A Translation of the Nepalese Text of the Suśrutasaṃhitā

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Introduction

What follows is a draft translation of selected chapters of the *Compendium of Suśruta* (*Suśrutasaṃhitā*). This differs from former translations, being based on the text that survives in the oldest known manuscripts of the work.[1] These old manuscripts are located in Nepal, so we refer to this as "the Nepalese version" of the work, although future research may show that this old version was more widely known.[2]

The date of the Suśrutasaṃhitā

In a previous publication, I discussed evidence showing that the *Suśrutasaṃhitā* as we have it now began to be assembled in the late centuries BCE, and was heavily revised and supplemented in the period before CE 500.[3] The more detailed reflections by Meulenbeld support this dating.[4] But we also now know, as a result of the Suśruta Project, that the work was subject to at least one further editorial campaign after the ninth century.[5] Another recently-discovered factor affects older arguments about the dating of the work. The name "Dhanvantari" that is associated with the vulgate version of the *Suśrutasaṃhitā* is not tied in the same way to the older, Nepalese version of the text.[6] In the late ninth century, the *Suśrutasaṃhitā* was read as a work delivered by Divodāsa, King of Kāśī, not the god Dhanvantari. The

1 See Wujastyk et al. 2023 for an introduction to the Nepalese text and Wujastyk et al. 2021– for background on the Suśruta Project, 2021–2024.
2 For more discussion of this issue, see Wujastyk et al. 2023: Introduction and ch. 2.
3 Wujastyk 2003*b*: 63–64.
4 HIML: 1A, 333–352.
5 Wujastyk et al. 2023: 16–26.
6 Wujastyk 2013; Birch, Wujastyk, Klebanov, Parameswaran, et al. 2021; Birch, Wujastyk, Klebanov, Rimal, et al. 2021; Wujastyk et al. 2023.

text was thoroughly re-edited after the ninth century, adding the narrative frame of the Dhanvantari attribution as well as verses from the *Carakasaṃhitā* and other material. It may be that at least some of this editorial work was performed by the author Candraṭa (fl. 900–1050), since several manuscript colophons of the *Suśrutasaṃhitā* include the statement,

> The correction of textual readings in the treatise of Suśruta was done by Candraṭa the son of the doctor Tīsaṭa, after studying the commentary of Jejjaṭa.[7]

The disassociation of Dhanvantari from the *Suśrutasaṃhitā* affects several historical arguments that were summarized by Meulenbeld about the relationship of the work to the *Carakasaṃhitā* and other works. Former arguments based on the priority of the *Carakasaṃhitā* to the *Suśrutasaṃhitā* can no longer stand, since the Nepalese version does not include many of the passages from the *Carakasaṃhitā* on which these arguments rest. A particularly striking example of this occurs in the *Sūtrasthāna*.

In the standard, printed edition or vulgate text of the *Suśrutasaṃhitā*, chapter ten of the *Sūtrasthāna* is dedicated to the topic of becoming a professional physician. The title of the chapter is interesting: "how to start being a secular practitioner," (विशिकानुप्रवेशनीयमध्यायम्). The word I translate as "secular practitioner" is, etymologically, "without a top-knot," i.e., a person who is not wearing a religious tuft of hair on the back of the head following tonsure. The text's choice of words points to a felt distinction of the doctor as not being a religious functionary.[8] The fourth passage of the chapter, describes how a physician takes note of omens on the way to a patient's home, and then how he diagnoses the patient:

> Then he should approach the house of the sick person according to the favourableness of the messenger, the reason given, omens, and good-luck signs. After sitting down, he should have a good look at the sick person, he should palpate them and interrogate them. Diseases are mostly understandable through these three means of gaining knowledge. That is what some people say, but it is not correct. There are six means of gaining

7 Wujastyk 2024.

8 Some commentators interpreted the word विशिखा to mean "path, road." This sense is not known outside the present passage. I would suggest it is an attempt to reverse engineer the chapter's title to mean something like the Pali *sotāpanna*.

> knowledge about diseases, i.e., by the five senses, hearing etc., and by interrogation.[9]

As we see, the text first proposes a three-part method of diagnosis and then immediately distances itself from that statement and provides a different six-part procedure. One has the sense of hearing two voices.

Who were the "some people" being referred to? The three-part diagnostic procedure is found in the *Carakasaṃhitā* (Ca.ci.25.22). For that reason, this passage has been taken as evidence that the authors of the Suśrutasaṃhitā knew the Caraka text and were responding to it. This is one of the pieces of evidence that is used to argue that the *Suśrutasaṃhitā* is chronologically later than the *Carakasaṃhitā*. In the Nepalese version of the *Suśrutasaṃhitā*, however, the passage is much simpler and omits this second, distancing, voice:

> Then, arriving at the house of the sick person according to the favourableness of the messenger, the reason given, omens, and good-luck signs, he should sit down. Then, he should have a good look at the sick person, he should palpate them and interrogate them. Through these three means of gaining knowledge it can be known whether life will be long or life will be short.[10]

Tthe passage referring to the *Carakasaṃhitā* is absent.

Luckily, for this part of the *Suśrutasaṃhitā*, the learned commentary of Cakrapāṇidatta (fl. 1075) survives. It was edited and published in 1939 by Yādavaśarman T. Ācārya. Commenting on the passage, Ācārya stated that this extra passage was not known to Cakrapāṇidatta.[11] Thus, we can say that it was added to the text of the *Suśrutasaṃhitā* some time between the oldest Nepalese manuscript (878 CE) and Cakrapāṇidatta's time, i.e., the eleventh century.

The fact that this reference to the *Carakasaṃhitā* is not present in the early Nepalese version of the *Suśrutasaṃhitā* means that the argument about chronological priority cannot be sustained.

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9 दूतनिमित्तशकुनमङ्गलानुलोम्येनातुरगृहमभिगम्य, उपविश्य, आतुरमभिपश्येत्स्पृशेत्पृच्छेच्च; त्रिभिरेतैर्विज्ञानोपायै रोगाः प्रायशो वेदितव्या इत्येके; तत्तु न सम्यक्, षड्विधो हि रोगाणां विज्ञानोपायः, तद्यथा — पञ्चभिः श्रोत्रादिभिः प्रश्नेन चेति ।। ४ ।।|

10 ततो दूतनिमित्तशकुनमङ्गलानुलोम्येनातुरगृहमागम्योपविश्यातुरमभिपश्येत्स्पृशेच्च त्रिभिरेतैर्विज्ञानोपायैः दीर्घमायुषोल्पायुषो वेदितव्यः।

11 अयं पाठश्च चक्रासंगतः.

Evidently, Candraṭa or some other editor added material from the *Carakasaṃhitā* to the *Suśrutasaṃhitā* after the ninth century. A piece of evidence that remains independent of the above issues is the remark by the learned commentator Cakrapāṇidatta (fl. 1075, Bengal) that Dṛḍhabala (fl. ca. 300–500 CE) knew and made use of the *Suśrutasaṃhitā*.[12] This provides a latest date for the *Suśrutasaṃhitā* in the period before Dṛḍhabala. This also shows that much of the text of the *Carakasaṃhitā* in its present form, as reconstructed by Dṛḍhabala, postdates the *Suśrutasaṃhitā*.

The Nepalese Version

The Nepalese version has been reconstructed on the basis of three manuscripts from Kathmandu,

1. MS Kathmandu KL 699 (siglum K),
2. MS Kathmandu NAK 1-1079 (N), and
3. MS Kathmandu NAK 5-333 (H).

The first of these MSS is the oldest, dated to CE 878.[13] It covers most of the *Suśrutasaṃhitā*, but lacks the *Nidānasthāna* and the *Śārīrasthāna* (see Fig. 1). The second is undated but is datable on palaeographical grounds to the twelfth or thirteenth centuries.[14] It contains the *Sūtrasthāna* and *Nidānasthāna* but breaks off shortly afterwards. The third manuscript, H, is the most complete, supporting the text of the whole of the *Suśrutasaṃhitā*. It is dated CE 1513.[15] The text of manuscript H follows K very closely but is probably not a direct apograph.[16] I conjecture that it was either copied from an intermediary that followed K very closely or from a ancestor of K.[17]

12 Cakrapāṇi ad *Carakasaṃhitā* 8.12.39 (Ca 1941: 735) (see also HIML: 1A, 132, 350–351).
13 Klebanov 2021*a*: 15.
14 Klebanov 2021*a*: 17–18.
15 I follow the arguments of Klebanov (2021*a*: 21–26) on the interpretation of the colophon although, as he pointed out, some interpret the date as CE 1573.
16 Chakraborty 2022.
17 "...as neither my own research ... nor the study undertaken in Harimoto ... could determine any linear connection between any of the Nepalese manuscripts of the SS, one may assume that [there exists] an older common ancestor of both of the manuscripts K and H." (Klebanov 2021*b*: 21).

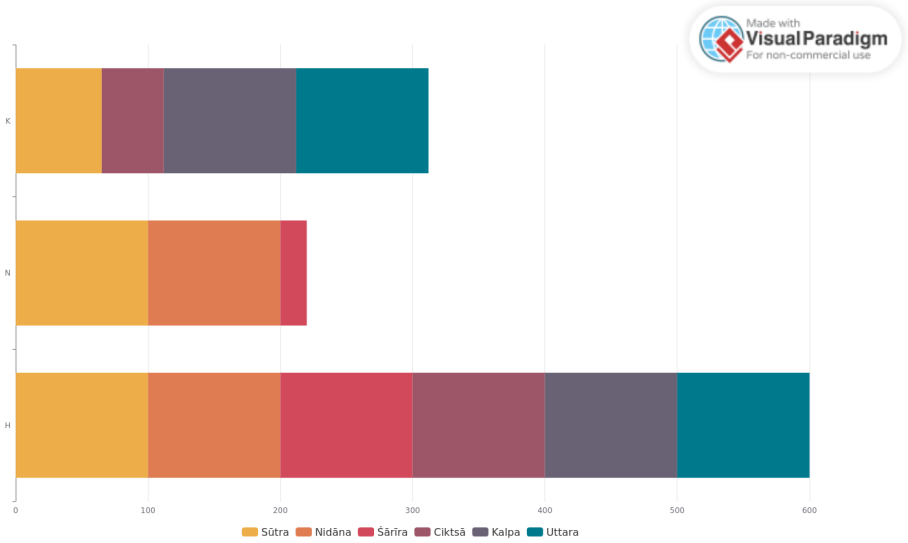

Figure 1: Coverage of the text by MSS K, N and H.

The vulgate

The version of the *Suśrutasaṃhitā* that we refer to as "the vulgate" is the version of the text that circulates in print today in multiple editions. The most careful and authoritative edition is that of Y. T. Ācārya and N. R. Ācārya (Su 1938).[18] It is telling that this edition includes the commentary of Ḍalhaṇa (b. ca. 1175) and, for the *Nidānasthāna*, also that of Gayadāsa (fl. ca. 1000). These important authors commented on a text that is, broadly speaking, what we call "the vulgate." But they both mentioned quite often that the manuscripts they were consulting contained other versions of the text and in a high number of cases, these variations match the Nepalese version.[19] It is possible that Gayadāsa and Ḍalhaṇa, through their commentarial work on the text, participated in shaping "the vulgate."

The scholar Rudolph Hoernle was also aware of this cleavage in the transmission-history of the *Suśrutasaṃhitā*. But with the more limited materials available to him at the turn of the twentieth century he drew

18 This and the following issues have been discussed by Wujastyk et al. (2023: 2 and ch. 3).

19 E.g., see the discussion in footnote 165 below.

the line a little differently. He referred to the text of the *Śārīrasthāna* of the *Suśrutasaṃhitā*, transmitted in the printed editions of his day, as "the Traditional Recension."

> The recension which is found in Jīvānanda's and all other prints,[20] and which, in the sequel, will be referred to as the Traditional Recension, has in its favour not only all available manuscripts, but also all ancient commentaries on the Compendium of Suśruta, ... Or, shortly, the Traditional Recension is supported by the whole body of existing witnesses.[21]

However, Hoernle was unfortunately not aware of the Nepalese manuscripts of the *Suśrutasaṃhitā*, which at the time he was writing were in Nepalese libraries that had not yet been explored by scholars of the time. The contrast that Hoernle was drawing was between the Traditional Recension and the *Śārīrasthāna* of the *Carakasaṃhitā* as printed by the influential Bengali scholar, Kavirāja Gaṅgādhara Ray (1798–1885).[22]

The Translation

The translation follows the methods of rigorous philological care and modern principles of translation theory.[23] Major differences in sense from the vulgate text are marked in this manner, but the differences are so pervasive and fine-grained that most have not been explicitly marked.

The text-historical state of the *Suśrutasaṃhitā* bears many resemblances to other early textual transmissions in South Asia. The situation was articulated particularly clearly for the case of Pāli by von Hinüber (1978), in the opening of his chapter,

> ...we cannot go back beyond the council of Aluvihāra (Ālokavihāra) under Vaṭṭagāmaṇī Abhaya (29–17 B.C.) where the Pāli

20 Hoernle listed four, S. M. Gupta 1835–36; Su 1889; Vīrasvāmi 1900–09; Govindjī et al. 1901.

21 Hoernle 1907: 68.

22 Ray 1868–70. Hoernle's evaluation of this edition was not entirely kind: "I have not been able to discover for it any authority whatsoever. ... it is probably that the recension of Gangādhar is a reconstruction of his own to meet those of the difficulties which he had noticed" (Hoernle 1907: 70). For a full account of the genesis of this edition, see Pecchia 2022.

23 See Wujastyk 2003*b*: intro. and Wujastyk 2021: 81–83 for an overview.

> canon ws written down for the first time in Ceylon. This is the very starting point of our tradition handed down to us by the monks of the Mahāvihāra. About recensions of the Pāli canon different from the Mahāvihāra tradition and deviating from its wording... we scarcely have any knowledge at all.

Similarly, the manuscript evidence for the *Suśrutasaṃhitā* that is available today allows us to reconstruct a version of the work after it was consolidated into a text of five parts with a sixth or "later" (*uttara*) and somewhat different part already appended to the first five. The prehistory of the work before this form is tantalizingly unknown to us. That the work was assembled from diverse sources and that many hands were involved is without doubt. The oldest surviving manuscript, MS Kathmandu KL 699, gives us physical evidence for the state of the text in the ninth century. We little insight into the formational processes affecting the text before that time. But what we can see plainly is that the text was edited pervasively after that time, being influenced especially by the commentators Jejjaṭa, Candraṭa, Gayadāsa and Cakrapāṇidatta and the editor Candraṭa. However, a clear picture of how these later editorial processes took place will only be possible as a result of further research into a wider manuscript base.

Part 1. Sūtrasthāna

Part 2. Nidānasthāna

Nidānasthāna 1: The Diagnosis of Diseases Caused by Wind

Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.[143]

Subject matter

It is notable that this nosological part of the *Suśrutasaṃhitā* opens with a chapter on diseases of wind (*vāta*). In all other major Āyurvedic works, including the *Carakasaṃhitā*, the first chapter in the section on nosology deals with the symptoms of fever (*jvara*). This is almost a defining feature of works on nosology. But in the *Suśrutasaṃhitā*, fever is not addressed at all in the first five sections of the work, but only in the thirty-ninth chapter of the Uttaratantra, which is exceptionally long at about three hundred verses.

The present chapter describes the diseases caused by vitiated wind and wind's mixing with other humours. Contemporary Ayurvedic physicians consider these diseases to include rheumatism.

We have not translated the terms prāṇa ...because the text defines them.

complete this thought

Translation

1 And now we shall explain the chapter about the aetiology of wind diseases.

143 HIML: IA, 234. (Ruben 1954) studied the wind doctrines in the *Carakasaṃhitā*.

add footnote here

add refs to Divodāsa as king.

3 After holding the feet of Dhanvantari, the foremost of the upholders of righteousness who emerged out of nectar, Suśruta makes this enquiry.[144]

4 O King! O best of orators! Explain the location and types of diseases of the wind, whether in its natural state or disordered.[145] .

5–9 On hearing his words, the venerable sage spoke. This lordly wind is declared to be self-born because it is independent, constant and omnipresent. It is worshipped by the whole world. Amongst all beings, it is the self of all. During creation, continued existence and destruction, it is the cause of beings.

It is unmanifest though its actions are manifest; it is cold, dry, light, and mobile. It moves horizontally, has two attributes and is full of dust (*rajas*).[146] It has inconceivable power. It is the leader of the humours[147] and the ruler of the multitude of diseases.

It moves fast, it moves constantly, it is located in the stomach and in the rectum.[148]

9cd Now, learn from me the characteristics of wind as it moves inside the body.[149]

10 Wind connects the senses and the sense objects. Unvitiated, it maintains a state of equality between the humours (*doṣa*), the bodily tissues (*dhātu*) and heat (*agni*) and the rightness (*ānulomya*) of actions.[150]

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144 Explain the nectar myth.

145 MSS H and N both read भूपते instead of कोपनैः in the vulgate: instead of addressing the king, the vulgate is saying "by irritations of the wind...." The vulgate also has Suśruta asking about कर्म, whereas in the Nepalese version he asks only about the types of diseases. Note that Dhanvantari is here addressed as king, a title associated elsewhere with Divosdāsa.

146 According to Ḍalhaṇa on 2.1.8 (Su 1938: 257), the two qualities are sound and tangibility. The word रजस् could also refer to the quality of activity in the three-quality (*guṇa*) theory, which is how Ḍalhaṇa interpreted it. On the semantic field of रजस्, see Das 2003: 14 note 26 and ff.

147 Ḍalhaṇa on 2.1.8 (Su 1938: 257) interpreted नेता "leader" as प्रेरक "impeller."

148 MS H read आशुचारी, which we have translated ("moves fast"), but MS N and the commentators of the vulgate read आशुकारी, "quick-acting."

149 Ḍalhaṇa and Cakrapāṇidatta both interpreted मे as an ablative (2.1.8 (Su 1938: 258)).

150 According to Ḍalhaṇa on 1.6.3 (Su 1938: 23), सम्पत्तिः=सम्पन्नता. According to Ḍalhaṇa, Gayadāsa read इन्द्रियार्थोपसंप्राप्तिं but Ḍalhaṇa did not accept this on the grounds that it was too verbose: गयदासाचार्यस्तु इमं श्लोकं `इन्द्रियार्थोपसंप्राप्तिऽ इत्यादि कृत्वा पठति, स च विस्तरभयान्न लिखितः । But witnesses H and N suggest the reading इन्द्रियार्थोपसम्पत्तिः.
The expression "qualities" is used advisedly. It is almost universal practice to refer to

11 Just as the fire is divided into five types by name, place and their actions, similarly, one type of air is divided into five types based on name, place, action and diseases.

12 Five types of wind:[151]

1. prāṇa,
2. udāna,
3. samāna,
4. vyāna,
5. apāna.[152]

The above five types of wind remain in their state of equality and support the body.[153]

13–14ab The wind that flows through the mouth is called the vital wind (*prāṇa*), the sustainer of the body. It causes food to enter within and supports the breaths.[154] It mostly causes diseases like hiccups and wheezing (*śvāsa*).

14cd–15 Since it is the one that flows upwards, that highest of winds is called udāna.[155] Special acts like speech and singing are all initiated by it. It particularly causes diseases above the neck (*jatru*).[156]

16–17ab The samāna wind flows in the receptacles of raw and of digested matter.[157] Assisting the digestive fire (*agni*), it cooks food and separates out

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"balance" or "equilibrium" in such contexts, but this misrepresents the metaphor that the Sanskrit sources are using. As the commentators on *Aṣṭāṅgahṛdayasaṃhitā* 1.1.20 (Ah 1939: 14) make abundantly clear, the expression *doṣasāmya* means "equality of humours," as in *quantitative* equality, not balance.

151 See Zysk 1993. Zysk (2007: S110) translated the following descriptions of the winds.

152 We use the Sanskrit terms which are generally recognizable to English readers.

153 According to Ḍalhaṇa on 2.1.12 (Su 1938: 259), स्थान=साम्य, यापयन्ति=धारयन्ति. All the manuscripts read प्राणोदानः समानश्च व्यानोपानस्तथैव च । against the vulgate's प्राणोदानौ समानश्च व्यानश्चापान एव च ।.

154 According to Ḍalhaṇa on 2.1.13–14ab (Su 1938: 259), प्राण also resides in the throat and nose.

155 The sentence plays on the sound उत्- ।ऊर्ध्- in the qualifiers (उदान, ऊर्ध्वम्, उत्तम). According to Ḍalhaṇa on 2.1.14cd–15 (Su 1938: 260), the places of udāna wind are not mentioned here, but it also flows in the navel, stomach and throat. In yoga literature, it is more common for prāṇa to be called the principle breath.

156 Ḍalhaṇa noted that "above the *jatru*" would include eyes, nose, ears, face, and head. Meulenbeld cited discussions on the difficulties of interpreting the term जत्रु (Meulenbeld 1974*b*: 465). Hoernle (1907: §§62, 98) translated *jatru* as "neck, windpipe". See also Hoernle's notes on the expression "above the *jatru*" (idem, 237–238).

157 The "receptacle of raw matter" (आमाशय) is described at 1.21.12 (Su 1938: 102) as one

the substances produced from it.[158]
It mainly causes abdominal swelling (*gulma*), diminished digestive fire (*agnisaṅga*) and diarrhoea.[159]

17cd–18 The vyāna moves everywhere in the body, active in making chyle (*rasa*) flow. It also makes sweat and blood flow as well as causing movement in every respect.[160] Angered, it causes diseases that generally exist throughout the whole body.

19–20ab The apāna resides in the place of digested food and, at the right moment, it draws wind, urine, and feces, as well as semen, fetus and menstrual blood downwards. Angered, it causes terrible diseases located in the bladder and rectum.

20cd–21ab Irritated vyāna and apāna winds cause defects of semen and urinary diseases (*prameha*). Simultaneously aggravated, they surely destroy the body.[161]

21cd–22ab From here, I shall describe all the diseases, located in the various places of the body, that are caused by wind that is irritated in various ways.

22cd–24 Aggravated wind in the stomach causes diseases like vomiting, as well as disorientation (*moha*), fainting, thirst, heart-seizure (*hṛdgraha*), and pain in the flanks.[162] It also causes rumbling of the bowels, gripes (*śūla*), swollen belly, painful urine and feces, constipation, and pain in the sacrum (*trika*).[163] Aggravated wind in the ears etc., destroys the senses.

25abc–29 Located in the skin, it causes discolouration (*vaivarṇya*), throbbing,

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of the locations of phlegm, and the place where food arrives, just above the location of bile, and where the food is moistened and broken down for easy digestion. The "receptacle of digested matter" (पक्वाशय) is described at 1.21.6 (Su 1938: 100) as being located below the navel and above the pelvis and rectum.

158 Gayadāsa had the same reading सहायवान् as the Nepalese version (Su 1938: 260, note 1 and the text of the *Nyācacandrikā*). This suggests that it is the samāna that cooks food, while the vulgate reading involves the equal participation of digestive fire.

159 Ḍalhaṇa on 1.11.8 (Su 1938: 46) described अग्निसङ्ग as "the fire is stuck, dissolved."

160 The vulgate text reads पञ्चधा "in five ways," and Ḍalhaṇa listed five kinds of movement (Ḍalhaṇa on 2.1.18 (Su 1938: 260)).

161 Ḍalhaṇa on 2.1.21ab (Su 1938: 261) clarified that this refers to all five winds being aggravated at once.

162 On "disorientation," Ḍalhaṇa on 2.1.23ab (Su 1938: 261) noted that the condition was नैवात्यन्तं चित्तनाशः "not the complete loss of awareness."

163 Hoernle (1907: 140) attributed the quite different interpretation of त्रिक by Ḍalhaṇa on 1.21.14 (Su 1938: 102) to "the decay of anatomical knowledge subsequent to the time of Suśruta."

dryness, numbness (*supti*), itching (*cumucumāyana*), and pricking pain.[164] Located in the flesh, painful lumps.[165] Located in the fat, it causes slightly painful lumps that are not wounds.
Located in the ducts, it causes acute pain, contraction and filling up of the duct.[166] When it reaches the sinews, it paralyses the network of sinews, and causes them to tremble. Located in the joints, it destroys the joints and it causes sharp pain and swelling. It causes a splitting of the bones, when it acts there, and dryness as well as sharp pain; and when it is in the marrow, it causes an sickness that never abates. Wind located in the semen, it causes the non-production or faulty production of semen.[167]

30–31ab Wind moves incrementally from the hand to the foot, the head, and the bodily tissues. Or it may pervade people's entire bodies, causing stiffness, convulsion, numbness (*svāpa*), swelling, and acute pain everywhere.

164 Maas (2008) definitively clarified the contrasting त्वक्-first and (usually) रस-first models of the bodily elements (*dhātu*) as distinct historical formulations in the earliest medical literature. Das 2003: 267–282 also explored this issue, including the obeservation that the *Bheḍasaṃhitā* seems to have taught that रस "chyle" was the sources of menstrual blood, in contrast to the *Kāśyapasaṃhitā* that assigned this role to त्वक् "skin." In their comments on this passage, Gayadāsa and Ḍalhaṇa both tried to square the circle of these contrasting models by suggesting that त्वक् "skin" should be understood to mean रस "chyle" (on 2.1.25 (Su 1938: 262)). Gayadāsa explained in more detail that chyle is located in the skin and therefore, the expression त्वक्स्थ "located in the skin" should, by extension, be read as रसस्थ "located in the chyle." He proposed the parallel with the well-known grammatical example of figurative meaning, गङ्गायां घोषः "the village on the Ganges," which means, really, "the village on the bank of the Ganges" (on this example of figurative meaning, *lakṣaṇā*, see Kunjunni Raja 1963: ch. 6; Jhalakīkar 1978: 698–699).

165 At this point, the vulgate has a passage that is not present in the Nepalese witnesses. It gives more symptoms of wind in the skin and then addresses wind in the blood: "(wind in the skin) may cause prickling, splitting of the skin and peeling; and when it is in the blood, it causes wounds" (Su 1938: 261). The commentators Gayadāsa and Ḍalhaṇa were aware that this passage was missing in some of their manuscripts. Gayadāsa said that this was because some authors noticed that वातरक्त "wind-blood" would be discussed later in the chapter. But they both thought this absence was incorrect (Su 1938: 262).

166 According to Ḍalhaṇa सिराकुञ्चनं is also known as कुटिला सिरा (Su 1938: 262), which may refer to varicose veins.

167 Ḍalhaṇa and Gayadāsa both suggest that a faulty production विकृतां प्रवृत्तिम् is too fast, too slow, knotty and discoloured Su 1938: 262.

Symptoms of diseases that arise because of a combination of five-winds with other humours

31cd–32ab In the stated locations, wind that is compounded causes compounded afflictions.[168] And located in the limbs, it can cause a multitude of diseases.[169]

Prāṇa

34cd–35ab Prāṇa covered by bile causes vomiting and a burning sensation and when covered by phlegm it causes weakness, exhaustion, lassitude and loss of the sense of taste.[170]

Udāna

35cd–36ab When udāna is joined with bile there is bewilderment (*moha*), fainting (*mūrchā*), dizziness (*bhrama*) and exhaustion. And when covered by phlegm there is exhilaration and an absence of perspiration, slow digestion, and coldness.[171]

Samāna

36cd–37ab When is samāna is combined with bile there is perspiration, a burning sensation, a temperature and fainting (*mūrchā*). When in contact with phlegm there is horripilation of the limbs during feces and urine.

168 Ḍalhaṇa on 2.1.31cd (Su 1938: 262) explained "wind that is compounded" as wind being mixed with bile and phlegm.

169 The Nepalese version omits passages 2.1.32cd–33ab which are about the diseases that arise when contaminated wind mixes with cough, phlegm and blood (Su 1938: 263).

170 वैरस्य "loss of the sense of taste" may refer to ageusia. The vulgate reads वैवर्ण्य "loss of colour" (Su 1938: 263). The vulgate's footnote 1 says that the palm-leaf manuscript reads वैश्वर्य but this is not correct. The palm-leaf manuscript whose readings were sent to Trivikrama Ācārya was witness N, which reads वैरस्य.

171 The expression "exhilaration and an absence of perspiration" translates the Nepalese version's अस्वेदहर्षः as if it were a dvandva. The vulgate has the easier dvandva, अस्वेदहर्षौ "lack of sweating and also exhilaration" 2.1.36ab (Su 1938: 263). Perhaps the Nepalese reading is an Epic form of m. sing. dvandva as described by Oberlies (2003: 361–362, n. 3).

Apāna

37cd–38ab When apāna is associated with bile there is a burning sensation, a temperature and blood in the urine.[172] When covered with phlegm there is a feeling of heaviness in the lower body and coldness.

Vyāna

38cd–39ab Vyāna wind surrounded by bile causes a burning sensation, tossing of the limbs and fatigue and surrounded by phlegm it causes stiffening limbs, uddaṇḍaka? and pain in the swelling.

[173] Instead of this verse, Nepalese version has a different hemistich here which is स्तम्भनोद्दण्डकश् चापि शोथशूलं कफावृते ||.

40–41 Persons who are of delicate nature, follow faulty diet and lifestyle, ? also afflicted with intoxicating drinks, sexual enjoyment, exercise causes vitiation of wind and blood.??

42 Riding elephant, horse and camel, lifting great weights, consuming vegetables which are pungent, hot, sour, alkali and being frequently distressed situation causes contamination of wind.

43–44 Blood flowing in the body blocks the passage of contaminated wind which moves quickly in the body. Excessively irritated wind–being contaminated by wind and dominance of wind, it is called वातरक्त Gout[174].

45-46 Vātarakta causes – pricking pain, dryness, loos of sensation in the feet. Contaminated Bile mixed with blood causes sharp burning sensation, excessive heat and soft swelling with red color in the feet. Contaminated Phlegm mixed with the blood causes itching in the feet. It makes feet white, cold, dry, thick and hard. All defects [175] in the blood contaminated by humours (wind, bile, phlegm) manifest their symptoms in the feet.

48 This disease spreads all over the body like rat poison by staying in feet or sometimes hands.

172 The This probably describes hematuria. Again we have an Epic m. sing. dvandva.

173 Nepalese version omits next verse which is गुरूणि सर्वगात्राणि स्तम्भनं चास्थिपर्वणाम् | लिङ्गं कफावृते व्याने चेष्टास्तम्भस्तथैव च || The verse describes other diseases that cause by contaminated vyāna mix with cough and phlegm. Su 1938: 264.

174 In the medical term वातरक्त is known as Gout. Cakrapāṇi called it आढ्यरोगः Carakasaṃhitā sū.14.18 and ci.28.66

175 Gayadāsa suggests सर्वे दुष्टाः शोणितं चापि nominative plural instead of locative singular.

49 Gout spreads in the knee and the skin bursts and starts bleeding makes it incurable. It is mitigatable if it is of a year's old.

50–51 When vitiated wind enters in the all arteries it causes quickly convulsions again and again and because of frequent contractions (*ākṣepa*) it is called convulsions (*ākṣepaka*).

52–56 Because in this situation a person often sees darkness and fall, it calls spasmodic contraction (*apatānaka*) [176] . If wind mixed with phlegm stays excessively in the arteries, it stiffs body like a staff and it is called दण्डापतानकः epilepsy with convulsions. Vitiated wind entered in the arteries and bends the body like a bow, it is called धनुःस्तम्भ Tetanus. When vitiated wind accumulated in the regions of finger, ancle, abdomen, heart, chest, and throat swiftly attack on the group of vain and ligaments, it gets a person's eyes stuck, chin stuns, side breaks and vomiting phlegm he moves inwards like a bow and this situation is known as emprosthotonos (*antarāyāma*). When vitiated wind attacks on outside ligaments, body of a person will stretch forward like a bow. In this situation, if the chest, hip or thigh break, wise men call it incurable.

58 Aggravated phlegm and bile mixed with wind or only vitiated wind causes fourth convulsive disease due to trauma.

59 Convulsions due to miscarriage, excessive bleeding, and injury are incurable [177].

60–62 When excessively agitated and strong wind flows in the arteries which spread downward, upward, and sideways, it loses the joints and kills the other side of body. The best of physicians calls it paralysis (*pakṣāghāta*). [178] Then half of his entire body becomes inefficient and unconscious. Afflicted by wind he suddenly falls or dies.

62.1 Bile integrates with wind causes burning sensation, affliction, and infatuation. When it integrates with phlegm causes coldness, morbid swelling, and heaviness. [179].

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176 Gayadāsa accepted the Nepalese reading ताम्यते which vulgate does not read. Gayadāsa gives definition of अपतानक as येनापताम्यते means a situation in that a person sees the dark.

177 According to Ḍalhaṇa convulsion (*ākṣepaka*) is also known as अपतानक (Su 1938:266). He further mentions that even if fortunately, it is cured, it cripples the limb.

178 In the ca.6.28.55 पक्षाघात is described as monoplegia (*ekāṅgaroga*). In that case it damages one of the limbs. In the medical terms paralysis (*apakṣāghāta*) is known as hemiplegia.

179 This verse is not available in vulgate. It deals with the symptoms when bile and

63 A paralysis (*pakṣāghāta*) caused by wind [180] is curable with most difficulty. It becomes curable when caused by bile and phlegm mix with the wind. It becomes incurable when caused by the loss of bodily constituents.

64–66 Verses from 64–66 are not found in the Nepalese manuscripts. These verses discuss the term spasmodic contradiction (*āpatantraka*) which is the same as अपतानक. Ḍalhaṇa commented on ni.1.64-66 (Su 1938:267) that because of having the similar condition in both situations, some scholars do not read the अपतन्त्रक. In the verse ni.1.59 Ḍalhaṇa commented that the आक्षेपक and अपतानक is same (Su 1938:266) and again he suggested that the अपतानक and अपतन्त्रक both are similar condition. Therefore, आक्षेपक, अपतानक and अपतन्त्रक should be the same. Gayadāsa further commented that the Caraka has not read आक्षेपक as अपतानक and therefore described the अपतन्त्रक separately (Su 1938:267).

67 This verse also not found in the Nepalese Manuscripts. The verse describes rigidity of neck (*manyāsthambha*). According to Ḍalhaṇa, rigidity of neck is a prior symptom of spasmodic contradiction.

68–72 By speaking very loudly, eating hard foods, excessively laughing and yawning, lifting heavy loads and sleeping in an awkward position, vitiated wind lodges into face painfully and produces paralysis of the jawbones (*ardita*) disease. In that case, half of the face and neck become curved, head trembles, speech hindrances, deformity occurs in the eys, eyebrows and cheeks.[181] Experts in diseases call this disease spasm of the jaw-bones (*ardita*).

73 Spasm of the jawbones cannot be cured when it stays in a person for three years, who is very weak, stays without blinking, trembles, and constantly speaks gibberish.

74 Arteries of Heel and toes stricken by vitiated wind prevents stretching of thighs. This disease is known as sciatica (*gṛdhrasī*).

75 Arteries which run to the tips of fingers from behind the roots of the upper arm affected by vitiated wind terminates all activities of arms and back. This disease is called paralysis of arms and back (*viśvañci*). [182]

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phlegm mix with the wind. It is already discussed in su.2.1.38.

180 Here the term शुद्धवात suggests the meaning of the wind that is devoid of bile and phlegm.

181 Ḍalhaṇa suggests नेत्रादीनाम् इत्यादि शब्दात् भूगण्डादि उपसङ्ग्रहः

182 Both the MSS N and H read विश्वञ्चि instead of the vulgate reading विश्वाची. There is no

76 Vitiated wind and blood in the joint of knee causes synovitis of knee join (*kroṣṭukaśīrṣa*). In this extremely painful situation, the shape of swelling in knee joints seems like a head of Jackal.

77 Vitiated wind resides in the waist attacks on the arteries of thigh causes limpness (*khañja*) and when it attacks on both the thighs a person becomes lame (*paṅgu*).

78 A person who trembles at the beginning of walking or walks limping and whose foot joint has become loose is called lathyrism (*kalāyakhañja*).

79 Vitiated wind residing in the ankle-joint causes pain when one steps on uneven ground. This disease occurs is called वातकण्टक.

80 Vitiated wind mixed with bile and blood cause burning sensation in feet. It should be declared as burning sensation in feet (*pādadāha*).

81 A person whose feet tingle and become insensible due to vitiation of phlegm and wind is called पादहर्ष.

82 Vitiated wind lying in the shoulder dries the shoulder joints and it is called अंसशोष. It also bends the arteries of shoulder, and this disease is called अवबाहुक. [183]

83 Vitiated wind singly or mixed with phlegm cover the channel of ears causes deafness.

84 Vitiated wind saturated with phlegm covering the arteries which conduct the sound of speech makes a person inactive (*akriya*), dumb (*mūka*). He mumbles (*mimmira*) through the nose and stammers (*gadgad*).[184]

85 Vitiated wind penetrating into the cheekbones, temporal bones, head and neck causes piercing pain in the ears. It is called ear-ache (*karṇaśūla*).[185]

86–87 The pain that arises from the bladder or feces goes down as if it were breaking the rectum and..... ? is called तूनी, whereas the pain, rising upward from the rectum extending up to the region of the intestines, is called प्रतितूनी.

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such word found in other Āyurveda texts.

183 Ḍalhaṇa and Gayadāsa both have defined two diseases i.e., अंसशोष and अवबाहुक respectively.

184 Nepalese Manuscripts read मिर्म्मिर instead of the Vulgate's reading मिन्मिण. Dictionary of MW suggests the meaning of मिर्म्मिर = having fixed unwinking eyes which is not relevant to the disease of tongue.

185 In the medical terms, this disease is known as Otitis.

88–89 Retention of vitiated wind inside abdomen causes distension of the stomach and flatulence and intense pain and rumbling inside, is called tympanites (*ādhmāna*). Vitiated wind mixed with phlegm causes प्रत्याध्मान. It rises in the stomach anda causes pain in the heart and sides. [186]

90–91 A knotty stone-like tumour caused by wind appearing in the stomach having an elevated shape and stretched upward direction which obstructing the passage of faeces and urine should be known as वाताष्ठीला. A tumour of similar shape rose obliquely in the abdomen obstructing the passage of wind, faeces and urine should be known as प्रत्यष्ठीला.
Names of diseases discussed in the chapter 2.1
Gout (*vātarakta*) convulsion (*ākṣepaka*) paralysis of one side (*pakṣāghāta*) paralysis of the jaw-bones (*ardita*) sciatica (*gṛdhrasī*) paralysis of arms and back (*viśvañci*) synovitis of knee join (*kroṣṭukaśīrṣa*) lathyrism (*kalāyakhañja*) vātakaṇṭaka (*vātakaṇṭaka*) avabāhuka (*avabāhuka*) tūnī (*tūnī*) pratitūnī (*pratitūnī*) tympanites (*ādhmāna*) pratyādhmāna (*pratyādhmāna*) vātāṣṭhīlā (*vātāṣṭhīlā*) pratyaṣṭhīla (*pratyaṣṭhīla*)

186 There's an addition in MS N. नाभेरधस्तात् संजातः संचारी यदि वाऽचलः

Part 3. Śārīrasthāna

Part 4. Cikitsāsthāna

Part 5. Kalpasthāna

Part 6. Uttaratantra

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Abbreviations

ADPS — Sivarajan, V. V., and Balachandran, Indira (1994), *Ayurvedic Drugs and Their Plant Sources* (New Delhi, Bombay, Calcutta: Oxford & IBH Publishing).

AVS — Warrier, P. K., Nambiar, V. P. K., and Ramankutty, C. (1994–96) (eds.), *Indian Medicinal Plants: A Compendium of 500 Species. Vaidyaratnam P. S. Varier's Arya Vaidya Sala, Kottakal* (Madras: Orient Longman).

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GJM2 Meulenbeld, Gerrit Jan (1988), "G. J. Meulenbeld's Additions to his "Sanskrit Names of Plants and their Botanical Equivalents"," in Rahul Peter Das, *Das Wissen von der Lebensspanne der Bäume: Surapālas Vṛkṣāyurveda* (Stuttgart: Franz Steiner Verlag), chap. Appendix 1, 425–65, ISBN: 9783515046633; Supplement to GJM1.

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Flora

aconite leaf (?) (*viṣapatrikā*) Unknown. Cf. perhaps, Indian aconite (*viṣā*) (but that is feminine). Cf. GVDB: 373, "unidentified" : 145

agarwood (*aguru*) Aquilaria malaccensis Lam., GVDB: 3 : 102, 103, 206

'alas, alas' (?) (*hālāhala*) unknown. See Cf. *Soḍhalanighantu* p.43 (sub *bola*) = *stomaka* = Indian aconite (*vatsanābha*) : 146, 148

Alexandrian laurel (*punnāga*) Calophyllum inophyllum, L. See AVS: 1, 338, NK: 1, #425 : 187, 206

amaranth (*taṇḍulīya*) see amaranth (*taṇḍulīyaka*) : 188

amaranth (*taṇḍulīyaka*) Amaranthus spinosus L. See GVDB: 174, Dutt: 321, NK: 1, #144, Potter$_{rev}$: 15. Cf. AVS: 1, 121. Amaranth (etym. amṛta!) is a large family, many originally endemic to S. America. A. hypochondriacus L. is sometimes identified with *taṇḍulīyaka*, but A. spinosus L. is better known and attested in S. Asia in the first millennium BCE (Saraswat 1991) : 137, 195, 199, 204, 302

Arabian jasmin (*tṛṇaśūnya*) see Arabian jasmine (*mallikā*), GVDB: 190 MW: 453 says Jasminium sambac. GVDB: 190 also suggest screwpine (*ketaka*) : 302

Arabian jasmine (*mallikā*) Jasminum sambac (L.) Aiton, GVDB: 300 : 302

Arabian jasmine (*tṛṇaśūlya*) probably an alternative pronunciation for Arabian jasmin (*tṛṇaśūnya*), GVDB: 190 : 206

arjun (*arjuna*) Terminalia arjuna, Bedd. See HK: 738 : 46, 82, 203

Asoka tree (*aśoka*) Saraca indica Linn.,

Mahākośa: 1, 730. The term is used, rarely, in both the CS (1.5.10) and SS (1.13. 16, 6.42.75–76). It is a Dravidian loanword and occurs in the *Arthaśāstra* etc. (KEWA: 3, 167) : 38

drum-giver (?) (*lambaradā*) Unknown; cf. GVDB: 348 : 145

elixir salve (*rasāñjana*) cf. Indian barberry (*añjana*) : 46, 56, 311

embelia (*viḍaṅga*) Embelia ribes, Burm. f. See ADPS: 507, AVS: 2, 368, NK: 1, #929, Potter$_{rev}$: 113 : 46, 81, 103, 153, 187, 188, 204

emblic myrobalan (*āmalaka*) Phyllanthus emblica, L. See AVS: 4, 256 : 81, 111, 112, 220, 321

emetic nut (*karaghāṭa*) Probably a synonym for *karahāṭa* (emetic nut), q.v., GVDB: 74 : 307

emetic nut (*karaghāṭaka*) see emetic nut (*karaghāṭa*) : 146, 203

emetic nut (*karahāṭa*) Randia dumetorum, Lamk. See GVDB: 291–292 and NK: 1, #2091. Singh and Chunekar (GVDB: 74, 77–78) noted that it may be a synonym for *karaghāṭa*, emetic nut, and pointed rather to Gardenia turgida Roxb. on the basis of local knowledge in U. P. : 307

emetic nut (?) (*karaṭā*) Not in GVDB. Cf. perhaps *karahāṭa* (emetic nut) : 144

emetic nut (*madana*) Randia dumetorum, Lamk. See NK: 1, #2091 : 136, 282

false daisy (*bhṛṅga*) Eclipta prostrata (L.) L. See GVDB: 288 : 81

false daisy (*subhaṅgurā*) (su)bhaṅgura = bhṛṅga? Eclipta prostrata (L.) L. See GVDB: 288 : 144

fermented rice-water (*dhānyāmla*) → *kāñjī, kāñjikā, sauvīra*. GVDB: 458, NK: 2, appendix VI, #18 : 53, 54

fern (*ajaruhā*) Nephrodium species GVDB: 7, uncertain. Perhbaps Christella dentata(Forssk.) Brownsey & Jermy, which is reported to have folk applications against skin diseases in India : 139

fire-flame bush (*dhātakī*) Woodfordia fruticosa (L.) Kurz. See AVS: 5, 412, NK: 1, #2626. Known to ancient Greek authors (Ball 1888: 344) : 82, 136

five roots (*pañcamūla*) Described at *Suśrutasaṃhitā* 1.38.66–69 (Su 1938: 169). There are two *pañcamūla*s, the *laghupañcamūla* (the lesser five roots) and *bṛhatpañcamūla* (greater five roots), with differing properties. Combined they are called *daśamūla* (ten roots). See also *Mahākośa*: 1, 468 : 81

flame-of-the-forest (*kiṃśuka*) see flame-of-the-forest (*palāśa*), GVDB: 97–98 : 196

flame-of-the-forest (*palāśa*) Butea monosperma (Lam.) Taub. GVDB: 241. *pālāśa* in some sources : 82, 105, 307

flax (*atasī*) Linum usitatissimum, L. See NK#1495 : 109

foxtail millet (*priyaṅgu*) also *śyāmā*. Setaria italica (L.) P. Beauvois GVDB: 263–264, GJM1: 576. The most widely-grown species of millet in Asia. Some say Callicarpa macrophylla, Vahl. See AVS: 1, 334, NK: 1, #420. The fruits of S. italica and C. macroyphylla are similar. See also GVDB: 413, where the authors suggest that *priyaṅgu* is meant by *gondī* or *gondanī* and may have originally been called *gundrabīja* : 46, 153, 159, 187, 188, 220, 307

foxtail millet (*priyaṅgū*) see foxtail millet (*priyaṅgu*) : 206

fragrant lotus (*saugandhika*) A type of white water-lily (*kumuda*) or blue water-lily (*utpala*), GVDB: 457 : 37

fruit of the marking-nut (*āruṣkara*) see marking-nut tree (*aruṣkara*). "āruṣkara = aruṣkara phala" ADPS: 23; see also MW: 151 : 188

gajpipul (*gajapippalī*) GVDB: 469, 132, syn. *hastipippalī*. A controversial plant, but

gummy gardenia (*pṛthvīkā*) ← *hiṅgupatrikā*, Gardenia gummifera L.f., GVDB: 257, q.v. for discussion : 188, 206

hairy bergenia (*pāṣāṇabheda*) Bergenia ligulata (Wall.) Engl. GVDB: 246–247 : 81

hairy-fruited eggplant (*bṛhatī*) Solanum lasiocarpum Dunal. (syn. S. ferox, L. & S. indicum L.), GVDB: 277–278, who discuss the two kinds of *bṛhatī*, which may be large and small eggplants (Solanum melongena L.). See also ADPS: 100, NK: 1, #2329, AVS: 5, 151, IHR: 429–430 : 105, 111, 152, 153, 196, 198, 314

halfa grass (*darbha*) Demostachya bipinnnata Stapf. GVDB: 201. Synonym of *kuśa* : 84, 109

halfa grass (*kuśa*) Desmostachya bipinnata, (L.) Stapf. GVDB: 111, AVS: 2, 326 : 109, 181, 204

hare foot uraria (*kroṣṭakamekhalā*) see hare foot uraria (*pṛśniparṇī*) *Mahākośa*: 1, 246. *kroṣṭaka* can mean "jackal" *śṛgāla*, as in *śṛgālavinna*, "a kind of *pṛśnaparṇī*) *Mahākośa*: 1, 839 : 188

hare foot uraria (*pṛthakparṇī*) → hare foot uraria (*pṛśniparṇī*) and rajmahal hemp (*mūrvā*) GVDB: 257. A component of lesser five roots : 111, 314

hare foot uraria (*pṛśniparṇī*) → *sahā*? Uraria lagopoides, DC. and U. picta Desv. See GVDB: 257–258, GJM1: 577, Dymock: 1, 426, AVS: 1, 750 ff, NK: 1, #2542; ADPS: 382, AVS: 2, 319 and AVS: 4, 366 are confusing. Also called *pṛthakparṇī*. A component of lesser five roots : 108, 109, 309

heart-leaf sida (*balā*) Sida cordifolia, Linn. See ADPS: 71, NK: 1, #2297 : 55, 109, 112, 114, 153, 280

heart-leaved moonseed (*amṛtā*) → *guḍūcī*. Tinospora cordifolia, (Willd.) Hook.f. & Thoms.? See ADPS: 38, NK: 1, #2472, 624, Dastur #229 : 137, 152, 198

heart-leaved moonseed (*guḍūcī*) Tinospora cordifolia, (Thunb.) Miers. ADPS: 38, NK: 1, #2472 & #624, Dastur #229, GVDB: 141–142. Also identified as Cocculus cordifolius DC. by Nadkarni (NK) and others (see also the Tropicos botanical database) : 81, 110

heart-leaved moonseed (*somavallī*) Tinospora cordifolia (Thunb.) Miers. GVDB: 456. Likely, but uncertain : 137

heart-leaved moonseed creeper (*amṛtavalli*) See *amṛtā* : 280

hedge caper (*hiṃsrā*) Capparis sepiaria L., GVDB: 471, IHR: 124, K & B: 1, 109 : 309

hedge caper (*kākādanī*) synonym of hedge caper (*hiṃsrā*), GVDB: 88, 471, IHR: 124, K & B: 1, 109. This name is not used in the *Carakasaṃhitā*. At 5.7.31 (Su 1938: 583), Ḍalhaṇa glossed *kādādanī* as black Bengal quince (*kṛṣṇaśrīphalikā*). GVDB: vi, 471 note that they have identified *kākādanī* as Cardiospermum halicacabum L. "balloonvine" : 198

henna (*madayantikā*) Lawsonia inermis, L. See AVS: 3, 303, NK: 1, #1448, Potter$_{rev}$: 151 : 138

hibiscus (?) (*ambaṣṭhā*) possibly Hibiscus rosa-sinensis L.? Singh and Chunekar (GVDB: 18–19) discuss the confusions surrounding the identity of this plant, and especially between this plant and velvet-leaf (*pāṭhā*); they must be different items. Singh and Chunekar propose that *ambaṣṭhā* is either the fruit of Hibiscus or the galls of a Quercus or Tamarix species. According to Meulenbeld 1974*b*: 599, *vanakārpāsī* is more likely a name for a hibiscus : 189

Himalayan birch (*bhūja*) see Himalayan birch (*bhūrja*) : 204

Himalayan birch (*bhūrja*) Betula utilis D. Don, GVDB: 287 : 309

Himalayan mayapple (*vakra*) Podophyllum hexandrum, Royle

wild sugar cane (*kāṇḍekṣu*) Saccharum spontaneum L., GVDB: 90 : 81

winged-stem canscora (*girihvā*) see winged-stem canscora (*girikarṇikā*) : 188

winged-stem canscora (*girikarṇikā*) sometimes → *śvetā*, in which case possibly Clitoria ternatea, L., see AVS: 2, 129, NK: 1, #621. Since *śvetā* and *girihvā* are cited as separate constitutents of one formula (e.g., *Suśrutasaṃhitā* 5.5.75 (Su 1938: 579) they cannot be the same plant. GVDB: 138–139 argued for Symphorema polyandrum Wight, which they also assigned to *sinduvāra*. When discussing *śaṅkhapuṣpī*, another possible synonym, Sivarajan and Balachandran (ADPS: 425–427) also suggest Canscora alata (Roth) Wall. (syn of Canscora decussata Schultes & Schultes f.) and Convulvulus pluricaulis Chois. The former has a more appropriate distribution and is chosen here : 325

winged-stem canscora (*giryāhvā*) see winged-stem canscora (*girikarṇikā*) : 323

Withania (*aśvagandhā*) Withania somnifera (L.) Dunal. See AVS: 5, 409 f, Dymock: 2, 566 f, 150, GVDB: 29, Chevillard: 152 : 55, 104, 111, 188

wood-apple (*kapittha*) Limonia acidissima, L. See AVS: 3, 327, NK: 1, #1021 : 111, 137, 139, 189, 198, 199, 203, 220, 318

woody turmeric (*kāleyaka*) Coscinium fenestratum (Goetgh.) Colebr., GVDB: 95. See V. K. Gupta et al. 2015: 173–175 : 206

woody-fruited jujube (*gopaghoṇṭā*) Ziziphus xylopyra (Retz.) Willd. GVDB: 147 → *ghoṇṭā* : 204

yellow-berried nightshade (*kaṇṭakārī*) Solanum virginianum L. (syn. Solanum surattense Burm. f. and Solanthum xanthocarpum, Schrad. & Wendl.) GVDB: 68–69. See also IHR: 430. A component of lesser five roots : 314, 325

yellow-berried nightshade (*kṣudrā*) see yellow-berried nightshade (*kaṇṭakārī*), ADPS: 100, NK: 1, #2329, AVS: 5, 164 : 152, 153

Fauna

arala rat (*arala-animal*) a hapax legomenon in Sanskrit, probably a Dravidian loan word or cognate from forms like Pengo, Manḍa, Kuwi etc., *orli, urli*, etc., DED_2: #994 : 194, 196, 197

aṭakī (*aṭakī*) unknown : 213

bad-marked rat (*kuliṅga*) etymologically, "having bad-marks" MW: 286, but unidentifiable : 194, 197

beaked (*tuṇḍikerī*) neologism insect-name based on the etymology of *tuṇḍa*. Probably *tuṇḍikera* and *tuṇḍicela* are variants of the same lexeme. *ṭuṇḍa* is "Nicht überzeugend erklärt" according to Mayrhofer (EWA: 1, 653), who refers to a possible non-Indo-European origin (ibid. v. 3, 249 on *tundikā, tundikerī* refers to plants only). But Burrow 1971: 544 derived the term plausibly from $\sqrt{tud}$ "peck" : 212

bee (*bhramara*) bee or bumble-bee, MW: 769, etc. : 213

bhaṭābha (*bhaṭābha*) unknown : 213

black drongo (*dhūmyāṭa*) Dicrurus adsimilis, Bechstein, Dave 1985: 63, 65, 199 : 134

black rat (*kṛṣṇa*) perhaps the widespread Black Rat or Common House Rat, Rattus Rattus L., BIA: 210 : 194, 196

black-beak (*kṛṣṇatuṇḍa*) unknown insect,

name based on etymology; MW: 307. But possibly "black-belly" based on the lexeme *tunda*, CDIAL: 1, #5858 : 213

brown rat (*kapila-animal*) name from etymology; unidentified; see tawny rat (*aruṇa*) : 194, 197

bull (*vṛṣabha*) MW: 1012, etc. Bos taurus, Linn. : 134

celestial (*svarga-insect*) unknown insect, name based on etymology : 213

centipede (*śatapādaka*) the name's meaning is, "hundred-foot" MW: 1049, CDIAL: 1, #12281 : 213

chital deer (*pṛṣata*) Axis axis, Erxleben. BIA: 295–296. In *Suśrutasaṃhitā* 5.5.71 (Su 1938: 579) it seems to be specifically the musk that is meant. so the reference may be to the Musk Deer (Moschus moschiferus L.). But all species produce musk, so *pṛṣata* may also be simply Chital or Spotted Deer. See also IW: 93 : 134, 140, 188

chukar partridge (*cakora*) Alectoris chukar, J. E. Gray, Woodcock 1980: 45, distributed from NW India to Nepal and Assam : 134

civet (*mārjāra*) BIA: ch. 4 *et passim*, McHugh 2012 : 188

common crane (*krooñca*) Grus grus, Linn., Woodcock 1980: 47, Dave 1985: ch. 62 : 134

cone snail (*śambūka*) a bivalve or snail (MW: 1055), but presumably a poisonous one such as the cone-snail : 156

cook-fish insect (*pākamatsya*) unknown insect, name based on etymology. A kind of fiery insect according to Ḍalhaṇa on 5.3.5 (Su 1938: 567) : 156, 213

cricket (*ucciṭiṅga*) The suggestion "cricket" is from Assamese *usaṅgā* and Bengali *cuiṅgā, ucuṅgā*, CDIAL: 1, #1645, although they are not venemous. Unlikely: a crab, MW: 173. The cricket may appear to have a sting, although it does not Maxwell-Lefroy 1909: 102 : 212

devout (*brahmaṇīkā*) unknown insect, name based on etymology : 213

droplet (*bindula*) unknown insect, name based on etymology. Ḍalhaṇa on 5.8.9 (Su 1938: 586) noted that some people read *viluṭa* instead of *bindula* : 213

drummer (*dundubhaka*) unknown insect, name based on etymology. But may be connected with a variant of *tunda*/*tund* "belly" CDIAL: 1, #5858. **tunda-bhaka* might then mean "belly-croaker/puffer" : 213

enemy-liquor (*arimedaka*) unknown insect, name based on etymology. Perhaps a variant of *ali-* "bee", CDIAL: 1, #716 or *āla* "poison" CDIAL: 1, #1352 : 213

fidgety rat (*capala*) from the etymology of the word. Unidentifiable mouse or rat. It is probably too much of a stretch to connect it with Dravidian forms like Kui *superi* "shrew-mouse", DED_2: #2675 : 194, 197

fiery (*agni-insect*) unknown insect, name based on etymology. Cf. Marāṭhī *āghī* "a kind of stinging fly" CDIAL: 1, #57 : 212, 326

fiery insect (*agnikīṭa*) see fiery (*agni-insect*) : 213

five-venom (*pañcālaka*) unknown insect, name based on etymology : 213

fondling rat (*lālana*) based on etymology. An unknown rat or mouse : 194, 195

gajpipul rat (*vasira-animal*) unknown type of rat or mouse. "*Vasira*," equated with *gajapippalī* is usually the name of the liana Scindapsus officinalis (Roxb.) Schott (GVDB: 132, 362) (see gajpipul (*gajapippalī*)). Lianas are known for providing a habitat for many arboreal animals, including rodents. The vulgate *Suśrutasaṃhitā* reads *haṃsira* as the name of this rat : 194, 196

grey peacock-pheasant (*jīvajīvaka*)

markings that could match the description of the *Suśrutasaṃhitā*. See further IW: 40, 135–136; Deuti 2020 : 86

leaf-scorpion (*patravṛścika*) unknown insect, name based on etymology : 213

legume-insect (*vaidala*) unknown insect, name based on etymology : 212

lentil insect (*masūrika-insect*) usually the name of a lentil or the "lentil disease," namely smallpox. But here, an insect : 212

little rat (*cikkira*) likely related to the Tuḷu "cikkeli, a small variety of mouse," and other Dravidian works related to Tamil *cikka* "small',' DED_2: #2495. See also CDIAL: 1, #4779 on *cikka* "mouse or muskrat," from lexical sources, and #4781 *cikkā* "small" from Drav., Burrow 1948: #141 : 194, 196

little-voice (*alpavāca*) unidentified insect; possibly a wrong reading : 212

lotus-insect (*padmakīṭa*) unknown insect, name based on etymology : 213

maggot (*kīra-insect*) unknown insect. See Lahndā, Panjābī, Bengali, Oriya *kīṛā*, etc., CDIAL: 1, #3193 and similar forms in Bīhārī, Maithilī Bhojpurī, etc. Obviously a variant of *kīṭa* : 213

maṇḍalapuṣpaka (*maṇḍalapuṣpaka*) unknown : 213

mole-rat (*kokila-animal*) Bandicota bengalensis (Gray & Hardwicke). Etymologically, "brown as a Kokila". CDIAL: 1, #4324 relates *kokila* to *golaka* but it may more likely be a Dravidian loanword from *koko, kogi, koki*, meaning "small, little, young" DED_2: 2030. This is possibly supported by Kannada *kok* and Telugu *golatta, koku* for the mole-rat, reported by Prater (BIA: 205) : 194, 197

mongoose (*nakula*) Urva edwardsii or the often sympatric U. auropunctatus (small Indian mongoose, usually an eater of smaller creatures than snakes) (BIA: ch. 5), On mongooses and snakes, see IW: 112; BIA: 98–99 : 140, 188

mosquito (*maśaka*) a mosquito, gnat, gadfly or any stinging fly, MW: 793, CDIAL: 1, #9917 : 213

myna-face (*śārikāmukha*) unknown insect, name based on etymology : 212

nāhana (*nāhana*) unknown : 213

noseless (*vināsikā*) unknown insect, name based on etymology : 213

outsider (*bāhyaka*) unknown insect, name based on etymology : 213

pañcakṛṣṇa (*pañcakṛṣṇa*) unknown : 213

pañcaśukla (*pañcaśukla*) unknown : 213

parakeet (*śuka*) Psittacula krameri, Scopoli (or P. eupatria or cyanocephala), See Woodcock 1980: 64 : 134, 198

picciṭā (*picciṭā*) unknown insect; etymologically perhaps similar to *piccaṭa* "squashed flat" (MW: 624) : 213

pigeon rat (*kapota-animal*) a rat "like a pigeon;" presumably of grey colour : 194, 197

pitcher-like (*kauṇḍinya-insect*) unknown insect, name based on etymology : 213

pot-nose wasp (?) (*kumbhīnāsa*) unknown insect, name based on etymology. Cf. the forms related to *kumbhakārī* "potters' wife" at CDIAL: 1, #3312, including Assamese *kumārni* "mason-wasp," Hindī "wasp-like insect which makes a clay nest" : 329

pot-turd (*kumbhīvarcas*) unknown insect, name based on etymology (on *-varcas*, see *Mahākośa*: 1, 725 : 213

pravalāka (*pravalāka*) unknown : 213

racket-tailed drongo (*bhṛṅgarāja*) Dicrurus paradiseus, Linn., Woodcock 1980: 123 : 134

rat (*unduru*) Also *undura* or *indūra* in some sources, including the vulgate. A common name for a rat or mouse in many S. Asian languages from Prakrit to contemporary, CDIAL: 1, #2095, Menon 2014, where it is called "house

elegans (Schoepff), Reptiles: 30 and plate, MW: 1076 : 207
tuṇḍavakra (*tuṇḍavakra*) unknown : 213
tuṅgīnāsa (*tuṅgīnāsa*) unknown : 213
vaiśvambhara (*vaiśvambhara*) unknown : 213
valabhika (*valabhika*) unknown insect : 213
viciṭiṅga (*viciṭiṅga*) unidenitified insect (not in MW) : 212
warding off (*vāraṇī*) unknown insect, name based on etymology. Cf. Oṛiyā *bāraṇī* "charm against wild animals or noxious insects" CDIAL: 1, #11553 : 213
white rat (*śveta-animal*) from the etymology, perhaps the Mus musculus, L.., although strictly, they are agouti not white. The whitetailed wood rat (*Madromys blanfordi*, Thomas) is brown but has a distinctive white end to its tail : 194, 197
worm-dish (*krimisarāvī*) unknown insect, name based on etymology. *śarāva* "dish, plate, etc." (MW: 1057) : 213

Minerals

ashes (*bhasma*) ashes, corrosive when wet : 146
cuttle-fish bone (?) (*phenāśma*) Hapax legomenon. Etymologically "foam-stone". Perhaps cuttlefish bone, or pumice (see Byrski 1981)? Dutt (Dutt: 38–42) conjectured that 'foam-stone' may be impure white arsenic obtained by roasting orpiment. : 146
orpiment (*haritāla*) Arsenii trisulphidum. See NK v. 2, p. 20 ff : 146
vermilion (*rakta*) speculative, based on *Mahākośa*: 1, 667, under *raktadhātu*, citing the *Dhanvantarīyanighaṇṭu* : 146

Glossary

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Todo list