole in the intestine having been brought together should be got bitten by black ants. When the ants have bitten the intestines their body should be (chopped off and) removed leaving the heads behind. Then suturing should be done as before and other reparative measures should also be taken as described earlier. Black clay mixed with *madhuka* should then be pasted and bandaging done.

Singhal c.s. are of the opinion that *bāla* points to the presence of a hair ball, a trichobezoar. Balls of hair and other foreign matter are sometimes found in the human stomach, as pointed out already.

The translation of *malajāta* as faecolith is more specific than required. The term denotes any kind of impure matter. Faecoliths are rare; they are known as one of the causes of appendicitis.

P.V. Sharma:

In intestinal obstruction and perforation, the patient should be uncted, sudated and massaged and then below umbilicus on the left side four fingers from the hair-line incision should be made in abdomen and intestines measuring four fingers should be taken out, inspected and after removing the factor creating obstruction in intestines such as stone, hairs or faecal matter should be anointed with honey and ghee. Then they should be placed in respective positions and the external wound of abdomen should be sutured.

Similarly, in case of perforation too, after removing the foreign body and cleaning the intestinal discharge, the hole of the intestine should be united and then made to be bitten by black ants; At thereafter their body should be severed leaving the head. Now it should be sutured as before and also the measure for unification as mentioned. The wounds should be pasted with black earth mixed with *yaṣṭimadhu* and bandaged.

Valiathan:

The patient should undergo lubricant therapy and fomentation before being massaged. At the level of the umbilicus on the left, four fingers from the hair-line, an incision should be made into the abdomen. Intestines measuring four fingers should be taken out at a time and carefully observed for obstruction such as stone, hairballs and fecal matter. The obstructing agent should be removed or dislodged and the bowel site painted with honey and ghee and the loop replaced in the abdominal cavity. When there is a perforation, the foreign object must be removed and the intestinal secretions cleared. The edges of the opening in the intestine should then be approximated and made to be bitten

by black ants. Once they have bitten the edges together, their body should be cut off. The edges of the abdominal wound should now be sutured and union ensured. A paste of yaṣṭimadhu and black earth should be applied to the abdominal wound which should be bandaged.

Ḍalhaṇa:

... vāmabhāge nābher adhastāc caturaṅgulaṃ apahāya romarājyāś catur-
aṅgulapramāṇas tiryag eva chedaḥ; tatra lomni tiryag avasthite 'nulomagaṃ
ca śāstrapātanam uktam. antrapratirodhakaram aśmānaṃ bālaṃ vā 'pohya
malajātaṃ veti tatramalarodhakāraṇam ābhyantaram aśmakeśatṛṇādi, bāhyaṃ
tu viśamavihārābhighāten āntrāvayavānāṃ parasparasam mūrchanam, na ta-
trāntracchedanam iti parisrāvyudarād viśeṣaḥ. ata eva parisrāviṇy eva prthag
antrasandhānaṃ viśeṣeṇa vakṣyati. tatrābhyantare 'śmādāv atyantābādhakare
śalyanimittam evāntracchedaṃ kṛtvā 'śmādiśalyam apaharet. antracchidraṃ tu
vakṣyam ānanyāyen ānusandhāya sarpirmadhvaktam niṣkr̥ṣṭam antram angu-
ṭāṅguṣṭhāṇāṃ yathāsthānaṃ sthāpayet. mūrchitam antram tu vikṣya pāṇi-
nā bandhāvamokṣeṇ anulomayet. bāhyavraṇam raktāsecanādividhim apekṣya
samyak sīvyet.

Translation:

An incision (should be made) in the left part (of the abdomen), below the na-
vel, four aṅgula away from the romarājī, of a length of four aṅgula, and in
an oblique direction. Since the hairs at that place are implanted obliquely, the
incision made with the knife is said to be in the natural direction. The stones
or hairs should be removed, or any impurity. This applies to the stones, hairs,
grass, etc., which form the interior causes of obstruction to the impure matter
(within the intestines), as well as to the external (causes) consisting of the mutual
coalescence of parts of the intestine due to unbalanced behaviour or a trauma.
In these cases the intestine should not be cut open in contradistinction to cases
of parisrāvyudara. For that reason (the author) will describe the particular way
of joining of the intestines separately as suitable to cases of parisrāvyudara.
Since interior (obstacles) in the form of stones, etc., bring about an extreme
form of affliction, the intestines should be cut open because of (such) a foreign
body and the foreign body, stones, etc., should be removed. In cases of perfora-
tion of the intestines, however, one should join (the edges of the holes) in the
way that will be described and replace the intestine that has been drawn out
and besmeared with ghee and honey in its proper place with the thumb and a
finger, a śalākā, or in another way. In cases of coalescence of the intestines
one should, after examining (the condition), loosen the connections with one's
hand and reinstate the normal situation. The external wound should be properly

stitched up without taking recourse to the methods of *raktāsecana*.⁵⁷

A description related to that of the *Suśrutasamhitā* occurs in the *Aṣṭāṅgasamgraha* (Ci.17.40):

evam asiddhau baddhacchidradakodareṣv aśamryām iva suhrdām prakāśya śāstram avacārayet. tatra baddhacchidrodarayoḥ snigdhasvinnasyādho nābheś caturaṅgulāni vāmato 'pahāyodaraṃ pātayitvā caturaṅgulapramāṇaṃ āntrāṇi niṣkāśya nirīkṣya baddhagudodarasyāntrapratirodhakaraṃ bālaṃ malopalepam aśmānaṃ cāpaharet. parisrāviṇi śalyam uddhṛtyāntraparisrāvaṃ viśodhya tacchidraṃ markoṭakair daṃśayet. lagneṣu ca śiraḥsu kāyaṃ apanayet. tato madhughṛtābhyām abhyajyāntrāṇi yathāsthānaṃ sthāpayitvā bāhyaṃ vraṇaṃ udarasya sīvyet. yaṣṭīmadhukamiśrayā ca kṛṣṇamṛdā vraṇaṃ abhiliṇīya badhnīyāt. atha nivātaṃ āgāraṃ praveśya snehadroṇyām vāśayet.

Translation:

If one does not succeed in curing *baddhodara*, *chidrodara* or *dakodara*, one should perform surgery after informing those well-disposed (toward the patient), in the same way as (this is done) in cases of bladder stones.

In cases of *baddhodara* and *chidrodara* one should cut open the belly in its left half, at a distance of four *aṅgula* from the navel, after (the patient) has been subjected to oleation and sudation.

After drawing out (a piece of) intestine measuring four *aṅgula*, and after having inspected it, one should remove the hairs, the impure matter sticking to the wall, and the stones in the cases of *baddhagudodara*.

In cases of *parisrāvyudara* one should remove the foreign object, clean up the matter that has flown out (through the perforation), and make ants bite the opening. When their heads are fixed one should remove their bodies.

Then, after anointing the intestine with honey and ghee, one should put it in its proper location and stitch up the external abdominal wound. After applying black clay mixed with liquorice to the wound, it should be bandaged.

(The patient) should be made to enter a room sheltered from the wind and remain (for some time) in a *droṇī* full of oil.

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If the above methods of treatment do not succeed, in *baddhodara*, *chidrodara* and *udakodara*, then surgical treatment (with ants) should be done as in the case of *aśmarī* (urinary stone), by intimating the patient or his guardians (about the

⁵⁷ The meaning of this term is not clear in the present context.

gravity of the diseases and necessity of surgery).

In baddhodara and chidrodara, the patient should be anointed with oil and given sudation; then avoiding four aṅgula (fingers breadth) of space from the umbilicus, below and to the left side of it, the abdomen should be cut open; the intestine four aṅgula in length (having the obstruction) taken out, examined carefully, the hairs, faeces or stones which are causing obstruction removed. In parisrāvī udara (chidrodara) the foreign body (which is the cause of perforation) is pulled out, the perforated intestine cleaned and the perforation (slit or opening) is got bitten by large ants; when they are found to have adhered, their body (of ants) should be cut off from their head. Then the intestine is placed into its normal place, the abdomen closed and the external wound sutured. Black soil mixed with (powder of) yaṣṭimadhuka (made into a plaster) is applied over the wound and (the abdomen) tied with a bandage. Afterwards, the patient is removed to a room devoid of breeze and placed in a taidroni (wooden tub filled with medicated oil) and allowed only milk, as diet.

Indu comments:

evamityuktakriyāyāsiddhau triṣubaddhādyudareṣu prthagvidhakriyopayogāya śāstram avacārayet. āturasuhr̥tpakāśanam aśmarīvat. nābher adho 'dhara-bhāge. nābhitaś catvāry aṅgulāni parityajya caturaṅgulamātram pātayet. tena cāntrāṇi tathā parīkṣyāṇi yathā saṃniveśaṃ na tyajanti. gudabandhahetum āntrasya pratirodhakaṃ bālādikam apaharet. parisrāvīṇīti chidrodare. tac chidram markoṭair vaidyo daṃśayet subodham. kṣīreṇaiva vṛttiyasya tam.

Translation:

... Those to whom the patient is dear should be informed (about the intervention) as this is done in cases of bladder stones. An incision should be made four fingers under the navel, measuring four fingers in length. Then the intestines should be examined in such a way that their position is not changed. The hairs, etc., which are the cause of the blocking of the rectum and the obstruction in the intestines should be removed.

Parisrāvīyudara is *chidrodara*. The physician should such a hole cause to be bitten by ants. This passage is easily understood. (The patient) should live on a diet of milk only.

Noteworthy in this description of the intervention is the inspection of the intestines without opening them and nevertheless having to remove obstructing matter.

In this respect the instructions are defective and cannot be put into practice.

The second work where I discovered another description of the same pro-

cedure is Niścalakara's *Ratnaprabhā*, a commentary on the *Cakradatta*. The version found there forms part of his comments on the chapter on *udara* (*udracikitsā* 19):

*chidrodaram ṛte svedāc chleṣmodaravad ācaret / jātaṃ jātaṃ jalaṃ srāvyam
śāstroктаṃ śāstrakarma ca //*

P.V. Sharma:

Chidrodara should be treated like kaphodara except sudation. The liquid collected should be drained out by (medical and) prescribed surgical method.

Niścalakara comments on the last *pāda*:

*śāstroктаṃ*⁵⁸ *yathā*:

*parisrāviṇi evam evāntraṃsam ānīya samādhāya chidraṃ kālapipīlikādibhir
daṃśayet / daṣṭe ca tāsāṃ kāyān apaharet na śirāṃsi / tat pūrvavat sīvyet
vāsayec cainaṃ sarpiroṇyāṃ tailadroṇyāṃ vā payovṛttim iti. śāstrakarmāpi
yathā: vātaharatāilābhyaktetyādau adhobhāge nābher vāmataś caturaṅgulaṃ
apahāyā romarājyā dvayaṅgule vrīhimukhenāṅguṣṭodaram avagāḍham vid-
hyet / tatas trapvādīnām anyatamasya nāḍīnām ubhayato dvārāṃ pakṣināḍīva
saṃyojya doṣodakam avasiñced iti.*

Translation:

In exactly the same way one should (in a case of) *parisrāvyudara* the (afflicted) part of the intestine draw toward oneself, bring together the edges of the lesion, and let black ants bite them. When they have bitten, one should remove their bodies, not their heads. As in the previous course of action, one should suture (the incision) and place the patient, who has to live on milk, in a tub full of ghee or medicated oil.

Another surgical procedure is as follows:

The third treatise to deal with the surgical treatment of some types of *udara* is Ugrāditya's *Kalyāṇakāraka* (*mahāmayādhikāra* 172–173; p.227):

*vibaddhasaṃsrāvyudare 'pi vāmato /
vipāṭya nābheś caturaṅgulād adhaḥ //
tad āntram ākr̥ṣya rodhanam /
vyapohya sivyād acirād bahir vraṇam //
pravan mahāntraṃ rajatena kīlayec payaḥ pātum ihāsya dāpayet //*

⁵⁸ V.l. *suśrutād uktam*.

Translation:

In cases of *vibaddhodara* and *saṃsrāvyudara* one should cut open the abdomen in its left half, four *aṅgula* below the navel, draw out the intestine, remove the obstruction and quickly stitch up the external wound. The *pravan* (?) *mahāntra* should be fastened with a silver (thread) and one should give the patient milk to drink.

Caraka's *chidrodara* is called *parisrāvyudara* in the *Suśutasamhitā* (Ni.7.19–21a):

tataḥ parisrāvyudaram nibodha // śalyaṃ yad annopahitaṃ tad antraṃ bhinatti yasyāgatam anyathā vā // tasmāt sruto 'ntrāt salilaprakāśaḥ srāvaḥ sraved vai gudatas tu bhūyaḥ // nābher adhaś codaram eti vṛddhiṃ nistudyate 'tīva vid-ahyate ca // etat parisrāvyudaram pradiṣṭam //

Translation:

Now listen (to me) describing *parisrāvyudara*. When a foreign body, taken with the food, pierces someone's intestine, or when this occurs in some other way, then may a watery exudation flow from that intestine, mostly (coming out) through the anus. The part of the belly below the navel increases in size. An intensive pricking pain arises together with a burning sensation. This is said to be *parisrāvyudara*.

Bhishagratna:

Now hear me describe the causes and symptoms of the type of Udaram which is called Parisrāvi-udaram. Thorny or sharp-pointed substances (such as fish-bones etc.), carried down with the food in a slanting way from the stomach into the abdomen, sometimes scratch or burrow into the intestines. Causes other than the preceding ones (such as long yawn or over-eating etc.) may contribute to the perforation of the intestines, giving rise to a copious flow of a watery exudation which constantly oozes out of the anus and to a distension of the lower part of the abdomen situated below the umbilicus. This is called Parisrāvyudaram which is marked by cutting pain and a burning sensation.

Singhal c.s.:

When a foreign body taken alongwith food or otherwise lies abnormally it pierces the intestines. An exudation, like water, comes out of the patient's intestines and also a similar exudation is discharged from his rectum. This distends the abdomen below the umbilicus and causes severe pricking and burning sensation. This is called *parisrāvyudara*.

P.V. Sharma:

Hereafter listen about *parisrāvyudara*. **Foreign body mixed with food or entering abnormally perforates the intestines** which leads to frequent watery discharge from anus and enlargement of abdomen below umbilicus with pricking pain and burning. This is known as *parisrāvyudara* (perforated abdomen).

Valiathan:

Foreign body in food breaks the bowels open; severe pain, ‘pins and needles’ sensations, swelling especially below the navel; mucus discharge from rectum (intestinal perforation).

These verses are often quoted, with variants, in later treatises.

The *Aṣṭāṅgaḥṛdayasaṃhitā* (Ni.12.32cd–36ab = A.s.Ni.12.34–37) employs both terms as synonyms:

*asthyādiśalyaiḥ sānnaiś ced bhuktair atyaśanena vā // bhidyate pacyate vā
'ntram tacchidraiś ca sravan bahiḥ / āma eva gudād eti tato alpālpaṃ saviḍrasaḥ
// tulyaḥ kuṇapagandhena picchilaḥ pītalohitaḥ / śeśaś cāpūrya jaṭharaṃ
jaṭharaṃ ghoram āvahet // vardhayet tad adho nābher āśu jalātmatām /
udriktadoṣarūpaṃ vyāptaṃ ca śvāsatrṛbhramaiḥ // chidrodam idam prāhuḥ
parisrāvīti cāpare⁵⁹*

Translation:

If the intestine gets ruptured or becomes inflamed by the ingestion of a foreign body such as a bone, etc., or by over-eating, *āma*, flowing out through its holes, comes out of the anus in small amounts, together with faecal fluid, having the same smell as a corpse, mucilaginous, yellowish red. The remaining *āma* fills up the abdominal cavity and brings on the terrible (disease called) *jaṭhara* (= *udara*). This (disease) quickly makes the amount of water in the region below the navel increase, abounds in *doṣas*, and makes (the body) pervaded by respiratory difficulties, thirst and giddiness. This (disease) is called *chidrodara*; others call it *parisrāvy(udara)*.

Hilgenberg and Kirfel:

Werden durch [spitze] Fremdkörper wie Knochen und dergleichen, die man mit der Speise zusammen genossen hat oder durch zuvieles Essen die Eingeweide verletzt oder entzündet, fließt durch deren Risse nur unverdauter, flüssiger Kot

⁵⁹The A.s. has some variants: *bhidyate pacyate ca, caiti jalātmatām*.

heraus und aus dem After tritt dieser immer nur in geringer Menge aus mit einem der Verwesung ähnlichem Geruch, schaumig und gelbrot, und nachdem der übrige den Leib angefüllt hat, ruft er eine furchtbare Bauchschwellung hervor. Unterhalb des Nabels nimmt diese schnell zu und geht in Wasser über. Diese [Schwellung], die in hohem Grade die Symptome der Doṣa's zeigt und von Atembeschwerden, Durst und Schwindel begleitet ist, nennt man "Rissbauch" (*chidrodara*), andere nennen sie den "fliessenden (Bauch)" (*parisrāvin*).

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By ingestion of bone and other sharp foreign bodies along with food or consuming large quantity of food, the intestines get perforated or ulcerated; the undigested food material flows out through that hole or ulcer in small quantity and collects in the rectum, getting mixed with the faeces it becomes foul smelling like that of a dead body, slimy, yellowish-red in colour, gradually fills up the abdomen producing its enlargement, which increases in size below the umbilicus; the condition soon changes into collection of fluid in the abdomen; presenting symptoms of the predominant (causative) doṣa and associated with dyspnoe, thirst and dizziness; this disease is called as Chidrodara and as parisrāvī udara by some others.

Suśruta's chapter on traumatology (Ci.2: *sadyovraṇa*) deals with serious abdominal traumata and their treatment. The verses on this subject have several features in common with those on the surgical management of some types of *udara*. The relevant verses are found at Ci.2.55–62ab:

*svamārgapratipannās tu yasya viṇmūtramārutāḥ /
vyupadravaḥ sa bhinne 'pi koṣṭhe jīvati mānavaḥ //*
*abhinnam antraṃ niṣkrāntaṃ praveśyaṃ nānyathā bhavet /
pipīlikāśirograstaṃ tad 'py eke vadanti tu //*
*prakṣālya payasā digdhaṃ trṇasonītapāṃśubhiḥ /
praveśayet kṛttanakho ghrtenāṅktaṃ śanaiḥ śanaiḥ //*
*praveśayet kṣīrasiktaṃ śuṣkam antraṃ ghr̥tāplutam /
aṅgulyā 'bhimṛśet kaṇṭhaṃ jalenodvejayed api //*
*hastapādeṣu saṃgrhya samutthāpya mahābalāḥ /
bhavaty antaḥpraveśas tu yathā nirdhunuyutas tathā //*
*tathā 'ntrāṇi viśanty antaḥ svāṃ kalāṃ pīḍayanti ca /
vraṇālpavād bahutvād vā duṣpraveśaṃ bhavet tu yat //*
*tadāpāṭya pramāṇena bhiṣag antraṃ praveśayet /
yathāsthānaṃ niviṣṭe ca vraṇaṃ sīvyed atandritaḥ //*
sthānād apetaṃ ādatte prāṇān gupitam eva vā /

Translation:

A person whose faeces, urine and flatus move through their own pathways and who does not present complications will, though his abdominal cavity lies open, remain alive.

Intestine that is protruding with an intact wall should be replaced, but not when the condition is otherwise.

Yet, some are of the opinion that (ruptured intestine) bitten by the heads of ants (should) also (be re-introduced).

Intestine to which grass, blood or dust adhere should be washed with milk and gradually replaced, rubbed with ghee, by a physician with pared nails.

Intestine that has become dry should be sprinkled with milk and, anointed with ghee, restored to its position.

One should touch (the patient's) throat with a finger and also make him shudder by (sprays of) water.

Strong persons should take hold of (the patient's) hands and feet, lift him up, and shake him in such a way that the intestines go inside, exerting pressure on their *kalā*.

When the wound is small or (the loop of protruded intestine) big and the re-entry (of the intestine troublesome), the physician should make an incision, as large as required, and re-introduce the intestine.

After restoring (the intestine) to its proper place, (the physician) should nimbly suture the wound.

(Intestine) got into an abnormal position or hidden at some place will take life away.

Bhishagratna:

Such a case marked by the passage of stool, urine, etc., through their proper channels of outlet and by the absence of fever and tympanites and other dangerous symptoms, (Upadrava), may end in the ultimate recovery of the patient.

In a case of a perforation of the Koshtha (abdomen) where the intestines have protruded or bulged out in an untorn condition, they should be gently re-introduced into the cavity and placed in their original position, and not otherwise.

According to others, however, large black ants should be applied even to the perforated intestines in such a case and their bodies should be separated from their heads after they had firmly bitten the perforated parts with their claws.

After that the intestines with the heads of the ants attached to them should be gently pushed back into the cavity and re-instated in their original situation therein. The bulged out intestines should be rinsed with grass, blood and dust, washed with milk and lubricated with clarified butter and gently re-introduced the cavity of the abdomen with the hand with its finger nails cleanly pared. The

dried intestines should be washed with milk and lubricated with clarified butter before introducing it into their former and natural place in the abdomen.

In a case where the intestines could be but partially introduced, the three following measures should be adopted. The interior of the throat of the patient should be gently rubbed with a finger [and the urging for vomiting thus engendered, would help the full introduction of the intestines into the abdominal cavity]. As an alternative, he should be enlivened with sprays of cold water; or he should be caught hold of by his hands and lifted up into the air with the help of strong attendants and shaken in a manner that would bring about a complete introduction of the intestines into the natural position in the abdominal cavity. They should be so introduced as to press upon their specific (Maladhará) Kalá (facia).

In a case where the re-introduction of the intestines into the abdominal cavity would be found to be difficult owing to the narrowness or largeness of the orifice of the wound, it should be extended or widened with a small or slight incision according to the requirements, and the intestines re-introduced into their proper place. The orifice or mouth of the wound should be forthwith carefully sutured as soon as the intestines would be found to have been introduced into their right place. Intestines delogged from their proper seat, or not introduced into their correct position, or coiled up into a lump bring on death.

G.D. Singhal c.s.:

A person, whose faeces, urine and flatus are coming out of their respective passages and who has become free from complications, survives even though his abdomen may have burst.

If the intestines have come out and are not perforated they should be put back to their original place properly. Otherwise (if the intestine is ruptured) it should be joined together by the bites of the heads of ants, according to some (surgeons). The intestines (possibly) contaminated with straw, blood and dust, should be washed with milk, besmeared with *ghṛta* and put back slowly by the surgeon whose nails have been pared off.

The dried up intestines should be put back after washing them with milk and lubricating with *ghṛta*.

The throat of the patient should be tickled by the fingers, or water should be sprayed (over him), or else the patient should be lifted by his hands and feet by strong persons and shaken so that the intestines may get in. The intestines thus become reduced by an even pressure on their (*kalā*).

If, because of the wound being too small or too large, replacement is difficult, the wound should be refashioned to as big a size as necessary and the intestines replaced. When they (the intestines) have returned back to their normal posi-

tion, the wound should be sutured by the vigilant surgeon, because dislocated and twisted intestines can prove to be fatal.

P.V. Sharma:

The patient survives even after rupture of abdominal cavity if he is free from complication and faeces, urine and flatus move their normal course.

If the intestine has come out but is not perforated, it should be pushed back but not otherwise (when perforated). Some, however, say that in this condition too it may be introduced after it is bitten by the heads of ants. One, having cut his nails, should wash the intestine with milk, cover it with grass, blood and dust and lubricating with ghee should introduce it slowly. The dry intestine, after sprinkling with milk and lubricating with ghee, should be restored to its position. (In this process) the patient's throat should be tickled, he should be agitated with water and be lifted by strong persons holding his hands and feet shaken so that entry becomes feasible. Thus the intestines enter inside and press their supporting membrane. In case the opening of the wound is small or the loop of intestine is large and because of this entry becomes difficult. The surgeon should make incision according to measurement and introduce the intestine and when it is set in its place should suture the wound swiftly. If it is displaced, it may lead to death or twisting (of intestines).

Valiathan:

The patient may survive an abdominal wound if complications do not develop and stools, urine and flatus move in the normal direction.

If the intestine protrudes through the wound, the physician should wash it clean after pairing (sic!) his nails with milk, grass, blood and dust, smear it with ghee and replace it gently and slowly into the abdomen provided the loops have no perforation. During this procedure, the replacement of the intestinal loops would be facilitated by massaging the neck of the patient, spraying cold water on his face and by strong persons shaking him after holding his arms and feet. However, if the wound is too small for the loops to reenter, the physician should not hesitate to enlarge the wound to the desired extent and replace the bowel loops. This should be immediately followed by suturing the wound. If the loops are not replaced properly they may get deranged and the patient may die.

Ḍalhaṇa:

... nānyatheti yathaiva sthitāni tathaiva praveśyāni tenaiva prakāreṇetyarthaḥ. apare tv anyathā vyākhyānanti, yathā – abhinnād anyathā aparaprakāraṁ bhinnam antraṁ praveśyaṁ na bhavet; tathā ca vṛddhavāgbhaṭaḥ: “abhinnam antraṁ niṣkrāntaṁ praveśyaṁ na hy ato 'nyathā” iti.

bhinnaṃ api matāntareṇa praveśyam iti nirdiśann āha – pipīlikāśirograstam ityādi. tad api bhinnaṃ api, antraṃ praveśyam iti saṃbandhaḥ. pipīlikāśirograstam ity anena pipīlikāvadanaśaṃdamaśasaṃhite antre tāsāṃ kabandhacchedaḥ kārya ity vyākhyānanti. gayī tu 'alāṅgulaśirograstam' iti paṭhati; tatra alāṅgulaḥ sthūlapipīlikaḥ. ... praviṣṭe 'ntre svasthānanayanārtham antrasyo-pāyatrayam āha. ...

svāmī kalām pīḍayanti svakīyā kalā pañcamī maladhara ... vranālpavāt vranasūkṣmatvāt, bahutvād vranasya bahulatvāt ... kecid bahutvād ityantraviśeṣaṇam aṅgīkṛtya vranasūkṣmatve antrabahutve cobhayatrāpi pāṇapūrvam praveśaṃ manyante ... gupitaṃ vyākulitaṃ parasparam atikrāntam ityārthaḥ.

Translation:

The intestines should be replaced in exactly the same places where they were located, in just this manner. Others explain (the passage) otherwise, namely thus: intestine that differs from that which has not been ruptured in being in some way ruptured should not be re-introduced. Vṛddhavāgbhaṭa agrees with that: “intestine without a rupture that has protruded should be restored to its place, but not when the condition is otherwise.”

He expounds that, according to another opinion, also ruptured intestine should be re-introduced: “bitten by the heads of ants”, etc., “that (intestine) too, even when ruptured”, “should be re-introduced”, thus the words are connected. ‘Bitten by the heads of ants’ is explained as (meaning): ‘when the (holes in the) intestine have been closed by the bites by the heads of the ants, their bodies have to be cut off’. Gayin, however, reads ‘bitten by the heads of the *alāṅgula*, i.e., large ants.

In order to assure that the replaced intestines assume their correct position, he mentions three procedures. ...

‘Pressing their own *kalā*’: their own *kalā* is the fifth one, (called) *maladhara*.⁶⁰

...

Due to the smallness of the wound, i.e., its subtlety, or due to its being large ... Some consider *bahutva* to be a specification of the intestine and think that in both cases, when the wound is small and when the (amount of protruded) intestine is large, relocation has to be preceded by surgery (i.e., enlargement of the opening). ...

Gupita (means) in disorder or passing over one another.

The *Aṣṭāṅgaḥṛdayasaṃhitā* does not describe the surgical treatment of *udara*, but refers to particular elements of the procedure in its traumatological chapter

⁶⁰See on the seven *kalās*: Su.Śā.4.5–20.

(U.26(*sadyovraṇa*).40cd–50ab = A.s.U.31.44–50):

kliṣṭacchinnāntrabhedena koṣṭhabhedo dvidhā smr̥taḥ //
mūr̥chādayo 'lpāḥ prathame dvitīye tv ati bādhakāḥ //
kliṣṭāntraḥ saṃśayī⁶¹ dehī chinnāntro naiva jīvati //
yathāsvaṃ mārgam āpannā yasya viṇmūtramārutāḥ //
vyupadravaḥ sa bhinne⁶² 'pi koṣṭhe jīvaty asaṃśayam //
abhinnaṃ antraṃ niṣkrāntaṃ praveśyaṃ na tv ato 'nyathā //
utpaṇḍilaśirograstaṃ⁶³ tad apy eke vadanti tu //
prakṣālya payasā digdhaṃ tṛṇsonītapāṃsubhiḥ //
praveśayet kl̥ptanakho ghr̥tenāḥktaṃ śanaiḥ śanaiḥ //
kṣīreṇārdrīkṛtaṃ śuṣkaṃ bhūrisarpīḥpariplutaṃ //
aṅgulyā pramṛśet kaṇṭhaṃ jalenodvejayed api //
tathā 'ntrāṇi viśanty antas tatkālaṃ pīḍayanti⁶⁴ ca //
vraṇa saukṣmyād bahutvād vā koṣṭham antraṃ anāviśat //
tatpramāṇena jaṭharaṃ pāṭayitvā praveśayet //
yathāsthānaṃ sthite⁶⁵ samyag antre sīvyed anu vraṇam //
sthānād apetaṃ ādatte jīvitaṃ kupitaṃ ca tat //

Translation:

Injury to the exposed abdominal viscera is traditionally of two kinds: the intestines are painful or they are ruptured. Fainting, etc., are present to a slight degree in the first type, but very distressing in the second one. It is doubtful whether someone with painful exposed viscera will survive; someone whose viscera are ruptured will certainly not remain alive.

When in someone faeces, urine and flatus follow their normal course and when no complications are present, he will without doubt remain alive, even when his intestines are ruptured.

Intestines that have protruded but that not are ruptured should be re-introduced, not, however, when things are otherwise. Some are of the opinion that this should also be done with intestine that has been bitten by the heads of ants. The physician, with pared nails, should slowly replace intestine that is polluted by grass, blood or dust, after washing it with milk and anointing it with ghee.

⁶¹ A.s.U.31.44 has *saṃśaye*.

⁶² A.s.31.45 has *sabhinne*.

⁶³ A.s.U.31. has *uluṇḍila-*.

⁶⁴ A.s.U.31.48 has *pīḍayeta*.

⁶⁵ A.s.U.31.50 has *yathāsthānasthite*.

Intestine that has become dry should be moistened with milk, and, flooded with an abundant amount of ghee; (the physician) should then touch (the patient's) throat and also make him shudder with sprays of water; doing thus, the intestines will enter the interior (of the belly) and press against each other.

When the intestines do not move to the interior because the opening of the wound is too small or the bulk (of the intestine) too big, (the physician) should cut open the belly as much as required and relocate (the intestine).

When the intestines are properly located there where they naturally are, (the physician) should suture the wound.

(Intestine) that is misplaced and vitiated will take away life.

Hilgenberg and Kirfel:

Da man nasse und gerissene Eingeweide unterscheiden kann, gilt das Aufreissen des Unterleibes als zweifach. Bei der ersteren Art sind Ohnmacht usw. nur gering, doch bei der zweiten sind die Schmerzen übermässig gross. Ein Mensch mit nassen Eingeweiden ist in Gefahr, doch einer mit gerissenen bleibt überhaupt nicht am Leben.

Wenn bei einem [Menschen] Stuhl, Urin und Wind [wieder] auf den ihnen eigenen Weg gelangt und keine Komplikationen eingetreten sind, bleibt er, selbst wenn der Unterleib aufgerissen worden ist, ohne Zweifel am Leben. Nicht gerissene Eingeweide, die hervorgetreten, reponiere man, aber nicht, wenn es umgekehrt ist; doch einige sagen, auch das, was von Ameisenköpfen angebissen worden ist.

Hat man die mit Gras, Blut und Staub verunreinigten Eingeweide mit Milch abgespült, reponiere man sie mit geschnittenen Nägeln ganz allmählich, nachdem man sie mit Schmelzbutter benetzt hat.

Sind trockene Eingeweide mit Milch benetzt und mit reichlich Schmelzbutter übergossen worden, berühre man mit dem Finger den Hals [des Kranken] und erschrecke ihn auch mit Wasser, so treten die Eingeweide ins Innere und drücken sich gleichzeitig an.

Wenn Eingeweide nicht in den Unterleib zurückgehen, weil die Wunde zu klein ist oder jene zu umfangreich sind, führe man sie zurück, nachdem man den Bauch in deren Grösse aufgeschnitten hat. Liegen die Eingeweide richtig am ihren Platze, vernähe man darauf die Wunde. [Denn] sind sie von ihrem [richtigen] Platze abgekommen, rauben sie das Leben.

Srikantha Murthy:

Koṣṭhabheda is of two kinds viz. *kliṣṭāntra* and *chidrāntra*, in the first fainting etc. are mild and in the second they are very troublesome; in *kliṣṭāntra* life of the person is doubtful (may survive or may not survive) but in *chidrāntra*, the

person does not survive at all.

The person though wounded in the internal organs surely survives when the faeces, urine and flatus come out in their normal passages and when other complications get relieved.

The intestine which is not wounded and which has come out should be pushed inside only after it is held tight by the head of the big ants – thus say some others.

The intestine contaminated with grass, blood, sand etc. should be washed well with water and the physician with his hands smeared with ghee and nails pared, should push the intestine slowly.

The intestine which is dry should be moistened with milk and more of ghee, then with his fingers the physician should squeeze the throat and stimulate him with water. Soon the intestine enters into the abdomen by these methods. If the intestines do not get in, then the abdomen should be cut open to the required size and the intestine pushed in.

When the intestine occupies its proper place wound be sutured; if displaced again it may take away the life, by aggravation.

Valiathan:

Injury to the gut has two varieties. In the first, the symptoms such as fainting may suggest mild injury but his survival is doubtful; in the second, survival is ruled out. In the presence of damage to internal organs the patient may survive if he begins to pass stools, and urine normally and other complications disappear. If the bowel loops have prolapsed through a wound, they should be replaced after suturing any wounds on them by the technique of using ants. Before replacement, the loops should be washed clean of blood, sand etc. with water by the physician who should have his nails pared, hand cleaned and smeared with ghee. If the prolapsed loops have become dry and the patient is under a fainting spell, the loops should be moistened with milk and anointed with ghee, and his throat squeezed and cold water sprinkled on the face by the physician. By these methods, the loops may withdraw into the abdomen.

If that does not happen, the abdomen should be opened by an incision as long as necessary and the bowel loops replaced. The surgical wound should then be closed by a suture. If the repair breaks down and bowel loops prolapse again, the patient is sure to die.

Aruṇadatta:

utpaṅgila = markoṭa ... śuṣkamantraṃkṣīreṇārdrīkṛtaṃ ... bahughṛtapariplutaṃ aṅgulyā galaṃ pramṛśet ... vraṇasūkṣmatvād antrasya bahutvāt ...

Kairalī:

ulaṅgila = markoṭa ... nirgatāntrasya kaṇṭhāntarbhāgam utkasanārtham aṅgulyā pramṛṣet parāmṛṣet ... tatkālaṃ kaṇṭhapramarśanādijanitenotkasan odvegādīnā yasmin kāle vāyor ānulomyaṃ bhavati tatkāle ityarthah. pīḍayeta anāviśad āntram kareṇa mandam mandam prapīḍya praveśayet vranasya sūkṣmatayā āntrasya bāhulyād vā koṣṭhe praveśayitum aśakyam āntram ... sārakṛd evam āha – bahutvaśabdo vaipulye.

Example VIII

Ca.Ci.13.45–46:

*snehapītasya mandāgneḥ kṣīṇasyātikrśasya vā /
atyambupānān naṣṭe 'gnau mārutaḥ klomni samsthitaḥ //
srotaḥsu ruddhamārgeṣu kaphaś codakamūrchitaḥ /
vardhayetām tad evāmbu sthānād udarāya tau //*

Translation:

When someone who has ingested oily substances, someone with a weak digestive fire, someone who is wasted or very lean, drinks water in excessive quantities, then, his digestive fire having been destroyed, *vāta*, having become established in the *kloman* and *kapha*, intimately blended with water because the pathways of its channels are obstructed, will, jointly, make that very water increase (and carry it) from its seat to the abdomen.

Kaviratna:

Of a person whose appetite has been weakened after taking medicated oils, or of one who has been become weak or very emaciated, when his digestive fire has been destroyed in consequence of a large measure of water drunk by him, the wind, located in the bladder, the passage being obstructed through the ducts, and the phlegm also, enhanced by the water, coming into the stomach, increase that very water (and carry it) from its seat to the abdomen.

Gulabkunverba:

Owing to excessive drinking of water by a person who has just taken internal oleation or whose digestive fire is weak or who suffers from cachexia and pectoral lesions or who is very much emaciated, the gastric fire gets extinguished; and the *Vāta* lodged in the *Kloman* as well as the *Kapha* which obstructs the passages, combine together, increase and carry this water from its habitat to the abdomen and thus cause the distension of abdomen.

P.V. Sharma:

Due to excessive intake of water by the one having taken uncting substance, poor digestion, wasting and emaciation the digestive fire is extinguished and *vāyu* gets located in *kloma* and *kapha* is aggravated by fluid due to obstruction in passage of channels and both contribute to accumulation of fluid from its normal place into the abdomen.

R.K. Sharma and Bhagwan Dash:

Agni (enzymes responsible for digestion and metabolism) loses its power because of excessive intake of water after the administration of oleation therapy or by a person suffering from *mandāgni* (suppressed power of digestion) by an individual who is cachectic or excessively emaciated. As a result of this, *vāyu* located in the *kloman* (a viscera located adjacent to the heart, i.e. right lungs) gets interrupted with *kapha* and *udaka dhātu* (a liquid element of the body) increases the quantity of that water in the obstructed channels of circulation. The vitiated *kapha* and *vāyu* from their own locations assist in increasing this water as a result of which *udakodara* (ascites) is caused.

Cakra does not comment on *mūrchita*.

Gaṅgādhara (p.2825):

... *kaphaś ca tadudakamūrchitas tena pītenātyambunā saṁmilitibhāvena vikṛtim āpannaś ca* /

And *kapha*, *mūrchita* with that water, i.e., subject to a morbid alteration due to its having blended with that excessive quantity of water drunk (by the patient)

...

These verses describe the aetiology and pathogenesis of ascites (*jalodara*, *udakodara*, or *dakodara*).

Kaviratna takes *snehapītasya mandāgneḥ* together as meaning ‘a person whose appetite has been weakened after taking medicated oils’. He is the only English translator doing so; the others are of the opinion that two categories of patients are referred to. Cakrapāṇi gives no definite answer. Gaṅgādhara, on the other hand, explicitly distinguishes two groups: *snehapītasya ... atyambupānāt ... tathā mandāgnyādeś cātyambupānād* He explains *mūrchita* by making use of the term *saṁmilitibhāva*.

In my opinion four categories of patients are mentioned. This implies that Kaviratna’s interpretation should be rejected. *Snehapāna* is of several kinds and its effects depend on the type of *sneha* employed. In general, *agnimāndya* does not result from *snehapāna*. More relevant is the prescription to drink hot

water after a *sneha* (Ca.Sū.13.22).

A related description is found at Su.Ni.7.21b–22:

dakodaram kīrtayato nibodha //
yaḥ snehapīto 'py anuvāsito vā
vānto virikto 'py athavā nirūḍhaḥ //
pībeḥ jalam śītaḥ āśu tasya
srotāṃsi duṣyanti hi tadvahāni //
snehopalipteṣv athavā 'pi teṣu
dakodaram pūrvavad abhyupaiti //

Translation:

Listen to the description of *dakodara*.

When someone drinks cold water soon after he has drunk oily substances, after the application of an oily enema, after having taken emetics or purgatives, or also after the application of a non-oily enema, the channels carrying water get corrupted, also when these (channels) are coated with a fatty substance, and, as in the preceding case, ascites develops.

Bhishagratna:

Now hear me describe the causes and symptoms of the type known as *Dakodaram* (ascites). The drinking of cold water immediately after the application of an *Anuvāsanam* or *Āsthāpanam* enema, or closely following upon the exhibition of any purgative or emetic medicine, or just after the taking of a medicated oil or clarified butter, etc. tends to derange the water-carrying channels of the body. The same result may be produced by the drinking of oil, etc. in inordinate quantities. The water, by percolating or transuding through the walls of these channels, as before described, inordinately enlarges the abdomen.

Singhal c.s.:

Now please listen to the description of *dakodara*. The water carrying channels of the person, who drinks cold water soon after oleation, oily enemas, emesis, purgation or after taking enemas of medicated decoctions, get vitiated. And even if those (channels) are lined by oily substance, *dakodara* occurs as in the preceding one (*parisrāvyudara*).

P.V. Sharma:

Now listen about *dakodara*. One who takes cold water after intake of *sneha* (fatty material), unctuous or non-unctuous enema, emesis or purgation, his water-carrying channels are vitiated and also when they are coated with fat,

dakodara takes place as before.

Valiathan:

Drinking cold water after lubricant therapy, lubricant/non-lubricant enema and evacuative measures leads to derangement of water channels by fat; fluid collects in the abdomen.

Ambikādatta: ... *pahle ke parisrāvyudar kī bhānti*.

Ghāṇekar:

... *pahle kī bhānti*; *vaktavya: pūrvavat – parisrāvyudar meṃ jis prakār āntra se ras cūkar*⁶⁶ *udarguhā meṃ ikaṭṭā hotā hai us prakār*.

The commentators disagree on the interpretation of *pūrvavat*. Ḍalhaṇa is of the opinion, in the wake of Gayadāsa, that it refers to the preceding description of *kṣatāntrodara* (= *parisrāvyudara*); he mentions that Jejjāta thought it to mean all types of *udara*. Ambikādatta and Ghāṇekar agree with Ḍalhaṇa.

A parallel passage also occurs at A.h.Ni.12(udara).37–38c = A.s.Ni.12.38cd–39:

*atyambupānān mandāgneḥ kṣīṇasyātikṛśasya vā /
ruddhvāmbumārgān anilaḥ kaphaś ca jalamūrchitaḥ //
vardhayetāṃ tad evāmbu tatsthānād udarāśritau /
tataḥ syād udaraṃ*

Translation:

When someone with a weak digestive fire, one who suffers from wasting or one who is excessively lean, drinks too much water, (then) *vāta*, which has obstructed the pathways of water and *kapha*, both intimately blended with water, make that same water increase, away from its (proper) seat, and become lodged in the abdomen.

Hilgenberg and Kirfel:

Oder trimkt jemand, der an Verdauungsschwäche, Schwindsucht oder übermässiger Magerkeit leidet, zuviel Wasser, sperren Wind und Schleim bei ihm die Wasserwege, und mit dem Wasser vereinigt mehrten sie, im Leibe sitzend, eben dieses Wasser.

⁶⁶ Hindī *cūnā* = to drop, to leak.

Srikantha Murthy (A.h.):

In persons who drink large quantity of water by those who have poor digestive capacity, who are debilitated (by depletion of tissues) and who are very emaciated (by debilitating diseases), anila (vāta) and kapha get aggravated to ether, mix with the body-water, make for its great increase, displaces it from its place and cause its accumulation in the abdomen.

Srikantha Murthy (A.s.):

By drinking large quantities of water by persons who have poor digestive capacity, in persons who are wasted and emaciated too much, anila (vāta) and kapha getting aggravated, block the channels of water, getting mixed with that fluid they cause its increase in its own place, move on to the abdomen and accumulate there, producing udara.

Valiathan (615):

Brought on by drinking too much water by those with weak digestion, who are wasted by diseases; vāta and kapha are vitiated and get mixed with water and lead to its increase and displacement into the abdomen; ...

Aruṇadatta:

... *evamvidhasya puruṣasyātyambupānād ambumārgān toyavāhīni srotāṃsi ruddhvānilaḥ kaphaś ca. kimbhūtaḥ. jalamūrchitaḥ toyamiśritaḥ. tāv ubhau vātakaphau jalamūrchitāv udarāśritau tad evāmbu tatsthānād udakasthānāt klomato vardhayetām.*

Aruṇadatta remarks that the natural seat of water is the *kloman*.

Śrīdāsapaṇḍita:

... *anilaḥ kaphaś ca. kimbhūtaḥ. jalamūrchitaḥ toyamiśritaḥ. tāv ubhau vātakaphau jalamūrchitāv udarāśritau ambumārgān toyavāhīni srotāṃsi ruddhvā tad evāmbu jaṭharāśritaṃ tatsthānād udakasthānāt klomno vardhayetām.*

Śrīdāsapaṇḍita also names the *kloman* as the seat of water.

Indu has no useful comments.

Atrideva Gupta:

... *athavā bahut adhik pānī pīnese; mandāgni puruṣke, kṣīṇ atikṛs puruṣke jalavāhī srotomko jalse miśrit kapha aur vāyu rokka; udarmem āśrit hokaḥ –*

isī pānīko – pānīke sthānse (klom sthānse) barhāte⁶⁷ haiṃ.

Gopālprasād “Kauśik”: *vāyu aur kapha jalmeṃ milkar.*

Shiv Sharma: *vah jal aur vāt kapha milkar.*

Vāsiṣṭha and Śarmā:

jab manuṣya ko sneha pān kar lene ke uparānt mandāgni ho jātī hai, vā vah bahut kṛśa aur durbal hotā huā, bahut pānī pītā rahe, ... vāyu klom bhāg (pancreas) meṃ bhar jātī hai, srotoṃ ke mārg ruk jāte haiṃ aur kaph meṃ jal barh jātā hai,

This passage is remarkable in describing *mūrchana* of *kapha* with water, obviously regarded as a *dūṣya*.

The translators and commentators express as their opinion that both *vāta* and *kapha* are mixed with water. The text, however, does not support this, for *mūrchita* is used in the singular and belongs to *jala*.

The status of water within the body in āyurvedic theory is one of the subjects deserving more attention. It is not very rare to come across the term *abdhātu*. On this topic I cannot digress on this occasion.

The commentators refer to the water-carrying channels as those being blocked and to the *kloman* as the proper seat of water. The nature of the organ called *kloman* cannot be discussed in the present context and deserves a separate study.

As in many other cases, the commentators and translators do not commit themselves and interpret *mūrchita* as mixed with.

The categories *kṣīṇa* and *atikṛśa* differ from each other and cannot be taken as one group as Valiathan does.

Example IX

A.h.U.23(śiroroga).24cd–25a = A.s.U.27.26:

romakūpānuḡaṃ pittaṃ vātena saha mūrchitam //
pracyāvayati romāṇi

Translation:

Pitta, moving to the pores of the hairs, and intimately blended with *vāta*, makes

⁶⁷ Hindī *barhānā* = to push.

the hairs fall out.⁶⁸

Atrideva (A.s.U.27.18a–c): *pitta vāyu se milkar*.

Hilgenberg and Kirfel:

Ist die Galle zusammen mit dem Winde erstarrt und folgt sie den Haarporen, bringt sie die Haare zum Ausfall.

Srikantha Murthy (A.h.):

Pitta present in the hair follicles associating with vāta makes the hairs to fall off.

Srikantha Murthy (A.s.):

Pitta present at the hair follicles associated with vāta causes falling off of the hairs, afterwards śleṣma (kapha) associated with śoṇita (blood) ...

Valiathan (744):

... when pitta present in hair roots joins vāta to cause the falling of hair ...

Aruṇadatta: -

Indu (A.s.): ... *pittaṃ kartṛ vātena saha mūrchitaṃ miśrībhūtaṃ* ...

Kairālī: *vāyunā saha kupitaṃ pittam*.

Śivadāśasena: no useful comments.

Gopālprasād “Kauśik”: *pitta vāyu ke sāth mil kar*.

Shiv Sharma: *pitta vāyuke sāth milkar*.

The action of the latter two comes about when they are *mūrchita*, rendered as ‘associated with’ by Srikantha Murthy. This translation is useless. It is self-evident that the two are in some way associated. The question is in which particular way this happens.

The Kairālī errs in a way we have already come across in rendering *mūrchita* as *kupita*.

The interpretation of Hilgenberg and Kirfel, ‘ist die Galle zusammen mit

⁶⁸Though the hairs of the head are meant, *roman* is used instead of *keśa*.

dem Winde erstarrt', appears enigmatic. Nowhere else this equivalent is found in their work. 'Erstarrung' is an ill-chosen expression taking into account that the text refers to an active process. 'Erstarrung' is associated with inertia.

It may be that a solution is possible. I will elaborate on it when dealing with the verb *abhi-murch* in example X.

Example X

Ca.Ci.16(pāṇḍuroga).126:

*kaphasam̐murchito vāyuh̐ sthānāt pittaṁ kṣīped bālī /
hāridranetramūtratvak̐ śvetavarcās tadā naraḥ //*

Translation:

When *vāyu* is strong, has coalesced with *kapha* and has *pitta* driven away from its seat, the eyes, urine and skin of a man become yellow like turmeric and his faeces lose their colour.

Kaviratna (1473):

The wind, mixing with phlegm, in consequence of ... , becomes strong and expels the bile from its own place.

Gulabkunverba:

... as the result of ... the *Vāta* combined with *Kapha* gets provoked and expels the *Pitta* from its seat.

P.V. Sharma:

Due to ... *vāyu* vitiated and powerful and mixed with aggravated *kapha* throws *pitta* out of its own seat ...

R.K. Sharma and Bhagwan Dash:

... *vāyu* infiltrated with *kapha* gets aggravated to cause displacement of *pitta*.

The translations mixed, combined, and infiltrated with do not convey the precise meaning of *murchita*.

Cakra:

*śleṣmaṇā ruddhamārgaṁ iti koṣṭhasthena śleṣmaṇā śākhāśrayi pittaṁ
kāmalājanakaṁ ruddhamārgaṁ koṣṭhagamanārthaṁ niṣiddhamārgaṁ iti
yāvat.*

Gaṅgādhara:⁶⁹ *vāyuh kaphasaṁmūrchitaḥ san.*

Brahmanand Tripathi: ... *kaphadoṣ se yukt balavān vātadoṣ ...*

Jayadeva (Ci.16.125): ... *kapha miśrit vāyu ...*

Mihiracandra: *kaphse milā huā.*

Pade: *kapha se ghirā*⁷⁰ ...

Pandeya and Chaturvedi: ... *kapha se mūrchit vāyu ...*

Rāmprasād and Śivaśarman (20.121cd–122ab):

... *vāyu kapha saṁyukt hokar*

Vāsiṣṭha and Śarmā:

... *kaph se ghirā balavān vāyu pitta ko āśay se dūr phenk detā hai*

The Hindī translations (mixed with, joined to) are not precise enough.

Example XI

Ca.Ci.30(yonivyāpad).23:

*pittalāyā nṛsaṁvāse kṣavathūdgāradhāraṇāt /
pittasaṁmūrchito vāyur yoniṁ dūṣayati striyāḥ //*

Translation:

When a woman of *pittala* constitution suppresses sneezing and eructation during sexual intercourse, *vāyu*, thoroughly blended with *pitta*, may corrupt that woman's vagina.

Kaviratna (30.22):

A woman in whose constitution the bile predominates, by suppressing the urgings of sneezing and eructations, during intercourse or sexual congress with a male, has the wind overwhelmed by the bile. The wind thus overwhelmed, vitiates her organ (lit. vulva).

⁶⁹ III, p.2997: 16.43bc.

⁷⁰ Hindī *ghirnā* = to surround, to be filled, to be enclosed.

Gulabkunverba:

If a woman of *Pitta*-habitus suppresses the urge for sternutation or eructation during sexual congress, the *Vāta* combined with the *Pitta*, vitiates her vagina.

P.V. Sharma:

When a woman of *paittika* constitution suppresses the urge of sneezing and eructation during coitus, *vāyu* combined with *pitta* affects the genital tract of the woman.

R.K. Sharma and Bhagwan Dash:

If a woman of *paittika* constitution suppresses the manifested urge for sneezing and eructation during the sexual intercourse with man, then the aggravated *vāyu* being afflicted by *pitta* vitiates her gynecic organs.

Jejjaṭa and Cakra do not comment on *saṃmūrchita*.

Gaṅgādhara:⁷¹ does not explain *saṃmūrchita*.

Brahmanand Tripathi:

... *yadi ... to ... pitta ke sāth milī huī vāyu prakupit hokar ...*

Jayadeva (Ci.30.22): ... *pitta se miśrit vāyu ...*

Mihiracandra: *pittase milā huā vāyu*.

Pade: *yadi ... tab vāyu pitta se mūrchit hokar*

Pandey and Chaturvedi: ... *to pitta se milī huī vāyu kupit hokar ...*

Rāmprasād (30.21): *pittayukt vāyu kupit hokar*

Vāsiṣṭha and Śarmā: *vāyu pitta se mūrchit hokar*

Vāta, excited by the suppression of natural urges, coalesces with *pitta* here.

As usual, the translators render *mūrchita* as mixed with, together with, joined to, etc. R.K. Sharma and Bhagwan Dash are wrong in interpreting the term as afflicted by.

⁷¹ III, p.3462: 30.13ab.

Example XII

Ca.Si.7(bastivyāpad).15:

*āmaśeṣe nirūheṇa mṛdunā doṣa īritaḥ /
mārgaṃ ruṇaddhi vātasya hantya agniṃ mūrchayaty api⁷² //*

Translation:

When a remnant of *āma* is present and the *doṣa* is stirred up by the administration of a mild *nirūha* (a non-oleaginous enema), it obstructs the pathway of *vāta*, destroys the digestive fire and coalesces with it (or: causes fainting).

Kaviratna:

In *āmadosha* (malady caused by undigested food, mucus, dysentery), the fault, dislodged by ‘niruha’ (dry enemata) of mild type, obstructs the passage of the wind, kills as also checks the (digestive) fire.

Gulabkunverba:

If there is a residue of chyme and then evacuative enema given is mild, the stirring up of the morbid matter obstructs the course of *Vāta*, impairs the gastric fire and also provokes the *Vāta*.

P.V. Sharma:

If *āmadoṣa* is remaining and non-unctuous enema is administered in mild form, the impurity gets excited which aggravates *vāyu*, blocks the channels and mars digestive fire.

R.K. Sharma and Bhagwan Dash:

If a mild recipe is used for *nirūha-basti*, when there is residual *āma* (product of improper digestion) in the gastro-intestinal tract, then the (*doṣas*) (*pitta* and *kapha*) along with *āma* excited by enema obstruct the channel of *vāyu* that causes perversion and suppression of the power of digestion.)

Jejjaṭa:

āmaśeṣe nirūheṇeti. doṣaḥ śleṣmā tasya pavanamārgasaṃrodhād agnyupaghātakaratvān mūrchāklamādīnāṃ gauravāntānāṃ liṅgatvād iti.

⁷²Gaṅgādhara (III, p.3724: 7.8ab.) reads: *āmadoṣe nirūheṇa mṛdunā doṣahāriṇā / mūrchayaty anilo mārgaṃ ruṇaddhy agniṃ hinastī ca.*

Cakra:

doṣaśabdena cātra pittakaphāv āmasahitau mārgāvarakaāv ucyete. mūrchayatī mārgāvarodhāt kopayati.

Gaṅgādhara:

āmadoṣe ityādinā kṛamavyāpadam āha – āmadoṣe doṣahāriṇā mṛdunā nirūheṇānilo mūrchayati kupyati.

Brahmanand Tripathi:

... tathā jaṭharāgni ko kāryakṣam nahīm rahne dete aur mārgom kā avarodh ho jāne ke kāraṇ

Jayadeva (Si.7.14):

14cd reads in this edition: *mūrchayaty anilaṃ mārgaṃ ruṇaddhy agniṃ hi-nasty api.*

Jayadeva comments:

... prerit doṣ vāyu ko kupit kartā hai mārg vā srotoṃ ko rok letā hai agni kā nāś kartā hai.

Mihiracandra: *mūrchā ko karai hai.*

Pade:

... tab doṣ kupit hokar vāyu ke mārg ko rok letā hai aur pācan agni kā bhī nāś kar detā hai.

Pandeya and Chaturvedi:

tathā jaṭharāgni ko naṣṭ kar dete haiṃ aur mārgom meṃ avarodha ho jāne ke kāraṇ vāyu ko kupit bhī kar dete haiṃ

Rāmprasād and Śivaśarman:

... doṣ utkleśit hokar vāyuke mārgko roklete haiṃ tathā agniko naṣṭ vā mūrchit kardete haiṃ ...

Vāsiṣṭha and Śarmā:

tab doṣ kupit hokar vāyu ke mārg ko rok letā hai aur pācan agni kā bhī nāś kar detā hai.

The word *doṣa*, not specified in the text, denotes *kapha* according to Jejjāṭa, *pitta* and *kapha* according to Cakrapāṇidatta.

As in a number of previous cases, *mūrchayati* is interpreted as *kupyati* or *kopayati* (Cakra, Gaṅgādhara). Kaviratna gives 'to check' as an equivalent. Jejjāta completely disagrees and is of the opinion that *mūrchayati* means that *mūrchā*, fainting, is brought about as a symptom. This interpretation may be the right one, on account of the position of *mūrchayaty api* as an addition, followed by a series of other symptoms.

Coalescence of a *doṣa* with *agni* is met with here for the first time according to part of the translators and commentators.

Example XIII

Su.Ni.16.47:

gale 'nilaḥ pittakaphau ca mūrchitau
pr̥thak samastāś ca tathaiva śoṇitam /
pradūṣya māṃsaṃ galarodhino 'ñkurān
sr̥janti yān sā 'suharā hi rohiṇī //

Translation:

The sprout-like growths in the throat which *vāta*, coalesced with *pitta* and *kapha*, separately or jointly, and also blood, generate, after vitiating fleshy tissues, (thereby) obstructing the throat, (that disease) which takes away life, is (called) *rohiṇī*.

Bhishagratna (16.49; II, 107–108):

The aggravated *Vāyu*, *Pittam*, *Kapham*, either severally or in combination, or blood may affect the mucous of the throat and give rise to vegetations of fleshy papillae, which gradually obstruct the channel of the throat and bring on death. The disease is called Rohini (diphtheria).

P.V. Sharma:

Aggravated *vāta*, *pitta* and *kapha*, separately and jointly and also blood vitiate *māṃsa* and thus produce sprouty growth obstructing throat. This is *rohiṇī* which is fatal.

Singhal c.s.:

The fatal disease, in which the throat is afflicted by (vitiated) *vāta*, *pitta* and *kapha* separately or all together and also by *śoṇita* which vitiates the muscular tissue and produce buds which obstruct the throat, is called *rohiṇī*.

Valiathan:

In Rohiṇī perturbed *vāta*, *pitta*, *kapha* singly and in combination or in combination with blood assail the throat and produce a fleshy swelling which becomes obstructive and fatal.

Dalhaṇa:

prthag iti tisraḥ samastā iti ekā śoṇitam ity ekā evaṃ pañca. mūrchitau vṛddhau ... anilaḥ pittakaphau ca mūrchitau pradūṣya māṃsaṃ ca tathaiva śoṇitam.

Dalhaṇa regards *mūrchita* to be the same as *vṛddha*.

Gayadāsa does not explain the term.

Vācaspati's *Ātaṅkadarpaṇa* on *Mādhavanidāna* 56.38 (= Su.Ni.16.47) is the only source that employs the term *vidagdha* to explain *mūrchita*.

Hindī translators of the *Mādhavanidāna*, however, do not follow this example: Sudarśanaśāstrī has *vṛddha*, Narendranath employs *kop se*, Garde and Dattarām use *duṣṭ*.

Ambikādatta (Su.Ni.16.49) renders *mūrchita* as *kupita*.

Atrideva employs the very general term *pravṛddha*, increased, as its equivalent.

Ghāṇekar gives *milkar*, mixed, as its meaning.

The translations are unsatisfactory and inaccurate in rendering *mūrchita* as aggravated, vitiated, increased, etc. In support of his interpretation (*kupita*, i.e., excited) Ambikādatta quotes Ca.Sū.18.34–35: *vātapittakaphā yasya yugapat kupitās trayāḥ / jihvāmūle 'vatiṣṭhante vidahantaḥ samucchritāḥ // janayanti bhṛśaṃ śoṭhaṃ vedanāś ca prthagvidāḥ / taṃ śīghrakāriṇaṃ rogaṃ rohiṇī vinirdiś et //* When in someone *vāta*, *pitta* and *kapha* are simultaneously excited and stay at the root of the tongue after their increase, leading to *vidāha*, they bring about a severe swelling and various kinds of painful sensations; this disease with quick course is called *rohiṇī*.

Example XIV

Su.Śā.7.17:

praduṣṭānāṃ hi doṣāṇāṃ mūrchitānāṃ⁷³ / dhruvam unmārgagamanam ataḥ sarvavahāḥ smṛtāḥ //

Translation:

Corrupted *doṣas* always leave their own pathways when they have coalesced

⁷³ V.l. *ucchritānāṃ pradhāvatām*

together; for that reason (the channels transporting them) are called ‘carrying them all’.

Bhishagratna (7.12; II, 194):

... for as soon as they are deranged and aggravated they seem to flow through all the *Śīrās* promiscuously. Hence they are called *Sarvavahah*.

P.V. Sharma:

Even the aggravated *doṣas* run intermingled and divert to faulty passage, so they are known as carrying all.

Singhal c.s.:

Vitiated *doṣas* when aggravated, overflow and certainly get into other channels (than their own); therefore they are known as *sarvavāhā*.

Thatte:

Vitiated doshas when they are diminished or aggravated, overflow and enter into other siras along with their own. Hence they are called “Sarva-vaha”.

Ḍalhaṇa: *mūrchitānām iti parasparam miśritānām ity arthaḥ*.

Ambikādatta does not explain *mūrchita*.

Ghāṇekar renders *mūrchita* as *barhe hue*, increased.

As in many other instances, the translators render *mūrchita* by ‘aggravated’, too unspecific a term. Ḍalhaṇa says ‘mixed with one another’.

Example XV

A.h.Sū.13(*doṣopakramaṇīya*).26 = A.s.Sū.21.37:

*anye doṣebhya evātiduṣṭebhyo ’nyonyamūrchanāt /
kodravebhyo viśasyeva vadanty āmasya sambhavam //*

Translation:

Other (authorities) say about *āma* that it originates, in the same way as a poisonous substance from *kodrava* grains, from excessively corrupted *doṣas* which have coalesced with each other.

Hilgenberg and Kirfel:

Andere lehren, dass das Unreife wie das Gift aus *Paspalum scrobiculatum* (*kodrava*) durch gegenseitige Vermischung nur aus verdorbenen *Doṣas* entsteht.

Srikantha Murthy:

Others (authorities) opine, that āma gets formed from intimate mixing with one another of greatly increased doṣās ...

Valiathan:

Others take the view that āmā results from the admixture of increased doṣas in a manner as a poison results from the intake of kodrava.

Srinivas Rao (A.s.):

Some of the ācāryas of the opinion that when the doṣas get vitiated to the maximum extent, the froth that is produced is considered as āma.

Candranandana:

doṣebhyo vātādibhya evātiduṣṭebhyaḥ prāg atyarthaṃ nicitebhya uttarakālaṃ vidagdhenāhareṇānyonyaṃ parasparaṃ mūrchanān miśrībhāvāt tad

Aruṇadatta: ... *anyonyamūrchanāt parasparamiśrībhāvāt ...*

Hemādri: ... *anyonyamūrchanāt parasparam ekalolībhāvāt.*

Śrīdāsapaṇḍita:

anye ācāryāḥ doṣebhya eva vātādibhyo 'tiduṣṭebhyo 'nyonyamūrchanāt phenavad āmasambhavaḥ. kebhyaḥ kasyeva. yathā kodravebhyo deśakālādyapekṣayā viśasya sambhavaṃ vadanti. viśaśabdo 'tra madavacanaḥ anyonyamūrchanād iti deśakālādīnāṃ mūrchanaviśeṣād yathā kodraveṣu viśaṃ sambhavati.

Indu (A.h. and A.s.):

anye punar ācāryā anyathā āmasya sambhavaṃ varṇayanti katham ity āha.⁷⁴ doṣebhya eva vātādibhyo 'tiduṣṭebhyo 'nyonyaṃ parasparaṃ sammūrchanāt phenavad āmasambhavaḥ.

Parameśvara:

anye ācāryāḥ atiśayenaduṣṭiṃ prāpte bhyo vātādibhya eva parasparamiśrībhāvāt

Candranandana's views differ from those found in the other commentaries. He interprets *atiduṣṭa* as: after having accumulated first, at a later time intimately blended (*mūrchita*) with each other due to the partially digested (*vidagdha*) food.

⁷⁴This first sentence is absent from the commentary on A,h.

It is not easy to understand the precise meaning of this explanation.

Śrīdāsapaṇḍita appears to be acquainted with the circumstances determining the development of poisonous substances in *kodrava* and applies this knowledge in order to explain *mūrchanā*. In his opinion, peculiarities (*viśeṣāḥ*) regarding *mūrchanā*, namely its place and time, determine whether or not *āma* will be formed, in the same way as place and time determine the production of a *madana* poison in *kodrava*.

The immature and the freshly collected grains of *Paspalum scrobiculatum* Linn. (*kodrava*) may be poisonous, as well as those from plants grown in particular localities.

Atrideva Gupta (A.h.):

tathā pittakāraḥ kāraṇomse kupit drava pitta aur rakta paraspar milkar – ve āpasmeṃ ek samān rūp hokar śarīrmeṃ phail⁷⁵ jāte haiṃ.

Atrideva Gupta (A.s.):

dūsre ācāryā āmkī utpatti anya prakārse kahte haiṃ – vātādi doṣomke ati dūṣit ho jānepar paraspar milnese jo jhāg (= foam, froth) utpanna hotī hai, vahī ām hai.

Gopālprasād “Kauśik”: *āpas meṃ mil jāte haiṃ.*

Kāśīnāth Śāstrī:

atiduṣṭ doṣom kā paraspar jab mūrchanā arthāt saṃyog hotā hai to

Lālcandra Sāstrī: *atyant dūṣit vātādi doṣom ke paraspar mūrchan (vikṛti).*

Shiv Sharma: *āpasmeṃ mūrchnā honese.*

Chāṅgāṇī (A.s.): *duṣṭ vātādi doṣ hī pārasparik mūrchanā.*

The translators, as in previous instances, use terms like mixed, vitiated.

Example XVI

Bhela Ci.21.2–6:

*nityaṃ vegapratīghātād jīrṇādhyāsanād api /
raktaṃ vāyuś ca kupitau mastake pratīṣṭataḥ //
sa mastakagato vāyuḥ raktaṃ caikatra mūrchitam /
udaye ’rkasya sampātād ādityakaradūṣitam //*

⁷⁵ Hindī *phailnā* = To spread, to pervade.

*vedanāṃ janayet tīvrāṇi śaṅkhayor mūrdhni gaṇḍayoḥ /
 nighnann iva śiro 'tyartham muhur grhṇāti pāṇinā
 niṣyandate hi mastiṣkam ādityoṣmasamuddhatam /
 vardhate vardhamāne tu sūrye śīrṣarujā hy atah /
 sa mastiṣkaś ca niryāti divasasya parikṣayāt /
 iti prāhur munayo 'nena hetunā //*

Translation:

K.H. Krishnamurthy:

As rakta and vāyu both get aggravated and stay established (pratitiṣṭhataḥ) at the head, because of constant suppression of natural urges (that have reached the point of release) or indigestion or even due to over-eating (before the previous food is digested); this vāyu and rakta that have reached the head and become congealed there together (ekatra mūrchatam) become (further) vitiated by the falling in (sampātāt) of the rays of sun as he rises up (and thus) generate acute pain at the temples, the crown of the head (mūrdhni) and the cheek. (It does so) as if the head (itself) is being struck down there excessively (while, the patient) grasps (the regions concerned) softly and with his (own) hands (as if to alleviate himself there). (And), indeed (hi), the heat of the sun (seems to) cause oozing (niṣyandate) from the head. Henceforth and therefore (atah) the pain at the head gets augmented as the sun flourishes (forth in the sky). This (pain) leaves the head (niryāti, should this be nirvāti?) with the decline in the day. (It is) because of this reason that this (ailment) is called by sages sūryāvarta (turning or rotating along with that of sun).

This translation is not satisfactory in some respects.

The proper translation of the sentence saying: “(the patient) grasps (the regions concerned) softly and with his (own) hands” would be: “(The patient) grasps (the regions mentioned) repeatedly with his hand(s).

The term *mastiṣka* has not been understood properly. This word denotes the contents of the skull, i.e., the brain tissue, not the head, as in the translation: “The heat of the sun (seems to) cause oozing from the head”. The word *samuddhata* has been left untranslated. A more correct rendering is: “The brain tissue, swollen by the heat of the sun, oozes out.

“This (pain) leaves the head with the decline in the day” does not agree with the text, which says “This brain tissue leaves (the head) when the day draws to an end.” As we will see, this completely disagrees with other descriptions of this disease, which makes it understandable that the translator changed brain tissue into pain, though without indicating this.

P. Srinivasa Rao:

Because of continuous suppression of ensuing natural urges, lack of digestion, consuming of food when the previously taken food is in a state of indigestion (adhyasana) both rakta (blood) and vata attain aggravation and get localised there in mastiska (brain). Thus both rakta and vata get amalgamated in mastiska and become vitiated by the exposure to the falling sunrays. Hence the patient experiences more pain as the day advances (intensity of sunrays increases) causes severe pain in the head, regions of temples, the crown of the head and the cheek. He experiences as if the head being struck down there very much, hence holds it softly with his hands. And also the heat of the sun generates secretions. Therefore the pain gradually increases as the sun increases but gets subsided as the day diminishes. Because of this reason (Peculiarity of the pain and its severity corresponding to the rise and fall of the sunrays) it is named as suryavarta by the sages.

The description of this disorder as found in the *Carakasamhitā* (Si.9.79–81c) elucidates many features that remain obscure in the version of the *Bhelasamhitā*:

*sandhāraṇād ajīrṇādyair mastiṣkaṃ raktamārutau /
duṣṭau dūṣayatas tac ca duṣṭaṃ tābhyāṃ vimūrcchitam //*
*sūryodaye 'mśusantāpād dravaṃ viṣyandate śanaiḥ⁷⁶ /
tato dine śiraḥśūlaṃ dinavṛddhyā vivardhate //*
*dinakṣaye tataḥ styāne mastiṣke saṃpraśāmyati /
sūryāvartaḥ sa tatra syāt ... //*

Translation:

Blood and *vāta* corrupt the brain tissue when, both being corrupted, one suppresses one's natural urges, when one suffers from indigestion, etc. This corrupted (tissue), when it has become intimately blended with the two (namely blood and *vāta*), oozes slowly out when the sun rises, on account of the heat of its rays. This causes a piercing pain in the head during the day, intensifying in the course of the day. Towards the end of the day, when the brain tissue thickens, this (pain) diminishes. This (disease) is (called) *sūryāvarta*.

Kaviratna:

In consequence of the suppression (of the urgings of nature) and through indigestion etc., blood and wind being vitiated, vitiate or congest the brain. And the vitiated brain being exceedingly excited by those two (viz., blood and wind)

⁷⁶Gaṅgādhara reads: *sūryodaye 'rkasantāpād raktaṃ viṣyandayec chanaiḥ*

slowly gives up a secretion (of phlegm) with pain by the heat of the rays of the sun after its rise. Hence results a severe headache at daytime which increases with the growth of the day. At the end of the day the brain becoming condensed (i.e., its virulence due to solar heat being removed) the headache gradually disappears. This is known as *Sūryāvarta*.

Gulabkunverba:

The blood and the *Vāta* getting vitiated by the suppression of natural urges, indigestion and similar factors, in turn vitiate the brain. The brain, thus vitiated, combining with the vitiated humors, causes the following disorders. After sunrise, the morbid matter gets liquified by the sun-heat and begins to flow out gradually; and as the day advances the headache continues to increase; and after the sun begins to go down the liquid gets congealed in the head and the pain ceases. This disease is called *Sūryāvarta*, a variety of neuralgia.

P.V. Sharma:

Due to suppression of urge, indigestion etc. blood and *vāyu* get vitiated and then affect the brain which thus affected is gradually liquified after sunrise due to heat of the sunrays and headache increases as the day advances and gets subsided at the end of the day when the brain matter is solidified. This is *sūryāvarta*.

R.K. Sharma and Bhagwan Dash:

Because of *vega-sandhāraṇa* (suppression of the manifested natural urges), *ajīrṇa* (indigestion), etc., *rakta* (blood) and *māruta* (*vāyu*) being vitiated, afflict the *mastiṣka* (cerebrum). The cerebrum, thus gets interacted by these two vitiated factors. Because of the effect of sun-rays after the sun-rise, the morbid matter in the cerebrum which is in liquid form gets exudated slowly. Therefore, during day time, as the day advances, the headache becomes more and more intense. When the sun goes down, the liquefied morbid material becomes thicker and thicker in density in the brain as a result of which the headache becomes alleviated. This ailment is called *Sūryāvarta*.

The commentary of Cakrapāṇidatta contains important remarks on these verses:

mastiṣkaṃ śiraḥstho majjā. ... viṣyandate cyavate. etac ca sūryāvartasya rūpaṃ doṣadūṣyayor vikṛtviṣamasamavāyād bhavati; tena nānyavikāra evaṃbhūto bhavati. tathā vedanā sūryatāpe evāsya vardhate nāgnitāpe, ity etad api prabhāvakṛtam eva jñeyam.

Translation:

Mastiṣka is the marrow in the head. ... It exudates, i.e., it flows downwards. This symptom of *sūryāvarta* presents itself due to a peculiar mixture of *doṣa* and *dūṣya* on account of a morbid alteration. Another disorder of such a kind does therefore not occur. The painful sensation comes about by the heat of the sun, and is not (caused) by (any other) fire. One should know that this too is caused by a special action and not by anything else.

The parallel in the *Suśrutasamhitā* is found at U.25.11cd–13ab:

*sūryodayaṃ yā prati mandamandam
akṣibhruvaṃ ruk samupaiti gāḍham⁷⁷ //
vivardhate cāṃśumatā sahaiva
sūryāpavṛttau vinivartate ca //
śītena śāntiṃ labhate kadācid
uṣṇena jantuḥ sukham āpnuyāc ca⁷⁸ //
taṃ bhāskarāvartam udāharanti
sarvātmakaṃ kaṣṭatamaṃ vikāram⁷⁹ //*

Translation:

(The disorder,) in which a deep pain in the region of eyes and brows very slowly begins to be experienced about sunrise, (a pain) that increases together with the (rise of) the sun and abates when the sun begins to set, in which a person (suffering from it) sometimes finds relief by cooling (measures or substances), sometimes feels comfortable by heating (measures or substances), that disorder is called *bhāskarāvarta*; it is brought about by all (the *doṣas*) and extremely troublesome.

Bhishagratna:

The disease of the head in which a severe pain is felt in the eye and the eyebrow just at sunrise, and which goes on growing worse with the progress of the day and begins to abate only when that great luminary begins to set in the western sky, is called *Suryāvarta*. It (generally) abates on the use of cold articles but sometimes on that of warm things as well. It is ascribed to the concerted action of the three *Doshas*.

⁷⁷ The version found in the *Mādhavanidāna* reads *gāḍhā*.

⁷⁸ The version found in the *Mādhavanidāna* omits this verse.

⁷⁹ The *Mādhavanidāna* reads: *sarvātmakaṃ kaṣṭatamaṃ vikāraṃ sūryāpavartam tam udāharanti*.

‘Just at sunrise’ is not in conformity with the sense of *prati*. Bhishagratna omits to translate *kaṣṭatama*.

Singhal c.s.:

The headache which starts mildly in the regions of the eyes and the eyebrows with the sun-rise, gradually gains momentum and increases with the sun (going up) and finally subsides as the sun sets and which is sometimes relieved by cold measures and sometimes by hot measures, is described as *sūryāvarta* type of headache. It is *sannipātaja* in nature and is extremely troublesome.

Singhal c.s. appear to translate *mandamandam* twice, as ‘mildly’ and as ‘gradually’.

P.V. Sharma:

Pain in eyes and eye brows starts slowly with sunrise becomes severe increasing gradually as the sun rises up and subsides at the sunset. The patient gets relief sometimes by cold and at another time by hot items. This is known as *Sūryāvarta* which is the most troublesome disorder caused by all doṣas.

‘The most troublesome disorder’ instead of ‘a most troublesome’ creates a wrong impression.

Valiathan:

Pain over the eyes and eyebrows starts from sunrise and increases gradually as day advances; subsides with sunset. This is caused by the perturbation of all doṣas and may be relieved variably by cold or hot items.

Ḍalhaṇa:⁸⁰

sūryodayam ityādi. sūryāpavṛttau sūryāstasamaye. kasmāt pravṛttinivṛttī bhavati iti pratipādayan nimir āha – “svabhāvaśītā ’bhīmūlā rātris tayodbhūtakaphena mārge / ruddhe marut kopam iyāt prabhāte rujaṃ karoty atra śirobhitāpe || madhyāhnasūryātapatāpayogāt kaphe vilīne maruti prapanne / svamārgam āyāti tadā dinānte praśāntim āvarta ihārkapūrve” iti. sūryātapavilīnamastuluṅgakāraṇotpannasūryāvarta iti dṛḍhabalācāryaḥ – “uṣṇena jantuḥ sukham āpnuyāc ca” iti pāṭhāt sūryāvartaviparyayaḥ kathito boddhavyaḥ. kecid atra ’āvartasaṃjñāḥ sa ca sūryapūrvo vyādhir mataḥ pīttasamīraṇābhyaṃ’ iti paṭhanti.

⁸⁰The most elaborate comments are found in the *Madhukośa* ad *Mādhavanidāna* 60.8.

Translation:

... Nimi explains why (the disease) appears and disappears with the words: “The night is by nature cooling and *abhimūla*. When *kapha*, generated by it (i.e., the night), has obstructed the path (of *vāta*), *vāta* becomes excited and brings about pain at daybreak in the form of this affliction of the head; when *kapha* has dissolved through the influence of the glowing heat of the midday sun, then *vāta*, setting out, moves to its own path, and calms down at the end of the day, when the sun turns (westwards).”

Dṛḍhabala reads in the context of *sūryāvarta*, brought about by the liquefying of brain tissue due to the heat of the sun as its cause: “A person (suffering from it) may feel comfortable by heating (measures or substances)”. These words must be understood to indicate *sūryāvartaviparyaya*. Some are of the opinion that the term *āvarta* denotes the disease *sūryāvarta* and read (thus): (caused by) *pitta* and *vāta*.

The disorder called *sūryāvartaviparyaya* is discussed in Ḍalhaṇa’s comments ad Su.U.25.1–4.

The disease is described at A.h.U.23.18–20a = A.s.27.18–19:

*pittānubaddhaḥ*⁸¹ *śaṅkhākṣibhrūlalāṭeṣu mārutaḥ* /
*rujaṃ*⁸² *saspaṇḍanāṃ kuryād anusūryodayodayāṃ* //
āmadyāhnaṃ vivardhiṣṇuḥ kṣudvataḥ sā viśeṣataḥ /
avyavasthitaśītoṣṇasukhā sāmyaty ataḥ param //
sūryāvartaḥ sa

Translation:

Vāta, with *pitta* as a secondary *doṣa*, brings about pain, accompanied by throbbing, in the temples, eyes, brows, and forehead, in relation with the rise of the sun. (This pain) increases until midday, particularly in persons who are hungry, and a feeling of comfort may come about by cooling or heating (substances or measures) without any regularity. After that (i.e., after midday), it (the pain) subsides. This (disorder) is (called) *sūryāvarta*.

Hilgenberg and Kirfel:

Ist der Wind von Galle gefolgt, ruft er in Schläfe, Auge, Braue und Stirn Schmerz und Zucken hervor; er [der Schmerz] entsteht bei Sonnenaufgang pfllegt bis zum Mittag zuzunehmen, besonders wenn man Hunger hat; bei diesem ist die

⁸¹ A.s. has *anubandhaḥ*.

⁸² A.s. has *rujāṃ*.

angenehme Wirkung von Kaltem und Warmem nur vorübergehend, darnach [d.h. am Nachmittage] lässt er nach; das ist Sūryāvarta (“Sonnenstich”).

Srikantha Murthy:

Māruta (vāta) followed by pitta produces throbbing pain in the temples, eyes brows and forehead, commencing with the rise of the sun, increases in severity in the midday and on being hungry; of uncertain comfort to hot or cold and subsides later (after the sun sets); this disease is Sūryāvarta.

Valiathan:

Sūryāvarta: Perturbed vāta and pitta cause severe pain of a pulsating kind in the temples, eyebrows and forehead, which begins with sunrise and increases in intensity as the sun becomes ascendant and especially when the patient becomes hungry. Unresponsive to cold or heat, it settles as the sun goes down.

The technical meaning of *anubaddha* escapes the notice of the translators. The fact that *pitta* is an *anubandha* implies that it will be pacified by measures against the principal *doṣa* on which it is dependent.⁸³

Some translators render *akṣibhrū* erroneously as eyebrows.

Anavasthita does not mean transitory (Hilgenberg and Kirfel: vorübergehend), nor unresponsive (Valiathan).

Example XVII

The verb *abhi-murch-* is employed at Ca.Sū.26.39:

tāsu mūrṭiṣu ṣaḍ abhimūrchanti rasāḥ

Translation: In these embodied beings the six tastes become manifest.

Kaviratna: ... in which forms of objects the six tastes become displayed.

Gulabkunverba:

It is in these bodies that it develops into the six categories of taste.

P.V. Sharma: In these six rasas are evolved.

R.K. Sharma and Bhagwan Dash:

At this stage the six tastes manifest themselves in these individuals.

⁸³ See Ca.Vi.6.8–11 and Cakrapāṇi's comments.

Srikantha Murthy: In them rasa (tastes) manifest in six kinds.

Papin: Les six saveurs y (dans les formes vivantes) sont contenus.

Angot: C'est dans ces corps que les six *rasa* se développent.

Cakra: *abhimūrchanti rasā iti vyaktiṃ yānti.*

Śivadāśasena: *abhimūrchanti rasā iti vyaktatām yānti.*

Gaṅgādhara:⁸⁴

tāsu ca jaṅgamasthāvarāṇāṃ mūrṭiṣu tābhir adbhiḥ prīyamāṇāsu tābhya evādbhyaḥ ṣaḍ rasāḥ abhimūrchanti vyaktībhāvam āpadyante.

Brahmanand Tripathi: *un mūrṭiyom meṃ chaḥ ras abhivyakt hote haiṃ.*

Jayadeva (Sū.26.57):

un śarīrom meṃ 6 ras prakṛṭ hote haiṃ. suśrut Sū.45 a. meṃ bhī kahā hai – tad evāvanipatitam anyatamaṃ rasaṃ labhate sthānaviśeṣāt.

Kushwaha:

un mūrṭiyom (jīvom) meṃ ye chaḥ ras abhivyakt hote haiṃ. abhimūrchanti rasā iti – madhurādi ṣaḍras sthāvar evaṃ jaṅgam mūrṭiyom meṃ hī vyakt (utpanna) hotā hai. Yahāṃ antarikṣa jal ko ras kā pradhān kāraṇ kahā gayā hai.

Mihiracandra: ... *jin mūrṭiyom meṃ chaḥ omras pratibimbī hote haṃ.*

Pade (Sū.26.37):

un śarīrom meṃ chaḥ om ras paripakva evaṃ vṛddhi ko prāpt hote haiṃ.

Pandeya and Chaturvedi:

tab un-un mūrṭimān śarīrom meṃ cha ras vyakt ho jāte haiṃ.

Rāmprasād and Shiv Sharma:

in mūrṭimān sthāvar jaṅgamom meṃ chaḥ hī ras miljāte haiṃ.

⁸⁴I, p.943.

Vāsiṣṭha and Śarmā:

un śarīroṃ meṃ chahoṃ ras paripakva evaṃ vṛddhi ko prāpt hote haiṃ.

The general sense of *abhi-murch* creates no difficulties. Most commentators and translators agree. The meaning is given in Sanskrit as *vyaktiṃ yā-*, *vyaktatām yā-* and *vyaktībhāvaṃ ā-pad-*, all three meaning ‘to become manifest’. The English equivalents are: to develop, to evolve, to manifest itself. The context supports these interpretations though ‘to develop’ and ‘to evolve’ are less adequate. Papin’s ‘les saveurs y sont contenus’ does no justice to the text; the same applies to Angot’s ‘les six *rasa* se développent’. The choice of *abhi-murch-* in this instance, however, instead of some other verb, remains problematic, until we realize that becoming manifest implies assuming a perceptible form, a *mūrti*.

The next example shows this more clearly.

Example XVIII

Ca.Ni.5(kuṣṭha).10:

*sādhyānām api hy apekṣyamāṇānām tvaṇmāṃsaśoṇitalasikākothakledasaṃsv
edajāḥ krimayo ’bhimūrchanti.*

Translation:

Also when curable (cases) (of *kuṣṭha*) are neglected parasites originating from the skin, muscular tissue, blood, serous fluids, corrupted tissue, discharges, and sweat manifest themselves.

Kaviratna:

Of these varieties, which are curable, one feature, if they are suffered to remain untreated, is that worms are generated in the rotting skin, flesh, blood, ‘Lasikā’, gangrenous sloughs, foetid secretions, and sweat.

Gulabkunverba:

Owing to neglect of even the curable condition of dermatoses, parasites born of the skin, flesh, blood, lymph, slough, softened tissue and sweat grow strong.

P.V.Sharma:

Even the curable ones when neglected give rise to maggots born in skin, muscle, blood, lymph, slough, discharge and sweat.

R.K. Sharma and Bhagwan Dash:

Germes born on the slough of the skin, muscle tissue, blood and exudation, other softened tissues and sweat, appear even in the curable types of *kuṣṭhas* when their treatment is neglected.

Papin:

Lorsqu'elles sont négligées, même les affections guérissables présentent des complications où se développent des infections microbiennes dans la peau, les muscles, le sang et la lymphe, des escarres, des suppurations et une abondante transpiration.

Brahmanand Tripathi: ... *yadi upekṣā ... krimi paṛh jāte haiṃ*.

Jayadeva: ... *ke saṛne gīle hone vā garmī se kīṛe paṛ jāte haiṃ*.

Kushwaha: ... *krimiyāṃ utpanna ho jātī haiṃ*.

Mihiracandra: *krimi baṛhjāte haiṃ*.

Pade (Ni.5.18): ... *kṛmi paṛr jāte haiṃ*.

Pandeya and Chaturvedi: ... *kṛmiyoṃ ke paṛ jāne se*

Rāmprasād and Shiv Sharma: ... *krimi utpanna hojāte haiṃ*.

Vāsiṣṭha and Śarmā: ... *kṛmi paṛ jāte haiṃ*.

The English translations disagree on this occasion: parasites grow strong (Gulabkunverba), germs appear (R.K. Sharma and Bhagwan Dash), give rise to maggots (P.V. Sharma). Many Hindī translations consulted use the verb *paṛnā*, to occur. Other ones employ *utpanna hojānā*, 'to arise' or *baṛhjānā*, to grow'. Papin's 'microbial infections' is not a translation, but an interpretation based on modern medical concepts. The same can be said of 'germs appear'.

This example demonstrates that *abhi-murch-* means that entities, in this case parasites, assume a perceptible form, i.e., become a *mūrti*, in this case a living and moving one.

Conclusion

Murchita designates in literary Sanskrit, and also many times in medical Sanskrit, the state of having fainted/swooned, lost consciousness for a short time. *Murchā* means fainting.

This meaning is not disconnected from the one discussed in this paper. A person who has fainted is no longer able to move freely his limbs and head and looks like a *mūrti*. He remains in a frozen attitude and seems paralyzed, “erstarrt”, if we use the word chosen by Hilgenberg and Kirfel.

“Erstarrt” is also the translation of *murchita* chosen by Oliver Hellwig⁸⁵ in his work on Indian alchemy. *Murchana* is one of the procedures (*saṃskāra*) to which mercury is subjected in order to purify it. It is the last of these introductory processes and removes the impurities called *kañcuka*. When mercury is *murchita* is completely pure, which is the same as ‘having become one homogeneous mass’.

My conclusion is therefore that all the meanings of *murchi-* boil down to ‘to become one homogeneous mass’.

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⁸⁵ See Hellwig 253–254.

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