

Draft Translation of the Nepalese  
*Suśrutasamhitā*

Dominik Wujastyk  
Paras Mehta  
Deepro Chakraborty  
Philipp A. Maas

Jason Birch  
Madhusudan Rimal  
Harshal Bhatt  
Andrey Klebanov

Lisa A. Brooks  
Jan Gerris  
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# Introduction

What follows is a draft translation of selected chapters of the *Compendium of Suśruta* (*Suśrutasamhitā*). This differs from former translations, being based on the text that survives in the oldest known manuscripts of the work.<sup>1</sup> 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.<sup>2</sup>

## The date of the *Suśrutasamhitā*

In a previous publication, I discussed evidence showing that the *Suśrutasamhitā* 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.<sup>3</sup> The more detailed reflections by Meulenbeld support this dating.<sup>4</sup> 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.<sup>5</sup>

## Dhanvantari

Another recently-discovered factor affects older arguments about the dating of the work. The name “Dhanvantari” that is associated with the vul-

<sup>1</sup> See Dominik Wujastyk, Birch, Klebanov, et al. 2023 for an introduction to the Nepalese text and Wujastyk et al. 2021– for background on the Suśruta Project, 2021–2024.

<sup>2</sup> For more discussion of this issue, see Dominik Wujastyk, Birch, Klebanov, et al. 2023: Introduction and ch. 2.

<sup>3</sup> Dominik Wujastyk 2003b: 63–64.

<sup>4</sup> HIML: 1A, 333–352.

<sup>5</sup> Dominik Wujastyk, Birch, Klebanov, et al. 2023: 16–26.

gate version of the *Suśrutasamhitā* is not tied in the same way to the older, Nepalese version of the text.<sup>6</sup> In the late ninth century, the *Suśrutasamhitā* was read as a work delivered by Divodāsa, King of Kāśī, not the god Dhanvantari. The text was thoroughly re-edited after the ninth century, adding the narrative frame of the Dhanvantari attribution as well as verses from the *Carakasamhitā* 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 *Suśrutasamhitā* 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.<sup>7</sup>

The dissociation of Dhanvantari from the *Suśrutasamhitā* affects several historical arguments that were summarized by Meulenbeld about the relationship of the work to the *Carakasamhitā* and other works.

Furthermore, other former arguments for the priority of the *Carakasamhitā* to the *Suśrutasamhitā* can no longer stand, since the Nepalese version does not include many of the passages from the *Carakasamhitā* on which these arguments rest. A particularly striking example of this occurs in the *Sūstrasthāna*'s discussion of diagnosis.

## Methods of diagnosis

Chapter ten of the *Sūstrasthāna* is dedicated to the topic of becoming a professional physician.<sup>8</sup> 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

<sup>6</sup> Dominik Wujastyk 2013; Birch, Dominik Wujastyk, Klebanov, Parameswaran, et al. 2021; Birch, Dominik Wujastyk, Klebanov, Rimal, et al. 2021; Dominik Wujastyk, Birch, Klebanov, et al. 2023.

<sup>7</sup> Wujastyk 2024.

<sup>8</sup> See p. 33 below and Wujastyk 2025 for discussion.

these three means of gaining knowledge. That is what some people say, but it is not correct. There are six means of gaining knowledge about diseases, i.e., by the five senses, hearing etc., and by interrogation.<sup>9</sup>

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 *Carakasamhitā* (Ca.ci.25.22). For that reason, this passage has been taken as evidence that the authors of the *Suśrutasamhitā* knew the Caraka text and were responding to it. This is one of the pieces of evidence that is used to argue that the *Suśrutasamhitā* is chronologically later than the *Carakasamhitā*. In the Nepalese version of the *Suśrutasamhitā*, 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.<sup>10</sup>

The passage referring to the *Carakasamhitā* is absent.

Luckily, the learned commentary by Cakrapāṇidatta (fl. 1075, Bengal) on this part of the *Suśrutasamhitā* 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.<sup>11</sup> Thus, we can say that it was added to the text of the *Suśrutasamhitā* some time between the oldest Nepalese manuscript (878 CE) and Cakrapāṇidatta’s time, i.e., the eleventh century.

9 दूतनिमित्तशकुनमङ्गलानुलोम्येनातुरगृहमभिगम्य, उपविश्य, आतुरमभिपश्येत्स्पृशोत्पृच्छेच्च; त्रिभिरेतैर्विज्ञानोपायै रोगः प्रायशो वेदितव्या इत्येके; तत्तु न सम्यक्, षड्धिघो हि रोगाणां विज्ञानोपायः, तद्यथा — पञ्चभिः श्रोत्रादिभिः प्रश्नेन चेति ॥४॥

10 ततो दूतनिमित्तशकुनमङ्गलानुलोम्येनातुरगृहमागम्योपविश्यातुरमभिपश्येत्स्पृशोच्च त्रिभिरेतैर्विज्ञानोपायैः दीर्घमायुषोल्पायुषो वेदितव्यः.

11 अयं पाठश्च चक्रासंगतः.

The fact that this reference to the *Carakasam̄hitā* is not present in the early Nepalese version of the *Suśrutasam̄hitā* means that this argument about the chronological priority of the *Carakasam̄hitā* can no longer be sustained.<sup>12</sup>

Evidently, Candraṭa or some other editor added material from the *Carakasam̄hitā* to the *Suśrutasam̄hitā* after the ninth century. A piece of evidence that remains independent of the above issues is the remark by the Cakrapāṇidatta that Dṛḍhabala (fl. ca. 300–500 CE) knew and made use of the *Suśrutasam̄hitā*.<sup>13</sup> This provides a latest date for the *Suśrutasam̄hitā* in the period before Dṛḍhabala. This also shows that much of the text of the *Carakasam̄hitā* in its present form, as reconstructed by Dṛḍhabala, postdates the *Suśrutasam̄hitā*.

## Chinese evidence

Recently, Lu (2025) has discussed the reception of the materials of *Suśrutasam̄hitā* sūtrasthāna, chapter 29 by Chinese Buddhists, especially in the work of the second- and third-century translators of Saṅgharakṣa's *Yogācārabhūmi*, An Shigao (ca. 148–180 CE) and Dharmarakṣa (fl. 284 CE). As Lu says, “The Sanskrit text fixes the baseline wording” of the Chinese translations.<sup>14</sup> This fixes the reception of the *Suśrutasam̄hitā* in China to the mid-to late second century.

## The Nepalese Version

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

1. MS Kathmandu KL 699 (siglum K),

<sup>12</sup> However, another इत्येके “some say” passage that does occur in the Nepalese version, namely *Suśrutasam̄hitā* 4.5.3 (Su 1938: 424), does respond to a concept that is described in *Carakasam̄hitā* 6.29.19 (Ca 1941: 628) (Emmerick 1984: 101). Commenting on the *Carakasam̄hitā*, Cakrapāṇidatta actually cited this passage of Suśruta's explicitly and engaged in a discussion to harmonize the views of the two authorities (तेन न विरोधश्वरकसुश्रुतयोः ।).

<sup>13</sup> Cakrapāṇidatta *ad Carakasam̄hitā* 8.12.39 (Ca 1941: 735) (see also HIML: 1A, 132, 350–351).

<sup>14</sup> Lu 2025: 2. See further studies including those of Demiéville (1954), Zucchetti (2010) and Deleanu (1997).

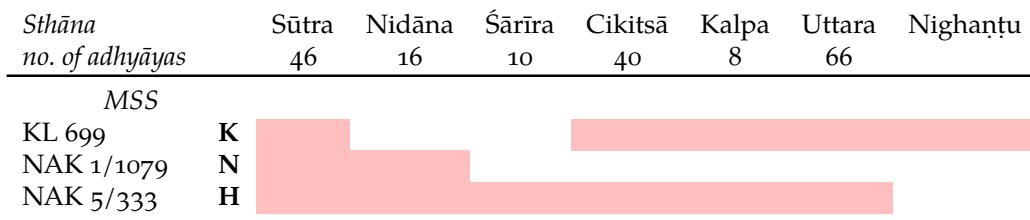


Figure 1: Coverage of the *Suśrutasaṃhitā* text by MSS K, N and H.

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

Figure 1 shows the parts of the *Suśrutasaṃhitā* text that are supported by the three manuscripts. The first of these MSS is the oldest, dated to CE 878.<sup>15</sup> It covers most of the *Suśrutasaṃhitā*, but lacks the *Nidānasthāna* and the *Śārīrasthāna*. The second is undated but is datable on palaeographical grounds to the twelfth or thirteenth centuries.<sup>16</sup> 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.<sup>17</sup> The text of manuscript H follows K very closely but is not a direct apograph.<sup>18</sup> I and others who have studied this matter conjecture that it was either copied from an intermediary that followed K very closely or from an ancestor of K.<sup>19</sup>

## 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 Yādavaśarma Trivikrama

<sup>15</sup> Klebanov 2021a: 15.

<sup>16</sup> Klebanov 2021a: 17–18.

<sup>17</sup> I follow the arguments of Klebanov (2021a: 21–26) on the interpretation of the colophon although, as he pointed out, some interpret the date as CE 1573.

<sup>18</sup> Chakraborty 2022.

<sup>19</sup> “...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 2021b: 21).

Ācārya and N. R. Ācārya (*Su* 1938).<sup>20</sup> This edition has many merits and has been a source of constant admiration. However, one of its drawbacks is that,

Its readings seem often to show signs of a deliberate attempt to produce a smooth text: hence the value of this edition as witness to an independent MS. authority is much impaired.<sup>21</sup>

It is telling that this edition includes the commentary of Ḏalhaṇa (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.<sup>22</sup> It is possible that Gayadāsa and Ḏalhaṇa, 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 *Suśrutasamhitā*. But with the more limited materials available to him at the turn of the twentieth century he drew the line a little differently. He referred to the text of the *Śārirasthāna* of the *Suśrutasamhitā*, transmitted in the printed editions of his day, as “the Traditional Recension.”

The recension which is found in Jīvānanda’s and all other prints,<sup>23</sup> 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.<sup>24</sup>

However, Hoernle was unfortunately not aware of the Nepalese manuscripts of the *Suśrutasamhitā*, which at the time he was writing were in

<sup>20</sup> This and the following issues have been discussed by Dominik Wujastyk, Birch, Klebanov, et al. (2023: 2 and ch. 3).

<sup>21</sup> A remark by Hort (1916: 1, xiv) aimed at the fifteenth-century Aldine edition of Theophrastus.

<sup>22</sup> E.g., see the discussion in footnote 183 below.

<sup>23</sup> Hoernle listed four, S. M. Gupta 1835–36; *Su* 1889; Vīrasvāmi 1900–09; Govindjī, Jīvanrām, and Prabhurām 1901.

<sup>24</sup> Hoernle 1907: 68.

Nepalese libraries that were just beginning to come to the attention of scholarship outside Kathmandu. The contrast that Hoernle was drawing was between the Traditional Recension and the *Śārīrasthāna* of the *Caraka-saṃhitā* as printed by the influential Bengali scholar, Kavirāja Gaṅgādhara Ray (1798–1885).<sup>25</sup>

## The Translation

The translation follows the methods of rigorous philological care and modern principles of translation theory.<sup>26</sup> 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. Readers are referred to the critical apparatus of the edition for the full account of the differences.

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 canon was 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 differently-organized part already appended to the first five. The prehistory of the work before this form is tantalizingly unknown to us. That the

<sup>25</sup> 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 Gangādhara 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.

<sup>26</sup> See Dominik Wujastyk 2003b: intro. and Dominik Wujastyk 2021:81–83 for an overview.

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 have almost no 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 Jejjāta, Gayadāsa and Cakrapāṇidatta and the editor Candrāta. 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**



# Sūtrasthāna 1: The Origin of Medical Knowledge

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>27</sup>

## Translation

- 1 “Now I shall narrate the chapter on the origin of this knowledge.<sup>28</sup>
- 2 “Now, as is well-known, Aupadhenava, Vaitaraṇa, Aurabhra, Puṣkalāvata, Karavīra, Gopurarakṣita, **Bhoja**, Suśruta and others addressed Lord Divodāsa, king of Kāśi, the best of the immortals, who was in his ashram surrounded by an entourage of sages.<sup>29</sup>

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<sup>27</sup> [HIML](#): IA, 203–204.

<sup>28</sup> Ḑalhaṇa understood the word “knowledge (*veda*)” as specifically “medical knowledge.” He said that the word “longevity” (*āyur*) had been elided. After this opening statement, later manuscripts and commentaries include the attribution, “as the venerable Dhanvantari stated.” The absence of this statement in the early Nepalese manuscripts is highly significant because it removes the outer narrative frame of the *Suśrutasamhitā* (Dominik Wujastyk 2013: 148; Klebanov 2021a: § 3.1.2; S. K. Rai 2019; Birch, Dominik Wujastyk, Klebanov, Parameswaran, et al. 2021). On the figure of Dhanvantari in medical literature, see [HIML](#): IA 358–361.

<sup>29</sup> On these persons, see [HIML](#): IA 361–363, 369 ff. The authority Bhoja does not appear in the list as published in the vulgate edition ([Su 1931](#): 1), and was not included in [HIML](#) amongst “authorities mentioned in the *Suśrutasamhitā*.” Meulenbeld gathered textual evidence about Bhoja at [HIML](#): IA 690–691. Klebanov (2021b) has discussed these authors in the context of an anonymous commentary on the *Suśrutasamhitā* that cites them.

- 3 “O Lord, distress arose in our minds after witnessing people thrashing about with cries, assailed by different kinds of pain and injury (*vedanābhīghāta*), feeling helpless in spite of having friends, because of diseases arising from the body, the mind and external sources.
- 4 “To quell the illnesses of those who seek happiness and for our own purpose of prolonging life, we desire the science of life (*āyurveda*) that is being taught. Welfare, both in this world and in the next, depends upon it. Therefore, we have come to the Lord in pupillage.”
- 5 The Lord said to them:  
“Welcome to you! My children, all of you are beyond reproach and worthy to be taught.
- 6 “As is well known, Ayurveda is the name of what is said to be the subsidiary part of the Atharvaveda.<sup>30</sup> Before creating people, Svayambhū composed it in hundreds of thousands of verses and a thousand chapters and, after observing the short lifespan and low intelligence of people, he presented it again in eight parts.<sup>31</sup>
- 7 “Surgery, treatment of body parts above the clavicle, general medicine, knowledge of spirits, care of children, and the disciplines of antidotes, rejuvenation and aphrodisiacs.
- 8.1 “Now, a collection of the characteristics of each component of Āyurveda.
- 8.1a “Among them, the one called surgery has the goal of extracting various grasses, wood, stone, dust, iron,<sup>32</sup> soil, bone, hair, nails, discharge of pus, malignant wounds and foreign bodies inside the womb, and of determining the application of surgical instruments, knives, caustics and fire by means of sixty definitions.
- 8.2 “The one named “the doctrine of treating body parts above the clavicles” has the aim of curing diseases situated above clavicles that is, diseases located in ears, eyes, mouth, nose and so on.
- 8.3 “The one called “general medicine” has the goal of curing illnesses established in the whole body and [diseases] such as fever, tumour, swelling, hemorrhagic disorders, insanity, epilepsy, urinary diseases, diarrhoea and the like.

<sup>30</sup> On the careful wording of this statement, that makes the Atharvaveda connection “something that people say,” see Dominik Wujastyk 2022: 400–401.

<sup>31</sup> Svayambhū is another name for Brahmā, the creator.

<sup>32</sup> The identity of the metal in such early literature is somewhat moot. For discussion, see Dagmar Wujastyk 2019.

- 8.4 "The one called "knowledge of spirits" is for appeasing demons by pacification rites and making food offerings for those whose minds have been possessed by gods, their enemies,<sup>33</sup> Gandharvas, Yakṣas, demons, deceased ancestors, Piśācas, Vināyakas,<sup>34</sup> Nāgas and evil spirits that possess children.
- 8.5 "The one called "care of children" is for bearing children and purifying defects in a wet-nurse's milk, and curing diseases that have arisen from bad breast milk and demons.
- 8.6 "The one called "the discipline of toxicology" is for [knowing] the signs of poison from snake and insect bites and for neutralising various combinations of poisons.<sup>35</sup>
- 8.7 "The one called "the discipline of rejuvenation" is maintaining youth, bringing about a long life and mental vigour and for curing diseases.
- 8.8 "The one called the "discipline of aphrodisiacs" brings about the increase, purity, accumulation and production of semen for those whose semen is minimal, bad, depleted, and dry [respectively] and for inducing an erection.
- 9 "In this way, this Āyurveda is taught with eight components."  
"Among these [components], tell us which is for whom."
- 10 They said, "After you have made the whole knowledge of surgery accessible, teach it to us, Lord".<sup>36</sup>
- 11 "So be it," he said.
- 12 They then said, "After probing our opinion, we are unanimous: Suśruta will question you. We too will take in what is being taught to him."
- 13 "So be it," he said.

Cite Paul  
Courtright,  
Ganesha  
book.

33 Dānavas. The insertion marks (*kākapadas*) below the text at this point appears to be by the original scribe.

34 The vulgate doesn't have *vināyakas* but does add *asuras*, probably under the influence of Dalhaṇa.

35 The scribal insertion marks (crosses) above the line at this point in MS K appear to be in a later hand and their referent is lost in the damaged part of the folio. Although MSS MS Kathmandu NAK 1-1079 and MS Kathmandu NAK 5-333 include spiders (*lūtā*) and creepy-crawlies (*sarīsrpa*) in the list, it does seem that MS K had a shorter list, and the vulgate edition adds rodents (*mūṣika*).

36 For discussion of the text-critical significance of this passage, see Harimoto 2013. I have read the passage as including the word अलङ्कृत्या in the sense "make accessible" (cf. MW: 94, *sub* अलं विज्ञातुम्).

## In praise of surgery

- 14–16 “Now, as is well-known, the aim of Āyurveda is eliminating the disease of one who has been assailed by disease and protecting the healthy; Āyurveda is, “where they find a long life,” or “that by which long life is known.” You should take in its best component (*aṅga*), which is being taught without conflicting with tradition, perception, inference or analogy.
- 17 “For this component is first, the most important, because it is referred to first; it cures wounds and joins together the most important thing, Yajña’s head. For, just as it has been said of old, ‘the head that had been cut off by Rudra was joined again by the two Aśvins.’
- 18 “And also, of the eight disciplines of Āyurveda, alone is the best because of the quick action of its procedures (*kriyā*), its application of blunt instruments, knives, caustics and fire, and it is common to all disciplines.
- 19 “Therefore, it is eternal, meritorious, leads to heaven, brings renown, bestows a long life, and affords a livelihood.
- 20 “This is what Brahmā said: ‘Prajāpati learned it. From him, the Aśvins. From the Aśvins, Indra. From Indra, I. In this world, I will transmit it to students, for the benefit of people.’
- 21 “There a verse about this:

*For I am Dhanvantari, the first god, the remover of old age, pain and death of mortals. Having understood surgery, the best of the great knowledge systems, I arrived on earth again to teach it here.*<sup>37</sup>

- 22 “In this context, as far as this discipline is concerned, a human being (*puruṣa*) is called an amalgam of the five elements and the embodied soul. This is where procedures (*kriyā*) apply. This is the locus.”  
“Why?”  
“Because of the duality of the world, the world is twofold: the stationary and the moving. Its nature (*ātmaka*) is twofold, depending on the preponderance of Agni and Soma.<sup>38</sup> Alternatively, it can be considered as being fivefold. The multitude of beings in it are fourfold: they are

<sup>37</sup> Note that this verse about the origin of surgery is the first place that the name “Dhanvantari” is introduced in the Nepalese version of the work. Dhanvantari is here identified with Brahmā, the creator of the world. For discussion, see Birch, Dominik Wujastyk, Klebanov, Parameswaran, et al. 2021.

<sup>38</sup> See Dominik Wujastyk 2004.

termed “sweat-born, stone-born, caul-born and egg-born”.<sup>39</sup> Where they are concerned, the human being is the main thing; others are his support. Therefore, the human being (*puruṣa*) is the locus.

- 23–26 “Diseases are said to be the conjunction of the person and suffering (*duḥkha*). There are four of them: invasive, bodily, mental and inherent. The invasive ones are caused by an injury. The bodily ones are based on food, caused by irregularities (*vaiśamya*) in wind, bile, phlegm and blood.<sup>40</sup> “The mental (*mānasa*) ones, caused by desire (*icchā*) and hatred (*dvesa*), include: anger (*krodha*), grief (*āśoka*), misery (*dainya*), overexcitement (*harṣa*), lust (*kāma*), depression (*viśāda*), envy (*īrṣyā*), jealousy (*asūyā*), malice (*mātsarya*), and greed (*lobha*). “The inherent (*svābhāvika*) ones are hunger, thirst, old age, death, sleep and those of the temperament (*prakṛti*). “These too are located (*adhisthāna*) in the mind and body.
- 27 “Scarification (*lekhana*), nourishment (*bṛ̥ṇihāna*), purification (*saṃśodhana*), pacification (*saṃśamana*), diet (*āhāra*) and regimen (*ācāra*), properly employed, bring about their cure.
- 28 “Furthermore, food is the root (*mūla*) of living beings as well as of strength (*bala*), complexion (*varṇa*) and vital energy (*ojas*). It depends on (*āyattha*) the six flavours (*rasa*). Flavours, furthermore, have substances as their substrate (*āśrayin*). And substances are remedies (*oṣadhi-*).<sup>41</sup> There are two types: stationary (*sthāvara*) and moving (*jaṅgama*).
- 29 “Of these, there are four types of stationary ones: fruit trees (*vanaśpati*), flowering trees (*vṛkṣa*), herbs (*oṣadhi*) and shrubs (*vīrudh*).<sup>42</sup> Amongst

39 This fourfold classification of beings is paralleled with closely-related vocabulary in *Bhelasamhitā* 4.4.4 (Bhela 2000: 206; Bhela 1921: 81).

40 Note that four humoral substances are assumed here.

41 Pāṇini 6.3.132 provides that the final vowel of the noun *oṣadhi* may be lengthened (→*oṣadhi*) under certain conditions. These conditions require that the word be used in a Vedic mantra and not in the nominative. Neither condition is met in this passage, yet the author uses the form *oṣadhi*. This form is in fact not uncommon in medical literature as well as in epics, purāṇas, smṛtis, and other parts of Sanskrit literature.

42 Ca.ś.1.71–72 also describes these four types of medicinal plant in similar terms but with slightly differing names: *oṣadhi* is a plant that ends after fruiting, *vīrudh* is a plant that branches out, *vanaśpati* is a tree with fruit, and *vānaspatya* is a tree with fruit and flowers.

these, the “fruit trees” have fruit but no flowers.<sup>43</sup> The “flowering trees” have flowers and fruit. The “herbs” die when the fruit is ripe. “Shrubs” put out shoots.

- 30 “As is well known, moving remedies are also of four types: those born in in a caul (*jarāyuja*), those born from eggs (*aṇḍaja*), those born of sweat (*svedaja*), and shoots (*ubbhid*). Amongst these, those born in a caul include animals (*paśu*), humans, and wild animals (*vyāla*). Birds, creepy-crawlies (*sarīṣṛpa*) and snakes are “born of eggs.” Worms (*kṛmi*), small insects (*kunta*) and ants (*pipilika*) and others are born of sweat.<sup>44</sup> Shoots include red velvet mites (*indragopa*) and frogs (*maṇḍuka*).<sup>45</sup>
- 31 “In this context, among the stationary remedies, skin (*tvak*), leaves (*patra*), flowers (*puṣpa*), fruits (*phala*), roots (*mūla*), bulbs (*kanda*), sap (*kṣīra*), resin (*niryāsa*), essence (*sāra*), oil (*sneha*), and juice extract (*svarasa*)<sup>46</sup> are useful; among the moving remedies pelt (*carman*), hair, nails, and blood (*rudhira*) and so forth.
- 32 “And earthen products (*pārthiva*) include gold and silver.<sup>47</sup>
- 33 “The items created by time (*kālakṛta*) are clusters (*samplava*) as far as wind and no wind (*nivāta*), heat and shade, darkness and light and the cold, hot and rainy seasons (*varsā*) are concerned. The divisions of time are the blink of the eye (*nimeṣa*), a trice (*kāṣṭhā*), minutes (*kalā*), three-quarters of an hour (*muhūrta*), a day and night (*ahorātra*), a fortnight (*pakṣa*), a month (*māsa*), a season (*ṛtu*), a half-year (*ayana*), a year (*saṃvatsara*), and yuga (*yuga*).<sup>48</sup>
- 34 “These naturally cause accumulation (*sañcaya*), irritation (*prakopa*), pacification (*upaśama*) and alleviation (*pratikāra*) of the humours (*dosa*). And they have practical purposes (*prayojanavat*).

43 The MSS agree in reading *phalavantyah* “having flowers” which is grammatically non-standard. This form is also found in the *Viṣṇudharmottarapurāṇa* (1.92.27, 1.92.27 *Viṣṇudh..*: 56r).

44 The word *kunta*, though marked as “lexical” in most dictionaries, is in fact found in literature, commonly as a compound with *pipilika*; the compound sometimes seems to be understood a type of ant (*tatpuruṣa* compound) rather than as a pair of insects (*dvandva* compound).

45 On *indragopa*, see Lienhard 1978.

46 On juice extract (*svarasa*) see CS 1.1.73, 1.4.7; Dalhana on 4.10.12 (*Su 1938*: 450).

47 The flow of concepts in the treatise seems to be interrupted here.

48 These units are presented at 1.6.5 (*Su 1938*: 24) and discussed by Hayashi (2017: § 59).

35 “There are verses about this:

*This fourfold category is taught by physicians as a cause for the agitation and quelling of bodily diseases.<sup>49</sup>*

36 *There are two kinds of invasive diseases. Some certainly<sup>50</sup> affect (ni/ pat) the mind, others the body. Their treatment (kriyā) is of two kinds too.*

37 *For those that affect the body there is physical (śārīravad) therapy, whereas for those that affect the mind there is the collection (varga) of desirable sensory experiences like sound that bring comfort (sukha).*

38 “Along these lines (*evam*), this brief explanation of the four factors (*catuṣṭaya*) is given:

- human being (*puruṣa*),
- disease (*vyadhi*),
- remedies (*oṣadhi*),
- the time for therapies (*kriyākāla*).

“In this context,

- from the mention of the word “human,” the collection of substances that arise from it, such as the elements, and the particulars (*vikalpa*) of its major and minor parts (*aṅga*) such as skin (*tvak*), flesh (*māṃsa*), ducts (*sirā*), sinews (*snāyu*), bones (*asthi*) and joints (*sandhi*) are meant.
- From the mention of “diseases,” all diseases caused by wind, bile, phlegm, congested humours (*sannipāta*), external factors (*āgantu*) and inherent factors (*svabhāva*) are intended (*vyākhyāta*).
- From the mention of “remedies,” there is the teaching of substances, tastes, potencies, post-digestive tastes.
- From the mention of “procedures (*kriyā*)”, therapies (*karman*) such as oiling and excision (*chedya*) are taught.

49 On the topic of the “group of four,” the commentator Ḏalhaṇa considered them to be “food, behaviour, earthen products and items created by time.” He referred to the author of the lost commentary entitled *Pañjikā*, and to Jejjaṭa (HIML: IA, 372–3, 192). In his view, these early commentators do not agree that the fourfold grouping (*caturvarga*) refers to the quartet of stationary (*sthāvara*), moving (*jaṅgama*), earthen products (*pārthiva*) and items created by time (*kālakṛta*) (Su 1938: 9a).

50 The text uses an archaic interjection here, *ha*.

- From the mention of the word “time,” every single teaching about the times for procedures is meant.

39 “There is a verse about this:

*This seed of medicine has been declared in brief. Its explanation will be given in one hundred and twenty chapters.<sup>51</sup>*

40 “There are one hundred and twenty chapters in five sections (*adhyāya*).<sup>52</sup> In that regard, having divided them, according to their subject matter, into the *Slokasthāna*, the *Nidāna*, the *Śarīra*, the *Cikitsita* and the *Kalpa*, we shall mention this in the *Uttaratana*.<sup>53</sup>

41 “There is a verse about this:

*Someone who reads this eternal proclamation of the King of Kāśī, that was declared by Svayambhu, will have good karma on earth, will be respected by kings and upon death will achieve the world of Śakra.*

<sup>51</sup> This is the number of chapters in the first five sections of the work, namely the *Sūtra*-, *Nidāna*-, *Śarīra*-, *Cikitsā*- and *Kalpa*-sthānas. These have 46, 16, 10, 40 and 8 chapters respectively. The *Uttaratana* has 66 chapters.

<sup>52</sup> On *viṁśa* in the sense of “greater by 20” see P.5.2.46 *śadantaviṁśatēś ca*.

<sup>53</sup> The end of this sentence reads oddly. The vulgate edition adds an object: “[we shall mention] the remaining topics [in the *Uttara*]” which smooths out the difficulty, but this is supported in none of the Nepalese MSS. At the start of the *Uttaratana* (Su 1938: 1.3–4ab) there is indeed a statement that picks up the point about there being 120 chapters.

# Sūtrasthāna 2: The Initiation of a Student

## Literature

HIML: IA, 204; Preisendanz 2007; Dagmar Wujastyk 2012: 82–83.

## Translation

1



# Sūtrasthāna 3: The Table of Contents

**Literature**

**Translation**

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# Sūtrasthāna 10: Diagnosis

11 55 content

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55 See p. 260 below.



# Sūtrasthāna 11: Preparing and using caustics

7    <sup>56</sup>  
11    <sup>57</sup> content

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56 See p. 251 below.  
57 See p. 260 below.



# Sūtrasthāna 13: On Leeches

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of studies on Indian leeches and their application.<sup>58</sup>

A Persian version of this chapter of the *Suśrutasamhitā* was included in *Sikandar Shāh's Mine of Medicine* (*Ma'din al-shifā' i Sikandar-Shāhī*) composed in 1512 by Miyān Bhūwah b. Khawāṣṣ Khān.<sup>59</sup>

More recently Brooks has examined this chapter and leech therapy more broadly terms of leeches and classification, multispecies agencies, and the tactile and intersensory dynamics of leech therapy.<sup>60</sup>

## Translation

- 1 And now we shall explain **the chapter** about leeches.
- 2 The leech is for the benefit of kings, rich people, delicate people, children, the elderly, fearful people and women. It is said to be the most gentle means for letting blood.
- 3 In relation to that, one should let blood that is corrupted by wind, bile or phlegm with a horn, a leech, or a **gourd**, respectively. Or, each kind can be made to flow by any of them in their particular way.<sup>61</sup>

58 HIMAL: IA, 209; IB, 324, n. 131.

59 Siddiqi 1959: 96–109; Azeez Pasha 1971; Storey 1971: 231–232; HIMAL: IB, 324, n. 128; Spezziale 2019: 8–9.

60 Lisa Allette Brooks 2020a,b; 2021.

61 This sentence is hard to construe grammatically, although its meaning seems clear. In place of विशेषस्तु, Cakrapāṇidatta and Dalhaṇa both read विशेषतस्, which helps interpretation (Su 1939: 95, Su 1938: 55). It is noteworthy that the critical syllable स्तु is smudged or corrected in both MS Kathmandu NAK 1-1079 and in 1-1146, a much

4 And there are the following about this:

*A cow's horn is praised for being unctuous, smooth, and very sweet.  
Therefore, when wind is troubled, that is good for bloodletting.<sup>62</sup>*

- 5 *A horn shaped like a half-moon, with a large body the length of seven fingers , should first be placed on the incision. A strong person should suck with the mouth.<sup>63</sup>*
- 6 *A leech lives in the cold, is sweet and is born in the water. So when someone is afflicted by bile, they are suitable for bloodletting.<sup>64</sup>*
- 7 *A gourd is well known for being pungent, dry and sharp. So when someone is afflicted by phlegm it is suitable for bloodletting.*
- 8 In that context, at the scarified location one should let blood using a horn wrapped in a covering of a thin bladder, or with a gourd with a flame inside it because of the suction.<sup>65</sup>
- 9 Leeches are called “*jala-āyu-ka*” because their life (*āyu-*) is in water (*jala*).<sup>66</sup> “Home” (*okas*) means “dwelling;” their home is water, so they are called “water-dwellers (*jalaukas*).”

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later Devanāgarī manuscript.

There is an insertion in the text, printed in parentheses in the vulgate at 1.13.4 (Su 1938: 55) as विशेषतस्तु विस्ताव्यं शृङ्गजलौकालाबुभिर्गृहीयात्. This insertion is not included in the earlier edition of the vulgate, but is replaced by स्निधशीतरुक्षत्वात् (Su 1931: 54). Dalhaṇa noted that, “this reading is discussed to some extent by some compilers (निबन्धकार), but it is definitely rejected by most of them, including Jejjhaṭa.”

- 62 The vulgate replaced “smooth” with “hot.”
- 63 This passage is not found in the vulgate, but it is similar to the passage cited by Dalhaṇa at 1.13.8 (Su 1938: 56) and attributed to Bhāluki. Bhāluki was the author of a *Bhālukitantra* that may have predated Jejjhaṭa and might even have been one of the sources for the *Suśrutasaṃhitā* (HIML: IA, 689–690 *et passim*). The editor Ācārya was aware of this reading in the Nepalese manuscripts; see his note 4 on 1.13.5 (Su 1938: 55, note 4).
- 64 Note that the particular qualities (*guṇas*) of the leech in this and the following verses counteract the quality of the affliction. See Lisa Allette Brooks 2018: 113, table 1.
- 65 There are questions about the wrapping or covering of the horn. Other versions of the text, and the commentator, propose that there may be two coverings, or that cloth may be a constituent. Our understanding of this verse is that the bladder material is used to cover the mouthpiece and then to block it, in order to preserve suction in the horn for a few minutes while the blood is let.
- 66 The lexeme -*āyu-* is known almost exclusively from the *Rgveda*.

- 10 There are twelve of them: six are venomous and just the same number are non-venomous.
- 11 Here is an explanation of the venomous ones, together with the therapy:
  - Black (*kṛṣṇā*)
  - Mottled (*karburā*)
  - Sting-gush (*alagardā*)<sup>67</sup>
  - Rainbow (*indrāyudhā*)
  - Oceanic (*sāmudrikā*)
  - Cow-praising (*govandana*)<sup>68</sup>

Among these,

- The one called a Black is the colour of kohl and has a broad head;
- The one called Mottled is like the Indian mottled eel, long with a segmented (*chinna*), humped belly.
- The one called Sting-gush is hairy, has large sides and a black mouth.
- The one called Rainbow is coloured like a rainbow, with vertical stripes.
- The one called Oceanic is slightly blackish-yellow, and is covered with variegated flower patterns.
- The one called Govandana is like a cow's testicles, having a bifurcated appearance on the lower side, and a tiny mouth.

When someone is bitten by them, the symptoms are: a swelling at the site of the bite, excessive itching and fainting, fever, a temperature, and vomiting. In that context the Great Antidote (*mahāgada*) should be applied in drinks and liniments (*ālepana*), etc.<sup>69</sup> A bite by the Rainbow leech is not treatable. These venomous ones have been explained together with their remedies.

- 12 Now the ones without venom.<sup>70</sup>

<sup>67</sup> Treating गर्दि as गल्दा and translating as in RV 8.1.20, with Jamison and Brereton (2014: 1023, verse 20 and cf. commentary). But if गर्दि is to be taken from √गर्द् then we might have “crying from the sting.”

<sup>68</sup> The manuscripts all read गोवन्दना against the vulgate's गोचन्दना.

<sup>69</sup> Dalhaṇa and the vulgate included errhines in the list of therapies, and Dalhaṇa added that “etc.” indicated sprinkling and immersion too. The “Great Antidote” is described in the Kalpasthāna, at 5.5.61–63ab (Su 1938: 578).

<sup>70</sup> The translations of the names of these leeches are slightly whimsical, but give a sense of the original; सावरिका remains etymologically puzzling.

- Tawny (*kapilā*)
- Ruddy (*piṅgalā*)
- Dart-mouth (*śaṅkumukhī*)
- Mouse (*mūṣikā*)
- Lotus-mouth (*puṇḍarīkamukhī*)
- Sāvarikā (*sāvarikā*)

Among these,

- The one called Tawny has sides that look as if they are dyed with realgar and is the colour of glossy mung beans on the back.<sup>71</sup>
- The one called Ruddy is a bit red, has a round body, is yellowish, and moves fast.
- The one called Dart-mouth is the colour of liver, drinks fast and has a long mouth.
- The one called Mouse is the colour and shape of a mouse and has an undesirable smell.
- The one called Lotus is the colour of mung beans and has a mouth that looks like a lotus.
- The one called Sāvarikā has the colour of a lotus leaf and is eighteen centimetres long. But that one is used when the purpose is an animal.

The non-venomous ones have been explained.

13 Their lands are Yavana, Pāṇḍya, Sahya, Potana and so on.<sup>72</sup> Those in

<sup>71</sup> The compound *स्निघमुद्वरणी* is supported by all the manuscript witnesses and is translated here. Nevertheless, the reading of the vulgate, that separates *स्निघा*, f., “slimy” as an adjective for the leech, seems more plausible: “it is slimy and the colour of a mung bean.”

<sup>72</sup> This passage is discussed by Karttunen (2015: 109–110, 388–389). At the time of the composition of the *Suśrutasaṃhitā*, Yavana would most likely have referred the Hellenistic Greek diaspora communities in Bactria and India (Law 1984: 136–137; Mairs 2013; 2014). Unproblematically, the Pāṇḍya country is the extreme south-eastern tip of the Indian subcontinent (Schwartzberg, Bajpai, et al. 1978: E8, p. 20 *et passim*), and Sahya refers to the Western Ghats (Schwartzberg, Bajpai, et al. 1978: D5–7, p. 20 *et passim*). The vulgate reading “Pautana” is not a known toponymn. Potana was the ancient capital of the Aśmaka Mahājanapada mentioned in Pali sources and in inscriptions at Ajāntā and elsewhere, and identified by Law (1984: 142, 179) and P. Gupta (1989: 18) with Pratiṣṭhāna, modern Paithan on the Godavari river. The recurring ancient epithet describing the Aśmaka kingdom is that it was on the Godāvarī, and Paithan is flanked to the south west and south east by this river.

Some scholars have identified the name with modern Bodhan in Telangana (Sircar

particular have large bodies and are strong, they drink rapidly, consume a lot, and are without venom.

- 14 In reference to that, venomous leeches are those originating in decomposing venomous insects, frogs, urine, feces and in polluted water.<sup>73</sup> Non-venomous ones originate in decomposing **sacred lotus, blue water-lily, white water-lily, fragrant lotus, pondweed** and in pure waters.
- 15 There is a verse on this:

*These ones move about in sweet-smelling habitats that abound in water. Tradition teaches that they do not behave in a confused manner or lie in the mud.*<sup>74</sup>

- 16 They can be caught with a fresh hide or one may catch them by other means.<sup>75</sup>

<sup>1971: 189; Schwartzberg, Bajpai, et al. 1978: E6, p. 14, 140 *et passim*; Sen 1988: 102),</sup> but this implausible identification is traceable to a speculative suggestion by Raychaudhuri (1953: 89, n. 5, 143) based on a variant form “Podana” found in some early manuscripts of the *Mahābhārata*: “This name reminds one of Bodhan in the Nizam’s dominions,” “possibly to be identified with Bodhan.”

Dalhaṇa on 1.13.13 (Su 1938: 57) anachronistically identified “Yavana” as the land of the Turks (तुर्क्ष) and “Pautana” as the Mathurā region. He also noted, as did Cakra-pāṇidatta (Su 1939: 97), that this passage was not included by some authorities on the grounds that the habitats of poisonous and non-poisonous creatures are defined by other criteria.

<sup>73</sup> The vulgate on 4.13.14 (Su 1938: 57) includes fish in this list.

<sup>74</sup> Dalhaṇa on 1.13.14 (Su 1938: 57) discussed why non-venomous leeches would not “behave in a confused manner” (सङ्कीर्णचारिन्), saying that they do not “eat a diet that is contra-indicated because of poison etc.” (विषादिविरुद्धाहरभुजः). On the use of the term विरुद्ध in the sense of “incompatible,” see 4.23.4 (Su 1938: 485). Dalhaṇa there noted that such foods are explained in the chapter on wholesome and unwholesome foods (हिताहिताच्याय, 1.20 (Su 1938: 94–99)).

<sup>75</sup> “Fresh hide” (आर्द्रचर्मन) may suggest that the animal skin still includes meat or blood that is attractive to a leech.

Dalhaṇa on 1.13.15 (Su 1938: 57) quoted “another treatise” (तत्रान्तरवचनात्) that said that autumn is the time to collect leeches. He also explained that “other methods” of collecting leeches included smearing a leg or other limb with cream, butter or milk, etc., or using a piece of flesh from a freshly killed animal.

The Nepalese witnesses all read गृहीत्वा “having (been) caught” for the vulgate’s गृ-ल्लीयत् “one may grasp (by other means).” The Nepalese reading is hard to construe and we have emended to the vulgate’s reading.

- 17 Then these should be put into a large new pot furnished with mud and the water from lakes or wells. One should provide what they need to eat. One should grind up **pondweed**, **dried meat**, and aquatic tubers, and one should give them grass and aquatic leaves to lie on, and every three days water and food. After seven nights one should transfer them to a different pot.
- 18 And on this:

*One should not **nurture** those that are thick in the middle, that are injured,<sup>76</sup> or **small**, those that are not born in the proper habitat, those that will not attach, that drink little or those that are venomous.*

- 19 First of all, if the patient has an ailment that is treatable by bloodletting with leeches, get them to sit or lie down. Then, dry **any place** (*avakāśa*) **that is diseased** with powders of earth and cow-dung.<sup>77</sup> Then the leeches, free from impurities, with their bodies smeared with **Indian mustard** and **turmeric**, moving about in the middle of a cup of water, should be made to attach to the site of the ailment. Now, for one that is not attaching, one should provide a drop of milk or a drop of blood. Alternatively, one should make some marks with a knife (*śastrapada*).<sup>78</sup> And if it still will not attach, make a different one attach.
- 20 One can know that it is attached when it fixes on, making its mouth like a horse's hoof and hunching its neck. Then, one should cover it with a wet cloth and keep it there.
- 21 Now, if one knows, from the arising of pricking and itching at the bite, that clean blood is being taken, one should take it off. Then, if it does not release because of the scent of blood one should sprinkle its mouth with powdered **rock salt**.

76 *Pace* Dalhaṇa on 1.13.18 (Su 1938: 57) who glossed परिक्षिट् “injured” as अमनोज्जदर्शन “disagreeable looking.”

77 Dalhaṇa on 1.13.19 (Su 1938: 57) read अर्जम् (n.), against the vulgate’s अर्जः; Cakrapāṇidatta on this verse (Su 1939: 98) read अर्जः. Both commentators specified that the *Suśrutasaṃhitā* said this procedure should only be applied when there is no wound or opening, for fear of exacerbating the condition. The Nepalese text is saying, differently, that the desiccating powders should be applied to a diseased wound.

78 On पट as a “mark,” “imprint,” or “place of application,” cf. 4.1.29 (Su 1938: 399), 5.4.15 (Su 1938: 571), etc. See footnote 681.

- 22 Then one should coat it with rice-grain chaff, rub its mouth with sesame oil and salt and cause it to vomit by holding its tail in the left hand and very slowly rubbing it with the thumb and finger of the right hand in the proper direction, as far as the mouth, until it is properly purged.<sup>79</sup> A properly purged leech placed in a goblet of water moves about, wanting to eat. If it sinks down, not moving, it is badly purged; one should make it vomit once again.

A badly purged leech develops an incurable disease called Indrapada.<sup>80</sup>

- 23 *One that protects its deflated head with its body, suddenly curls up and makes the water warm is traditionally said to have Indrapada.*<sup>81</sup>

Thus, one should keep such a one as before.<sup>82</sup>

- 24 After observing the proper or improper flow of the blood, one should rub the opening made by the leech with honey.<sup>83</sup> Alternatively, one may bind it up and smear it with ointments that are astringent, sweet, oily and cold.

- 25 And about this there is the following:

*When the leeches have just drunk, one should pour ghee on it. And one should pour on to the blood things that are capable of stopping the blood.*

- 26 Someone who knows habitats, the capture, feeding and bloodletting of leeches is worthy to treat a king.

79 The expression शालितण्डुलकाण्डन, “rice-grain chaff” could be read as “paddy rice, rice grains and chaff” but this seems unlikely in the context.

80 At this point, the Nepalese witnesses read इन्द्रपद/इन्द्रापद, but the vulgate reads इन्द्रमद, a term that is found in other texts such as the *Mānasollāsa* 6.641 (vol. 1, 87), where it is a fever affecting fish, and the *Garuḍapurāṇa* 1.147.3 (tr. A Board of Scholars 1957: 2, 425) where it is fever affecting clouds; see further Lisa Allette Brooks in press.

81 At this point, witness H, the latest MS, reads इन्द्रपद as before, but the older witnesses K and N have muddled readings, इदमदः and इद्रमदः. The scribes may have been responding to a -पद।-मद् confusion about the name of this condition.

82 The vulgate includes “well purged” as the object in this sentence, which makes better sense.

83 In the Nepalese witnesses, the object of this passage is जलौकामुखम् “the mouth of the leech,” that we have interpreted, perhaps freely, as “opening made by the leech.” Logically and as transmitted in the vulgate, this passage should be about managing the wound on the patient that has been made by the leech.



# Sūtrasthāna 14: On the Properties of Blood

## Literature

Meulenbeld offered both an annotated summary of this chapter as well as a study specifically on the place of blood in Ayurvedic theory.<sup>84</sup>

## Translation

The draft translation of this adhyāya is presented by Paras Mehta.

- 1 Now we shall declare the chapter about blood.
- 2
- 3 Food is of four types.<sup>85</sup> It is endowed with six tastes and is made of the five elements.<sup>86</sup> It has either two or eight potencies, and is endowed

84 [HIML](#): IA, 209–201 and Meulenbeld 1991. Meulenbeld’s footnotes on this chapter in [HIML](#): IB, 325 ff. refer often to “Hoernle’s note.” This appears to be a reference to Hoernle’s copious notes to his translation of this chapter (Hoernle 1897: 87–98). Meulenbeld (1990) also discussed Sanskrit veterinary texts in the light of their standard theory of four humours, including blood.

85 Dalhaṇa on 1.14.3 ([Su 1938](#): 59) said that the four types of food are those that can be drunk, licked, eaten and chewed (पेयलेह्वभोज्यभक्ष्य). The main text of the *Carakasamhitā* is explicit about these categories at 4.3.4(1) ([Ca 1941](#): 308): पानाशनभक्ष्यलेह्व। “things drunk, eaten, chewed or licked.” Yagi (1994) discussed the distinction between भक्ष्य and भोज्य; for further Indological background on foods, see the studies by Olivelle (1995; 2001) and the classic reference works by Achaya (1994; 1998). The long, final adhyāya of the *Suśrutasamhitā*’s sūtrasthāna (ch. 46) amounts to a distinct treatise on food in āyurveda.

86 *Idem*, earth, water, fire, air, space

with many qualities.<sup>87</sup> Chyle (*rasa*) is the most intangible essence of this food that is properly transformed. It is of the nature of fire.

Chyle is situated in the heart. From the heart, it enters into the twenty-four arteries—ten upward arteries, ten downward, and four sideways—and doing so day after day owing to the reaction of past activities that are caused by the invisible,<sup>88</sup> it satisfies the entire body, enlivens it, prolongs it,<sup>89</sup> and makes it grow. The motion of the entity that flows throughout the body should be understood by inference. That motion causes deterioration and growth.

With regards to the chyle that flows through all the limbs, humours, body tissues, and impurities of the body, the question arises, “Is it moist or is it fiery?” It is understood to be moist because of its fluidity while flowing<sup>90</sup> and due to attributes such as mobility, lubrication, enlivening, satisfaction, and supporting.<sup>91</sup>

- 4 That watery chyle is then reddened after reaching the liver and spleen.
- 5 There are verses about this.

*Experts know that blood is the untransformed fluid that is reddened by the pure fire element within the bodies of living beings.*

- 6 It is only due to chyle that women’s blood called menses exists. It increases from the twelfth year and decreases after the fiftieth year.
- 7 The menstrual blood, however, is called fiery.<sup>92</sup> That is due to the embryo being fiery and moist.<sup>93</sup>

87 Dalhaṇa related these qualities to the twenty standard गुण of āyurveda; see, e.g., their listing by Vāgbhaṭa, translated by Dominik Wujastyk (2003b: 207).

88 अदृश् (unseen): Doing any righteous or unrighteous action produces good merit and demerit respectively. This good merit and demerit are called अदृश् (invisible) because it cannot be directly known but can only be assumed through logical deduction.

89 In the sense of prolonging its lifespan

90 The vulgate emends अनुसरणे to अनुसरण- against the Nepalese MSS. This is logical because mobility would seem to be one of the attributes. Although it is awkward, we read अनुसरणे as a locative absolute “while flowing.”

91 The duality being discussed here is that of the essential qualities of Fire and of Soma (*agni* and *soma*). See further discussion by Dominik Wujastyk (2004) and Angermeyer (2021).

92 Dalhaṇa commented that this is to distinguish the menstrual blood from regular blood that is gentle.

93 Dalhaṇa commented here that the embryo is called such because the menstrual blood

- 8 Others state that the embryo as constituted of the five elements and the preceptors call it the living blood.
- 9 There are verses about this.

*That is because blood exhibits the qualities of earth, etc. such as a fleshy smell, fluidity, redness, pulsation and thinness.*

- 10 *Blood is formed from chyle, flesh from blood, lymph from flesh, bone from lymph, marrow from bone, semen from marrow, and progeny from semen.*
- 11 There, the essence (chyle) of food and drink is the nourisher of these body tissues.
- 12 There is a verse about this.

*A living being should be known as born from chyle. One should diligently preserve<sup>94</sup> chyle by administering food and drink, being nicely disciplined with food<sup>95</sup>.*

- 13 The verbal root *rasa* means movement.<sup>96</sup> Because it keeps moving day after day, it is called *rasa* (chyle).<sup>97</sup>
- 14 Chyle stays in every body tissue for 2548 ((25\*100)+48) *kalās* and nine *kāṣṭhas*. As such, it becomes semen after a month. For women, it becomes menses.
- 15 Here are verses about this.

*According to similar and dissimilar treatises, the quantity of *kalās* in this group<sup>98</sup> is 18,090.*

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is fiery and the semen is gentle (सौम्य). On the fiery/moist distinction (आग्रेय/सौम्य), see Dominik Wujastyk 2004; Angermeier 2021.

94 All three manuscripts have रक्षेत् which is an incorrect form. रक्षेत् is the correct form.

95 आहरण - The third case is used. The semantic property of the third case used here is unclear. Unclear regarding if there is any rule in the *Aṣṭādhyāyī* justifying this usage.

96 Kunjalal Bhishagratna 1907–16: 109

97 In the list of verbal roots of Pāṇini, the verbal root रस(rasa) means taste and moistening. It does not mean movement.

98 The duration of chyle in all the body tissues as a whole.

*This is the particular transformation period regarding chyle that lasts for a person with mild fire<sup>99</sup>. For a person with developed fire, one should know it to last for the exact same time<sup>100</sup>*

- 16 Resembling the expanse of sound, flame, and water, that entity moves along in a minute manner throughout the entire body.<sup>101</sup>
- 17 The aphrodisiac medicines, however, being used like a purgative due to their excessively strong characteristics, evacuate the semen.
- 18 Just as it cannot be said that the fragrance in a flower bud is present in it or not, but accepting that there is the manifestation of existing entities<sup>102</sup>, it,<sup>103</sup> however, is not experienced only due to its intangibility. That same entity is experienced at another time in the blossomed flower. In the same way regarding children also, the manifestation of semen happens because of the advancement of age<sup>104</sup>. For women, the manifestation is different as rows of hair, menses, etc.
- 19 That very essence of food does not nourish very old people due to their decaying bodies.
- 20 These entities are called body tissues (*dhātu-s*) because they bear the body<sup>105</sup>.
- 21 Their decay and growth are due to blood. Therefore, I will speak about blood. In that regard: The blood that is foamy, tawny, black, rough,

99 Perhaps this refers to the digestive fire.

100 Although the vulgate does not have this verse, there is an argument presented in Dalhaṇa's commentary on 1.14.16 (*Su 1938: 63*) that for a person with intense fire, chyle becomes semen after eight days, and for a person with mild fire, chyle becomes semen after a month. Dalhaṇa said that this opinion is refuted by Gayadāsa Ācārya in many different ways. Dalhaṇa continued that the proper understanding is that for a person with a strong fire, chyle becomes blood in a little less than a month, and for a person with a mild fire, chyle becomes blood in a little more than a month.

101 Dalhaṇa comments (*Su 1938: 63*) that the expanse of sound indicates the sideways movement of chyle, the expanse of flame indicates the upward movement of chyle, and the expanse of water indicates the downward movement of chyle. On अणुना विशेषण “in a minute manner” see footnote 334.

102 This is the doctrine of pre-existence of the effect (सत्कार्यवाद, *satkāryavāda*) first propounded by Sāṅkhya philosophers.

103 fragrance

104 Since chyle becomes semen in a month's time, a question arises “Why then is semen absent in young children?”. The reply is given in this passage.

105 The etymological meaning of the Sanskrit word धातु (*dhātu*) is “that which bears [the body]”. Thus, the body tissues are called *dhātu-s* because they bear the body. This means that the body tissues are the elements that make up the body and sustain it.

thin, quick-moving, and non-coagulating is vitiated by air. The blood that is dark green, yellow, green, brown, sour-smelling, and unpleasant to ants and flies is vitiated by bile. The blood that is orange, unctuous, cool, dense, slimy, flowing, and resembling the colour of flesh-muscles is vitiated by phlegm. The blood having all these characteristics is vitiated by the combination of all three of them. The blood that is extremely black is vitiated by blood<sup>106</sup> just as bile. The blood that has the combined characteristics of vitiations of two humours is vitiated by two humours.

- 22 The blood that is of the colour of insect cochineal, not thick, and not discoloured should be understood to be in its natural state.
- 23 I will speak of the types of blood that should be let out in another section.
- 24 Now, I speak of those that should not be let out. The swelling appearing in all the limbs of the body of a weak person that happens due to consuming sour food. The swellings of people with jaundice, piles, large abdomen, emaciation, and those of pregnant women.
- 26 In that regard, one should quickly insert the surgical instrument that is simple, not very close, fine, uniform, not deep, and not shallow.
- 26a One should not insert the instrument into the heart, lower belly, anus, navel, waist, groins, eyes, forehead, palms, and soles.
- 26b In the case of swellings filled with pus, one should treat them in the same way as stated earlier.
- 27-27a There, when the swelling is not pierced properly, when phlegm and air have not been sweated out, after having a meal, and due to thickness, the blood does not ooze out or oozes out less. Here is a verse regarding it.
- 28ab-cd *Blood does not ooze out of humans when in contact with air, passing stool or urine, and when intoxicated, unconscious, fatigued, sleeping, or in cold surroundings.*
- 29 That vitiated blood when not taken out increases the disease.
- 30 The blood that is let by an ignorant physician in cases of very hot surroundings, profuse perspiration, and excessive piercing, flows excessively. That profuse bleeding causes the appearance of acute

<sup>106</sup> Yādavaśarma Trivikrama Ācārya and N. R. Ācārya ([Su 1938: 64](#)) quote Cakrapāṇidatta in a footnote: "This is the symptom when the blood vitiated in one part of the body vitiates the blood in another part."

headache, blindness, and partial blindness, or it quickly causes subsequent wasting, convulsions, tremors, hemiplegia, paralysis in a limb, hiccups, coughing, panting, jaundice, or death.

- 31ab-cd The physician should let out the blood when the weather is not very hot or cold, when the patient is not perspiring or heated up, and after the patient has had a sufficient intake of gruel.
- 32ab-cd After coming out properly, when the blood stops automatically, one should know that blood to be pure and drained properly.
- 33ab-cd The symptoms of the proper drainage of blood are the experience of lightness, alleviation of pain, a complete end of the intensity of the disease, and satisfaction of the mind.
- 34ab-cd Defects of the skin, tumours, swellings, and all diseases caused by blood never arise for those who regularly drain their blood.
- 35 When the blood does not flow out, the physician should rub cardamom and camphor on the opening of the boil with three or four or all among crêpe ginger (*Cheilocostus speciosus*), butterfly gardenia (*Ervatamia coronaria* Stapf), *velvet-leaf*, *deodar*, *embelia*, *leadwort*, the three spices (black pepper, long pepper, and dry ginger), soot from the chimney (*āgāradhūma*), turmeric, sprouts of *purple calotropis*, and fruit of the *Indian beech*, according to availability, with excessive salt. By doing so, the blood flows out properly.
- 36 When there is an excessive flow of blood, the physician should sprinkle the opening of the boil with dry powders of *lodh tree*, liquorice, *foxtail millet*, *sappanwood*, red chalk, *elixir salve*, seashell, barley, *green gram*, wheat, and resin of the *Sāla* tree, and then press it with the tip of a finger. One should tightly bind it with powdered barks of *Sāla*, *white dammer tree*, *arjun*, *white-bark acacia*, *granthi*, *axlewood*, and *dhanvana* (*Camelthorn*), or a linen cloth<sup>107</sup>, or *vadhyāsita*, or bone of cuttlefish, or powdered lac, along with the binding materials mentioned. After the piercing, the physician should pierce it again. The physician should serve cool clothing, food, a dwelling place, a bath, cooling ointments, and plastering. Or, one can cauterize it with heat. Or, as mentioned, one should give a decoction of *kākolī*, etc. sweetened by sugar and honey to drink. Or, one should consume the blood of black buck, deer, ram, buffalo, rabbit, or pig, accompanied by milk, green gram soup and meat

<sup>107</sup> *Su 1938*: 66 has क्षौमेण वा ध्मापितेन - "with linen reduced to ashes". Presumably, it is this ash that is also referred to in item 40.

- soup<sup>108</sup>. The physician should treat the pains as mentioned.
- 36a Here are verses about this.
- 37ab-cd *When blood flows out due to the decay of body tissue, fire becomes weak<sup>109</sup> and the wind becomes highly agitated because of that endeavour.*
- 38ab-cd *The physician should serve the patient food that is not very cold, light in digestion, unctuous, increases blood, slightly sour or not sour at all.*
- 39ab-cd *This is the four-fold method of hindering blood: joining, coagulation, haemostasis. and cauterization.*
- 40ab-cd *The astringent substance joins the opening, the cold substance coagulates the blood, the ash stops the blood, and cauterization contracts the blood vessel.*
- 41ab-cd *If the blood does not coagulate, the physician should employ joining. If the blood does not stop by joining the opening then he should employ haemostasis.*
- 42ab-cd *The physician should endeavour by employing these three methods according to the procedure. If these methods are unsuccessful then cauterization is highly desirable.*
- 43ab-cd *If the blood remains impure, the disease does not aggravate. The physician should then make the blood pure<sup>110</sup> and not drain blood in excess.*
- 44ab-cd *Blood is the basis of the body. It is sustained by blood only.*
- 44ef *Blood is called life. One should therefore save blood.*
- 45ab-cd *If the air in the person who underwent blood-letting is aggravated due to a cold shower, etc., the swelling with pricking pain should be sprinkled with lukewarm clarified butter.*

Can't be  
"sedation"

<sup>108</sup> Based on Dalhana's comment as found in Su 1938: 66

<sup>109</sup> This refers to the digestive fire.

<sup>110</sup> Dalhana comments (Su 1938: 66) that one should purify the blood again by sedation, etc.



# Sūtrasthāna 16: Repairing Pierced Ears

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>111</sup> A book on this topic, arising out of the present project, with edition, translation and discussion of the Nepalese transmission is published by Dominik Wujastyk, Birch, Klebanov, et al. 2023.

## Translation

1 Now we shall expound the method for piercing the ear.<sup>112</sup>

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<sup>111</sup> [HIML](#): IA, 211–212317.

<sup>112</sup> The topic of piercing the ear (*karnavyadha*) is not discussed in the *Carakasamhitā* ([HIML](#): IB, 326, n. 175), but it is mentioned in some texts that followed the *Sūrutasamhitā*, such as the *Kaśāpyasamhitā* ([HIML](#): IIA, 30). Also, the instrument for piercing the ear is described in the *Aṣṭāṅgahṛdayasamhitā* 1.26.26 ([Ah](#) 1939: 321). In the versions of the text known to Dalhana ([Su](#) 1938: 76) and Cakrapāṇidatta ([Su](#) 1939: 125), the heading of this chapter is “the method of piercing and joining the ear” (कर्णव्यधबन्धविधि), instead of the Nepalese version’s “the method of piercing the ear” (कर्णव्यधविधि). The topic of joining the ear (कर्णबन्ध) is discussed in passages 17–20 of the Nepalese version. However, it appears that only subsequent redactors reflected its importance by including it in chapter headings.

The Nepalese version also omits the opening remark on Dhanvantari that appears in subsequent versions of the text. For a discussion of the frame story in the Nepalese version, see Birch, Dominik Wujastyk, Klebanov, Parameswaran, et al. 2021.

When commenting on this statement, Dalhana ([Su](#) 1938: 76) and Cakrapāṇidatta ([Su](#) 1939: 125) observed that only the ears of healthy people should be pierced, and

- 2 One may pierce a child's ears for the purpose of preserving and decorating. During the bright fortnight, when the child is in the sixth or seventh month, on renowned days, half days, hours and constellations, the physician, with a calming presence, sits the boy, who has received a benediction and the recitation of a blessing,<sup>113</sup> on the lap of a wet-nurse.<sup>114</sup> Then, he should pull the ear with his left hand and pierce straight through with his right hand at a naturally-occurring cleft.<sup>115</sup> For a boy, do the right ear first; for a girl, do the left one. Use a needle on a thin ear; an awl on a thick one.<sup>116</sup>
- 3 One may know that it was pierced in the wrong place if there is excess blood or too much pain. The absence of side-effects is a sign that it has

they quoted the lost authority Bhoja to affirm this: "When piercing the ears of children who are free of disease at these times, their ear flaps and apertures, as well as limbs, increase" (1.16.1 ([Su 1938:76](#))).

Some texts use the adjective कर्ण-वैधनी rather than व्यधनी.

- <sup>113</sup> The causative form व्यधयेत is known in Classical Sanskrit ([Whitney 1885: 166](#)). The compound कृतमङ्गलस्वस्तिवाचनं "who has received a benediction and the recitation of a blessing" is an emendation based on the similar text at 3.2.25 ([Su 1938: 346](#)). Cf. also 3.10.8, 24 ([Su 1938: 388, 390](#)) that have slightly different formulations.
- <sup>114</sup> The versions of 1.16.3 known to Cakrapāṇidatta ([Su 1939: 126](#)) and Ḏalhaṇa ([Su 1938: 76](#)) have the additional compound कुमारधराङ्के ("on the lap of one who holds the child") after धात्र्यङ्के. The gender of कुमारधर is made clear by Ḏalhaṇa's gloss "a man who holds the child." Also, both versions add बालकीडनकैः प्रलोभ्य ("having enticed with children's toys") to indicate that the child should be tempted with toys to stay on the assistant's lap. According to Ḏalhaṇa on 1.16.3 ([Su 1938: 76](#)), the toys include replica elephants, horses, bulls and parrots. Ḏalhaṇa further mentions that others read भक्ष्यविशेषैर्वा ("or by special treats") before बालकीडनकैः, but we see no trace of these small kindnesses in our witnesses.
- <sup>115</sup> The versions of 1.16.3 of Cakrapāṇidatta ([Su 1939: 126](#)) and Ḏalhaṇa ([Su 1938: 76](#)) add that this naturally-occurring cleft is illuminated by a ray of sunshine (आदित्यकरवासिते). The syntax of this slightly long sentence is unusual because of the dual object तौ "the two (ears)" at the start of the sentence, which is remote from the main verb. The other singular accusatives referring to the ear being pierced are governed by absolutives.
- <sup>116</sup> Ḏalhaṇa on 1.16.3 ([Su 1938: 76](#)) clarifies that the awl is a shoe-maker's knife for piercing leather. He also cites the authority of "the notes of Lakṣmaṇa" (*Lakṣmaṇatippaṇaka*) on the issue of the thickness of the needle. *The Notes of Lakṣmaṇa* is not known from any earlier or contemporary sources and was presumably a collection of glosses on the *Suśrutasaṅhitā* that was available to Ḏalhaṇa in twelfth-century Bengal. See Meulenbeld ([HIML: IA, 386](#)).

- been pierced in the right place.<sup>117</sup>
- 4 In this context, if an ignorant person randomly pierces a duct there will be fever, burning, swelling, pain, lumps, paralysis of the nape of the neck, convulsions, headache or sharp pain in the ear.<sup>118</sup>
  - 5 Having removed the wick (*vartti*) because of the accumulation of humours or an unsatisfactory piercing at that location,<sup>119</sup> he should smear it with barley, liquorice, **Indian madder**, and the root of the **castor oil tree**, thickened with honey and ghee. And when it has healed well, he should pierce it again.<sup>120</sup>
  - 6 He should treat the properly-pierced ear by sprinkling it with raw sesame oil. After every three days one should make a thicker wick and do the very same sprinkling.<sup>121</sup>
  - 7 Once the ear is free from humours or side-effects, one should put in a

<sup>117</sup> At this point, MS Kathmandu KL 699 is missing a folio, so the rest of this chapter is constructed on the basis of witnesses MS Kathmandu NAK 5-333 and MS Kathmandu NAK 1-1079.

<sup>118</sup> This passage is significantly augmented in Cakrapāṇidatta's and Dālhaṇa's versions, to outline the specific problems caused by piercing three ducts called कालिका, मर्मिका and लोहितिका (1.16.4 (Su 1939: 126) and 1.16.5 (Su 1938: 77) respectively). In fact, the order of the problems mentioned in the Nepalese version has been retained in the other versions and divided between each duct. Cakrapāṇidatta's commentary on 1.16.4 (Su 1939: 126) cites several verses attributed to Bhoja on the problems caused by piercing these three ducts in the ear flap: 'लोहितिका, मर्मिका and the black ones are the ducts situated in the earflaps. Listen in due order to the problems that arise when they are pierced. Paralysis of the nape of the neck and convulsions, or sharp pain arise from piercing लोहितिका. Pain and lumps are thought to arise from piercing मर्मिका. Piercing कालिका gives rise to swelling, fever and burning.'

<sup>119</sup> In addition to these reasons, Dālhaṇa at 1.16.6 (Su 1938: 77) added "because of piercing with a painful, crooked and unsatisfactory needle" (क्षिणिजिहाप्रशस्तसूचीव्यधात) and "because of a wick that is too thick" (गाढतरवर्तित्वात). Dālhaṇa was aware of the reading in the Nepalese version because in his commentary on 1.16.6 (Su 1938: 77) he noted that some read "because of the accumulation of humours" rather than "because of piercing with a painful, crooked and unsatisfactory needle or because of a wick that is too thick." On the concept of humoral accumulation (*samudāya*), see the important analysis by Meulenbeld (1992).

<sup>120</sup> The description of the drug is ambiguous: the word "root" could be taken with each plant, or just with the last. The vulgate reads just "castor oil root" so we assume that is the traditional interpretation.

<sup>121</sup> Describing ear and nose operations similar to those here, Celsus described the use of a quill (Latin *pinna*) where the Sanskrit authors use a cotton wick (*De Medicina* VII ¶10-11, Spencer 1935-38: 3, 366-367).

- light dilator (*pravardhanaka*) in order to enlarge it enough.<sup>122</sup>
- 8 A person's ear enlarged in this way can split in two, either as a result of the humours<sup>123</sup> or a blow.  
*Listen to me about the ways of joining it can have.*
- 9 Here, there are, in brief, fifteen ways of mending the ear flap.<sup>124</sup>  
 They are as follows: Rim-join (*nemīsandhānaka*), Lotus-splittable (*utpalabhadhyaka*), Dried Flesh (*vallūraka*), Fastening (*āsaṅgima*), Cheek-ear (*gaṇḍakarṇa*), Take away (*āhārya*), Ready-Split (*nirvedhima*), Multi-joins (*vyāyojima*), Door-hinge (*kapāṭasandhika*), Half door-hinge (*ardhakapāṭasandhika*), Compressed (*samkṣipta*), Reduced-ear (*hīnakarṇa*), Creeper-ear (*vallīkarṇa*), Stick-ear (*yaṣṭīkarṇa*), and Crow's lip (*kākausṭha*).<sup>125</sup>

In this context, among these,

Rim-join: both flaps are wide, long, and equal.

Lotus-splittable: both flaps are round, long, and equal.

Dried flesh: both flaps are short, round, and equal.

Fastening: one flap is longer on the inside.

Cheek-ear: one flap is longer on the outside.<sup>126</sup>

Take-away: the flaps are missing, in fact, on both sides.

Ready-split: the flaps are like a dais (*pīṭha*).

Multi-joins: one flap is small, the other thick, one flap is equal, the other unequal.

<sup>122</sup> Cakrapāṇidatta on 1.16.6 (Su 1939: 127) and Ḏalhaṇa on 1.16.8 (Su 1938: 77) pointed out that the dilator can be made of wood, such as that of the **prickly chaff-flower**, the **neem tree** and **tree cotton**. Ḏalhaṇa added that it can also be made of lead and should have the shape of the **datura** flower. The manuscripts have variant readings for लघुप्रवर्धनकमामुच्चेत् at this point that include a scribal emendation, none of which construe plausibly. It is possible that the unusual verb form आ+√मुच् puzzled the scribes and caused the implausible scribal readings and emendations.

<sup>123</sup> Ḏalhaṇa on 1.16.9 (Su 1938: 77) notes that the word दोष here can refer to either a humour, such as wind, as we have understood it, or a disease generated from a humour.

<sup>124</sup> The Nepalese version uses the word सन्यान to refer to joining a split in an ear flap, which is consistent with the terminology in the verse cited above (8). However, 1.16.10 of Ḏalhaṇa's version (Su 1938: 77) uses the term बन्ध here and at the very beginning of the chapter (i.e., 1.16.1) to introduce the topic of repairing the ear.

<sup>125</sup> For an artist's impression of these different kinds of joins in the ear flap, see Majno 1975: 290 (reproduced as Figure 3.2 in Dominik Wujastyk 2003b: 154).

<sup>126</sup> For an artist's impression of this join, see Majno 1975: 291 (reproduced as Figure 3.3 in Dominik Wujastyk 2003b: 155).

Door-hinge: the flap on the inside is long, the other is small.  
 Half door-hinge: the flap on the outside is long, the other is small.

These ten options for joins of the ear should be bound. They can mostly be explained as resembling their names.<sup>127</sup> The five from compressed (*samksipta*) on are incurable.<sup>128</sup> Among these, “Compressed” has a dry ear canal and the other flap is small. “Reduced ear” has flaps that have no base and have wasted flesh on their edges. “Creeper-ear” has flaps that are thin and uneven. “Stick-ear” has lumpy flesh and the flaps are stretched thin and have stiff ducts. “Crow-lip” has a flap without flesh with compressed tips and little blood. Even when they are bound up, they do not heal because they are hot, inflamed, suppurating, or swollen.<sup>129</sup>

- 10 A person wishing to perform a join of any of these should therefore have supplies specially prepared according to the recommendations of the “Preparatory Supplies” chapter.<sup>130</sup> And in this regard, he should particularly gather<sup>131</sup> top layer of fermented liquor, milk, water, fermented

<sup>127</sup> Cakrapāṇidatta on 1.16.9–13 (Su 1939: 128–129) and Dalhaṇa on 1.16.10 (Su 1938: 77–78) provide examples of how the names of these joins describe their shapes. For example, the rim-join (*nemīsandhānaka*) is similar to the join of the rim of a wheel (*cakradhārā*).

<sup>128</sup> Dalhaṇa on 1.16.10 (Su 1938: 77–78) mentions that some do not read the statement that only five are incurable, and they understand the causes of unsuccessful joins given below (i.e., heat, inflammation, suppuration and swelling) as also pertaining to the first ten when they do heal.

<sup>129</sup> The version of 1.16.11–13 known to Dalhaṇa (Su 1938: 78) has four verses (श्लोक) at this point that are not in the Nepalese manuscripts. The additional verses iterate the types of joins required for ear flaps that are missing, elongated, thick, wide, etc. All four verses were probably absent in the version of the *Suśrutasanhitā* known to Cakrapāṇidatta. He cites the verses separately in his commentary, the *Bhānumatī* (Su 1939: 128–129), introducing each one as ‘some people read’ (के चित्पठन्ति). However, in Trikamajī Ācārya’s edition of the *Sūtrasthāna* of the *Bhānumatī*, the root text is largely identical to the one commented on by Dalhaṇa (Su 1938), even in instances like this where Cakrapāṇidatta’s commentary indicates that he was reading a different version of the *Suśrutasanhitā*. See further the discussion on p. ?? above.

<sup>130</sup> *Suśrutasanhitā* 1.5 (Su 1938: 18–23), probably verse 6 especially, that lists the equipment and medications that a surgeon should have ready.

<sup>131</sup> The reading in the Nepalese manuscripts of विशेषतश्चाग्रोपहरणीयात् has been emended to विशेषतश्चात्रोपहरेत् to make sense of the list of ingredients, which is in the accusative case. Also, the repetition of अग्रोपहरणीयात् in the Nepalese version suggests that its second occurrence, which does not make good sense here, is a dittographic error.

rice-water, and powdered earthenware crockery (*kapālacūrṇa*).<sup>132</sup>

Next, having made the woman or man tie up the ends of their hair, eat lightly and be firmly held by qualified attendants, the physician considers the joins and then applies them by means of cutting, splitting, scarification, or piercing.<sup>133</sup> Next, he should examine the blood of the ear to know whether it is tainted or not. If it is tainted by wind, the ear should be bathed with fermented rice-water and water; if tainted by choler, then cold water and milk should be used; if tainted by phlegm, then top layer of fermented liquor and water should be used, and then he should scarify it again.

After arranging the join in the ear so that it is neither proud, depressed, nor uneven, and observing that the blood has stopped, one should anoint it with honey and ghee, bandage each ear with tree cotton and gauze (*plota*), and bind it up with a thread, neither too tightly nor too loosely. Then, the physician should sprinkle earthenware powder on it and provide medical advice (*ācārika*). And he should supplement with food as taught in the “Two Wound” chapter.<sup>134</sup>

- 11 One should avoid rubbing, sleeping during the day, exercise, overeating, sex, getting hot by a fire, or the effort of speaking.
- 12 One should not make a join when the blood is too pure, too copious, or too thin.<sup>135</sup> For when the ear is tainted by wind, then it is obstructed by blood, unhealed and will peel. When tainted with choler, it becomes pinched (*gāḍha*), septic and red. When tainted by phlegm, it will be stiff and itchy. It has excessively copious suppuration and is swollen. It has a small amount of wasted (*kṣīṇa*) flesh and it will not grow.<sup>136</sup>

<sup>132</sup> The term कपालचूर्ण is unusual. Dalhana (Su 1938: 79) defines it as the powder of fragments of fresh earthen pots and Cakrapāṇidatta (Su 1939: 129) as the powder of earthenware vessels.

<sup>133</sup> There are syntactic difficulties in this sentence. We have adopted the reading in Dalhana’s version (Su 1938: 78), which has च कृत्वा following सुपरिगृहीतं. It is likely that a verb, such as कृत्वा, dropped out of the Nepalese transmission.

<sup>134</sup> *Suśrutasamhitā* 4.1 (Su 1938: 396–408).

<sup>135</sup> 1.16.17 of Dalhana’s version (Su 1938: 79) reads “impure” for the Nepalese “too pure,” which would appear to make better medical sense. Emending the text to नाशुद्ध- for नातिशुद्ध- in the Nepalese version would yield the same meaning as Dalhana’s version.

<sup>136</sup> In his edition of *Suśrutasamhitā*, Ācārya (Su 1938: 79 n. 1) includes in parentheses the following treatment for these conditions, which according to a footnote is not found in the palm-leaf manuscript he used: ‘One should sprinkle it with raw sesame oil for

- 13 When the ear is properly healed and there are no complications, one may very gradually start to expand it. Otherwise, it may be inflamed (*saṃrambha*), burning, septic or painful. It may even split open again.
- 14 Now, massage for the healthy ear, in order to enlarge it. One should gather as much as one can the following: a **Indian monitor lizard**, scavenging and seed-eating birds, and creatures that live in marshes or water,<sup>137</sup> fat, marrow, milk, and sesame oil, and white mustard oil.<sup>138</sup> Then cook the oil with an admixture of the following: **purple calotropis**, **white calotropis**, **heart-leaf sida**, **country mallow**, **country sarsaparilla**, **Indian kudzu**, **liquorice**, and **hornwort**.<sup>139</sup> This should then be deposited in a well-protected spot.
- 15 *The wise man who has been sweated should rub the massaged ear with it. Then it will be free of complications, and will enlarge properly and be strong.*<sup>140</sup>
- 16 *Ears which do not enlarge even when sweated and oiled, should be scarified at the edge of the hole, but not outside it.*<sup>141</sup>
- 17 *In this tradition, experts know countless repairs to ears. So a physician who is*

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three days and one should renew the cotton bandage after three days' (आमतैलेन त्रिरात्रं परिष्वच्येत्तिरात्राच्च पिञ्च परिवर्तयेत्).

137 For such classifications, see the analyses by Zimmermann (1999) and B. K. Smith (1994).

138 Ḏalhaṇa's version of 1.16.19 (Su 1938: 79) includes ghee. However, Ḏalhaṇa's remarks on this passage and Cakrapāṇidatta's on 1.16.18 (Su 1939: 130) indicate that they knew a version of this recipe, perhaps similar to the Nepalese one, that did not include ghee. Ḏalhaṇa also noted that others simply read four oils, beginning with fat and without milk, whereas Cakrapāṇidatta said that some say it is made with four oils and milk.

139 The version of of this verse known to Ḏalhaṇa (vulgata (Su 1938: 79)) adds several ingredients to this admixture, including **prickly chaff-flower**, **Withania**, **milk-white**, **sweet plants** and **Indian ipecac**. Also, it has **beggarweed** instead of **Indian kudzu**. When commenting on 1.16.19, Ḏalhaṇa (Su 1938: 79) noted that some do not read **sweet plants** and **Indian ipecac**. Therefore, at his time there were other versions of this recipe circulating, with fewer ingredients, as seen in the Nepalese version.

140 For these aims (i.e., healing and enlarging the ear), the text known to Ḏalhaṇa (Su 1938: 79) had an additional verse and a half describing an ointment for rubbing the ear and **sesame oil** cooked with various medicines for massage. Cakrapāṇidatta (Su 1939: 131) did not comment on these verses, nor verse 15 of the Nepalese version, and so the version of the *Suśrutasamhitā* known to him may not have included them.

141 Ḏalhaṇa's version of 1.16.23 (Su 1938: 79–80) added another hemistich that stated more explicitly that the scarification should not be done on the outside of hole as it will cause derangement.

- very intent on working in this way may repair them.*<sup>142</sup>
- 18 *If an ear has grown hair, has a nice hole, a firm join, and is strong and even, well-healed, and free from pain, then one can enlarge it slowly.*<sup>143</sup>
- 19 *Now I shall describe the proper method of making a repair when a nose is severed. First, take from the trees a leaf the same size as the man's nose and hang it on him.*
- 20 *Next, having cut a slice of flesh (vadhra),<sup>144</sup> with the same measurements, off the cheek, the end of the nose is then scarified.<sup>145</sup> Then the undistracted physician, should quickly put it back together so that it is well joined.*
- 21 *Having carefully observed that it has been sewn up properly, he should then fasten it along with two tubes.<sup>146</sup> Having caused it to be raised,<sup>147</sup> the powder*

142 After verse 17, the 1938 edition of Ācārya (*Su 1938: 80*) has in parentheses nineteen verses on diseases of the ear lobes, treatments and complications. It is possible that these verses were in some of the witnesses used by Ācārya to construct the text as they occur in other manuscripts, such as MS Hyderabad Osmania 137-3(b). However, Cakrapāṇidatta (*Su 1939: 132*) and Ḏalhaṇa (*Su 1938: 80*) stated that some read about the diseases of the ear lobes in this chapter whereas others read about them in the chapter on various treatments (*miśrakacikitsa*) (SS 5.25), which does indeed begin with a discussion of the disease परिपोट. Ḏalhaṇa went on to say that some believe that these verses were not composed by sages and, therefore, do not read them.

143 The order of verses 17 and 18 is reversed in Ḏalhaṇa's version (*Su 1938: 80*).

144 The version of 1.16.28b known to Ḏalhaṇa (*Su 1938: 81*) reads “bound, connected (*baddham*)” instead of “slice of flesh (*vadhra*).” This is a critical variant from the surgical point of view. If the slice remains connected, it will have a continuing blood supply. This is one of the effective techniques that so astonished surgeons witnessing a similar operation in Pune in the eighteenth century (see Dominik Wujastyk 2003b: 67–70).

145 Or 1.16.20 could be meant, ‘... off the cheek, it is fixed to the end of the nose, which has been scarified.’ Unfortunately, the Sanskrit of the Nepalese version is not unambiguous on the important point of whether or not the flap of grafted skin remains connected to its original site on the cheek. However, Ḏalhaṇa (*Su 1938: 81*) clarified the meaning of the vulgate here by stating that one should supply the word “flesh” when reading “connected,” thus indicating that he understood the flesh to be connected to the face.

146 Ḏalhaṇa noted that the two tubes should be made of reed or the stalk of the leaf of the *castor-oil* plant (on 1.16.21 (*Su 1938: 81*)). They should not be made of lead or betel nut because the weight will cause them to slip down.

147 The Sanskrit term उन्नामयित्वा in 1.16.21 is non-Pāṇinian.

- of sappanwood,<sup>148</sup> liquorice and Indian barberry should be sprinkled on it.<sup>149</sup>
- 22 The wound should be covered properly with tree cotton and should be moistened repeatedly with sesame oil. Ghee should be given to the man to drink. His digestion being complete, he should be oiled and purged in accordance with the instructions specific to him.<sup>150</sup>
- 23 And once healed and really come together, what is left of that slice of flesh (vadhra) should then be trimmed.<sup>151</sup> If it is reduced, however, one should make an effort to stretch it, and one should make its overgrown flesh smooth.<sup>152</sup>

148 For पत्ताङ्ग (sappanwood), there are manuscript variants पत्ताङ्ग (MS Kathmandu NAK 5-333) and पत्तङ्ग (MS Kathmandu NAK 1-1079). Also, MS Kathmandu KL 699 (f. 14r:1) has पत्ताङ्ग in a verse in 1.14 (cf. 1.14.36 ([Su 1938: 66](#))). The text known to Dalhaṇa has पतङ्ग (1.16.29 ([Su 1938: 81](#))) and this term is propagated in modern dictionaries.

149 Dalhaṇa glossed अञ्जन as रसाञ्जन, elixir salve ([Su 1938: 81](#)).

150 The expression स्वयथोपदेश is ungrammatical but supported in all available witnesses.

151 The vulgate transmission has lost the word अध्र and replaced it with अर्ध “half,” which makes little sense in this surgical context.

152 Dalhaṇa accepted a verse following this, 1.16.32 ([Su 1938: 81](#)), which pointed out that the procedure for joining the nose is similar to that of joining the lips without fusing the ducts. He noted that earlier teachers did not think this statement on the nose and lips was made by sages, but he included it because it was accepted by Jejjāṭa, Gaya-dāsa and others, although they did not comment on it because it was easy to understand. Cakrapāṇidatta also did not comment on this additional verse ([Su 1939: 133](#)).



# Sūtrasthāna 28: Unfavourable Prognosis in Patients with Sores

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>153</sup>

Goswami studied the commentaries of Ḑalhaṇa and Cakrapāṇidatta on this and the following adhyāyas up to 32, focussing on the topic of omens (*arīṣṭa*). He concluded that both authors were influenced by the Indriyasthāna of the *Carakasaṃhitā* in their commentaries on this topic.<sup>154</sup>

## Translation

- 1 Thus, living creatures and their strength, complexion (*varṇa*) and energy (*ojas*) are rooted in food. That (food) depends on the six flavours (*rasa*). Thus, the flavours depend on substance (*dravya*), and substances depend on medicinal herbs. There are two kinds of them (herbs): stationary and mobile.<sup>155</sup>

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<sup>153</sup> HML: IA, 219.

<sup>154</sup> Goswami 2011.

<sup>155</sup> 1.1.28 (Su 1938:7), tr. P. V. Sharma 1999–2001: 1, 21.



# Sūtrasthāna 29: prognostic signs relating to the messenger and to dreams

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>156</sup>

Goswami studied the commentaries of Ḟalhaṇa and Cakrapāṇidatta on this and the following adhyāyas up to 32, focussing on the topic of omens (*ariṣṭa*). He concluded that both authors were influenced by the Indriyatāna of the *Carakasaṃhitā* in their commentaries on this topic.<sup>157</sup>

Lu (2025) discussed the reception of the materials of this chapter by Chinese Buddhists, especially in the work of the second- and third-century translators of Saṅgharakṣa’s *Yogacārabhūmi*, An Shigao (ca. 148–180 CE) and Dharmarakṣa (fl. 284 CE). As Lu said, “The Sanskrit text fixes the baseline wording” of the Chinese translations.<sup>158</sup> This fixes the reception of the *Suśrutasaṃhitā* in China to the mid- to late second century.<sup>159</sup>

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<sup>156</sup> HML: IA, 219–220.

<sup>157</sup> Goswami 2011.

<sup>158</sup> Lu 2025: 2.

<sup>159</sup> The *Suśrutasaṃhitā* passages directly known to the Chinese translators include *Suśrutasaṃhitā* 1.28.31–32 and 1.29.18–19ab. Note that in *Suśrutasaṃhitā* 1.29.19ab, the “fourth” day (चतुर्थी) is not present in the Nepalese version, but is present in the Chinese receptions of the text and in the vulgate.

## Translation

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# Sūtrasthāna 46: The Rules about Food and Drink

## Introduction

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<sup>160</sup> This is the first place at which the term दूषीविष occurs in the *Suśrutasamhitā*. The term दोष was given important discussion by Meulenbeld 1991; 1992; 2011. See also R. P. Das 2003: 548–550.



## **Part 2. Nidānasthāna**



# Nidānasthāna 1: The Diagnosis of Diseases Caused by Wind

## Introduction

It is notable that this nosological part of the *Suśrutasamhitā* opens with a chapter on diseases of wind (*vāta*). In all other major Āyurvedic works, including the *Carakasamhitā*, 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 *Suśrutasamhitā*, 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

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>161</sup>

## Translation

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

<sup>161</sup> HIMAL: IA, 234. (Ruben 1954) studied the wind doctrines in the *Carakasamhitā*.

- add foot-note 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.<sup>162</sup>
  - 4 O King! O best of orators! Explain the location and types of diseases of the wind, whether in its natural state or disordered.<sup>163</sup>.
  - 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*).<sup>164</sup> It has inconceivable power. It is the leader of the humours<sup>165</sup> and the ruler of the multitude of diseases.  
It moves fast, it moves constantly, it is located in the stomach and in the rectum.<sup>166</sup>
  - 9cd Now, learn from me the characteristics of wind as it moves inside the body.<sup>167</sup>
  - 10 Wind connects the senses and the sense objects. Uninitiated, it maintains a state of equality between the humours (*dosa*), the bodily tissues (*dhātu*) and heat (*agni*) and the rightness (*ānulomya*) of actions.<sup>168</sup>

<sup>162</sup> Explain the nectar myth.

<sup>163</sup> 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 Divodāsa.

<sup>164</sup> According to Ḑalhaṇa 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 Ḑalhaṇa interpreted it. On the semantic field of रजस्, see R. P. Das 2003: 14 note 26 and ff.

<sup>165</sup> Ḑalhaṇa on 2.1.8 (Su 1938: 257) interpreted नेता “leader” as प्रेरक “impeller.”

<sup>166</sup> MS H read आशुचारी, which we have translated (“moves fast”), but MS N and the commentators of the vulgate read आशुकारी, “quick-acting.”

<sup>167</sup> Ḑalhaṇa and Cakrapāṇidatta both interpreted मे as an ablative (2.1.8 (Su 1938: 258)).

<sup>168</sup> According to Ḑalhaṇa on 1.6.3 (Su 1938: 23), सम्पत्तिः=सम्पन्नता. According to Ḑalhaṇa, Gayadāsa read इन्द्रियार्थोपसंप्राप्तिः but Ḑalhaṇa did not accept this on the grounds that it was too verbose: गयदासाचार्यस्तु इमं श्लोकं इन्द्रियार्थोपसंप्राप्तिः इत्यादि कृत्वा पठति, स च विस्तरभयान्न लिखितः। But witnesses H and N suggest the reading इन्द्रियार्थोपसम्पत्तिः.

- 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:<sup>169</sup>
1. prāṇa,
  2. udāna,
  3. samāna,
  4. vyāna,
  5. apāna.<sup>170</sup>

The above five types of wind remain in their state of equality and support the body.<sup>171</sup>

- 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.<sup>172</sup> 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.<sup>173</sup> Special acts like speech and singing are all initiated by it. It particularly causes diseases above the neck (*jatru*).<sup>174</sup>

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The expression “qualities” is used advisedly. It is almost universal practice to refer to “balance” or “equilibrium” in such contexts, but this misrepresents the metaphor that the Sanskrit sources are using. As the commentators on *Aṣṭāṅgahṛdayasamhitā* 1.1.20 (Ah 1939: 14) make abundantly clear, the expression *doṣasāmya* means “equality of humours,” as in *quantitative* equality, not balance.

<sup>169</sup> See Zysk 1993. Zysk (2007: S110) translated the following descriptions of the winds.

<sup>170</sup> We use the Sanskrit terms which are generally recognizable to English readers.

<sup>171</sup> According to Ḑalhaṇa 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।

<sup>172</sup> According to Ḑalhaṇa on 2.1.13–14ab (Su 1938: 259), प्राण also resides in the throat and nose.

<sup>173</sup> The sentence plays on the sound उत्‌।ऊर्ध्व- in the qualifiers (उदान, ऊर्ध्वम्, उत्तम). According to Ḑalhaṇa 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.

<sup>174</sup> Ḑalhaṇa 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 1974b: 465). Hoernle (1907: §§62, 98) translated *jatru* as “neck, windpipe”. See also Hoernle’s notes on the expression “above the *jatru*” (idem, 237–238).

- 16–17ab The samāna wind flows in the receptacles of raw and of digested matter.<sup>175</sup> Assisting the digestive fire (*agni*), it cooks food and separates out the substances produced from it.<sup>176</sup> It mainly causes abdominal swelling (*gulma*), diminished digestive fire (*agnisaṅga*) and diarrhoea.<sup>177</sup>
- 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.**<sup>178</sup> 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.<sup>179</sup>
- 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 (*hṛdgṛaha*), and pain in the flanks.<sup>180</sup> It also causes rumbling of the bowels, gripes (*śūla*), swollen belly, painful urine and feces, constipation, and pain in the sacrum (*trika*).<sup>181</sup> Aggravated wind in the ears etc., destroys the senses.

<sup>175</sup> The “receptacle of raw matter” (आमाशय) is described at 1.21.12 (Su 1938: 102) as one 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” (पकाशय) is described at 1.21.6 (Su 1938: 100) as being located below the navel and above the pelvis and rectum.

<sup>176</sup> 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.

<sup>177</sup> Dalhaṇa on 1.11.8 (Su 1938: 46) described अग्निसङ्ग as “the fire is stuck, dissolved.”

<sup>178</sup> The vulgate text reads पञ्चधा “in five ways,” and Dalhaṇa listed five kinds of movement (Dalhaṇa on 2.1.18 (Su 1938: 260)).

<sup>179</sup> Dalhaṇa on 2.1.21ab (Su 1938: 261) clarified that this refers to all five winds being aggravated at once.

<sup>180</sup> On “disorientation,” Dalhaṇa on 2.1.23ab (Su 1938: 261) noted that the condition was नैवात्यन्तं चित्तनाशः “not the complete loss of awareness.”

<sup>181</sup> Hoernle (1907: 140) attributed the quite different interpretation of त्रिक by Dalhaṇa

- 25abc–29 Located in the skin, it causes discolouration (*vaivarṇya*), throbbing, dryness, numbness (*supti*), itching (*cumucumāyana*), and pricking pain.<sup>182</sup> Located in the flesh, painful lumps.<sup>183</sup> 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.<sup>184</sup> 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.<sup>185</sup>
- 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 stiff-

on 1.21.14 (Su 1938: 102) to “the decay of anatomical knowledge subsequent to the time of Suśruta.”

182 Maas (2008) definitively clarified the contrasting त्वक्-first and (usually) रस-first models of the bodily elements (*dhiātu*) as distinct historical formulations in the earliest medical literature. R. P. Das 2003: 267–282 also explored this issue, including the obeservation that the *Bhedasaṃhitā* seems to have taught that रस “chyle” was the sources of menstrual blood, in contrast to the *Kāsyapasamāhitā* that assigned this role to त्वक् “skin.” In their comments on this passage, Gayadāsa and Ḏalhaṇa 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).

183 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 Ḏalhaṇa were aware that this passage was missing in some of their manuscripts. Gayadāsa said that this was because some authors noticed that वातरक्त “wind-afflicted blood” would be discussed later in the chapter. But they both thought this absence was incorrect (Su 1938: 262).

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

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

ness, convulsion, numbness (*svāpa*), swelling, and acute pain everywhere.

### Symptoms of diseases that arise because of a combination of the five breaths with bile and phlegm

- 31cd–32ab In the stated locations, wind that is compounded causes compounded afflictions.<sup>186</sup> And located in the limbs, it can cause a multitude of diseases.<sup>187</sup>

#### 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.<sup>188</sup>

#### 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.<sup>189</sup>

<sup>186</sup> Dalhaṇa on 2.1.31cd (Su 1938: 262) explained “wind that is compounded” as wind being mixed with bile and phlegm.

<sup>187</sup> The Nepalese version omits passages 2.1.32cd–33ab which are about the diseases that arise when contaminated wind mixes with bile and phlegm (Su 1938: 263). See p. 208 below, where the Nepalese text inserts this material.

<sup>188</sup> वैरस्य “loss of the sense of taste” may refer to ageusia. The vulgate reads वैवण्यं “loss of colour” (Su 1938: 263). The vulgate’s footnote 1 says that the palm-leaf manuscript reads वैश्वर्यं but this is not correct. The palm-leaf manuscript whose readings were sent to Trivikrama Ācārya was witness N, which reads वैरस्य.

<sup>189</sup> 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).

### Samāna

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

### Apāna

- 37cd–38ab When apāna is associated with bile there is a burning sensation, a temperature and blood in the urine.<sup>190</sup> When covered with phlegm there is a feeling of heaviness in the lower body and coldness.

### Vyāna

- 38cd–39.1 When vyāna is covered by bile there is a burning sensation (*dāha*), shaking of the limbs and fatigue.<sup>191</sup> When covered by phlegm there is paralysis, stiffening (*uddanḍaka*), and swelling with pain.<sup>192</sup>
- 40–41 In general, wind-blood causes inflammation in those who are delicate and enjoy inappropriate food, and because of the torment of the **humours**,<sup>193</sup> the roads, intoxication from wine, and lack of exercise,<sup>194</sup>

<sup>190</sup> This probably describes hematuria. Again we have an Epic m. sing. dvandva.

<sup>191</sup> The next vulgate verse is absent in the Nepalese version. It describes diseases caused by contaminated vyāna mixed with cough and phlegm (Su 1938: 264). Instead of this verse, Nepalese version has the following sentence about phlegm.

<sup>192</sup> The word उद्धण्डक “being like a vertical stick” is rare or unknown as a medical term (unrelatedly, it is the name of an ascetic group listed in works such as the *Cāturaśra-myadharma* of Kāṇvāyana (NCC: 3, 306)). Some of these symptoms are in common with Stiff Person Syndrome.

<sup>193</sup> “Wind-afflicted blood” is described in the *Suśrutasaṃhitā* as the combination of corrupted blood obstructing the path of inflamed wind and causing simultaneous pain due to wind and blood at once (4.5.4 (Su 1938: 423)). The *Carakasaṃhitā* described it as increased wind being blocked in its passage by increased blood (6.29 (Ca 1941: 627–634)). See also references at *Mahākośa*: 1, 740–741. Interpreted as leprosy by Sengupta (1901: 1, 256–260). Several symptoms described below are similar to those today associated with diabetic neuropathy.

<sup>194</sup> Probably, the “torment of the roads” refers metonymically to excess travel. “Lack of exercise” could be read as just “exercise,” and while that may sound like torment, the former interpretation better fits the context. Note that the sequence -प्रमदामच्य- in the vulgate separates “confusion” and “wine” while the Nepalese version’s “wine-confusion” is a more obvious reading. Dalhaṇa read मिथ्याहारविहारिन् as a dual “inappropriate food and recreation” (Dalhaṇa on 2.1.40 & 4.5.5 (Su 1938: 263 & 423)).

from the inversion of the seasons and locales, from the consumption of uncongenial (*asātmya*) foods, and because of the **lack of exercise** taken by an overweight person.<sup>195</sup>

### Wind-afflicted blood (*vātarakta*)

- 42–44 The wind may become aggravated by riding elephants, horses, camels and for other reasons.<sup>196</sup>

By consuming vegetables that are pungent, hot, sour, or alkali and by strong, habitual anguish (*santāpa*), the blood rapidly becomes liquid and that quickly blocks the pathway of the quick-moving wind;<sup>197</sup> irritated by the obstruction of the pathway, it goes wrong. That blood, mixed with corrupted wind is called “wind-blood” because of the wind’s force.

Similarly, bile may be tarnished by corrupted blood.<sup>198</sup>

- 45–46 Because of wind-blood, the feet have an aversion to touch, as well as pricking, splitting, dryness, and a loss of sensation. Contaminated bile mixed with blood causes a sharp burning sensation, excessive heat, a red swelling and a softening of the feet.

When blood is contaminated by phlegm, the feet get itchy, cold and white, swollen, thick and stiff. Furthermore, when blood is contaminated by all of them, the humours display their respective signs in the feet.

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<sup>195</sup> Instead of “lack of exercise” the vulgate reads “lack of sexual intercourse,” which makes little sense.

Dalhaṇa on 2.1.40–41 (Su 1938:263) commented that some scholars did not read these two verses here because these are read later, at Cikitsāsthāna 4.5.5 (Su 1938: 424). In fact, at that location, only 2.1.40ab and 2.1.41cd are read.

The word दोष appears in the Nepalese version of 2.1.40cd, but not in the vulgate (which reads रोग). Therefore, when Gayadāsa said दोषग्रहणं तु विशेषार्थमिति “the use of the word दोष is for the purpose of specificity,” at the end of his comment on 2.1.32–39 (Su 1938: 263), it is likely that he had the Nepalese version of at least part of the text before him, *pace* the comment, “Gayadāsa did not accept this reading” by Yādavaśarma Trivikrama Ācārya and N. R. Ācārya (गयदासासंमतोऽयं पाठः Su 1938: 263, note 2).

<sup>196</sup> Dalhaṇa exemplified “other reasons,” as carrying loads, etc.

<sup>197</sup> The word सन्ताप, “anguish” can mean physical as well as emotional pain.

<sup>198</sup> The Nepalese version omits the vulgate’s similar statement about phlegm being affected by blood.

- 48 Residing in the soles of the feet, and sometimes in the hands, this disease creeps through that body like angry rat poison.<sup>199</sup>
- 49ab, 50ab Wind-afflicted blood (*vātarakta*) that bursts out (*sphuṭita*) as far as the knees, and that is split and oozing, is incurable, and that which has lasted for a year can be mitigated (*yāpya*).<sup>200</sup>

### *Convulsions and seizures*

- 50cd–51 When aggravated wind enters into all the pipes (*dhamanī*), the wind, which moves repeatedly, makes the body convulse (*ākṣip*) quickly and repeatedly. Because of the repeated convulsing (*ākṣipāṇa*) it is traditionally called “The Convulsor (*ākṣepaka*).”
- 52–56 Since a person blacks out (*apatāmyate*) completely, it is known as a seizure (*apatānaka*).<sup>201</sup>
- 52cd–53ab If wind that is mixed with a lot of phlegm is present in the pipes (*dhamanī*), it is called Stick Seizure (*daṇḍāpatānaka*) because it makes one paralyzed like a stick.<sup>202</sup>
- 54ab The one that bends the body like a bow is technically termed Bow Paralysis (*dhanuhstambha*).
- 54cd–55cd When wind is agitated and located in the fingers, ankles, abdomen, heart, chest, or throat and attacks the network of sinews, the person

<sup>199</sup> The commentators Gayadāsa and Ḏalhaṇa both read “the whole body” (सद्वैहम् for तद्वैहम्, interpreting सद् as सकलम् (*Su 1938*: 264)). The subject, “this disease,” is not expressed in the Sanskrit sentence.

<sup>200</sup> The sentence appears to describe the condition of the skin, but the word “skin” is not expressed.

<sup>201</sup> Explaining अपतानक by reference to अपताम्यते is a folk etymology, since the words have different etymological roots.

Gayadāsa, in his commentary on 2.1.52 (*Su 1938*: 265) discussed the reading अपताम्यते, which is also the reading supported by witness N but not the vulgate. This word seems to be unattested elsewhere. Gayadāsa defined अपतानक as a situation in which a person sees darkness and loses consciousness (तमो दृश्यते मोद्यते). Gayadāsa presented a detailed and interesting discussion of these terms, including citations from earlier commentators and the texts of Caraka and Dr̥ḍhabala. Ḏalhaṇa took up Gayadāsa’s discussion and also cited the commentators Jejjaṭa and Brahmadeva. Brahmadeva was cited often by Ḏalhaṇa and lived after Gayadāsa and before Cakrapāṇidatta, i.e., in the eleventh century (*HIML*: 1A, 373–374).

<sup>202</sup> Against Ḏalhaṇa on 2.1.52 (*Su 1938*: 265), we read the intensifier भृशम् with कफान्वित rather than the transitive verb तिष्ठति, for sense.

A verse added in the vulgate at this point asserts that trismus also occurs.

- has paralyzed eyes and a stiff jaw, their flanks are bent and they vomit phlegm.<sup>203</sup>
- 56 When a person is caused to bend inwards like a bow,<sup>204</sup> then the strong wind causes internal tension (*abhyantarāyāma*).
- 57 And when the wind is located in the network of external sinews it causes external tension (*bāhyāyāma*), that breaks the chest, hips, and thighs. That is untreatable, say experts.
- 58 The wind, mixed with phlegm and bile, or even the wind on its own, causes another, fourth convulsion (*ākṣepaka*) that is caused by trauma (*abhīghāta*).<sup>205</sup>
- 59 A seizure (*apatānaka*) that arises because of miscarriage, excessive bleeding and trauma cannot be cured.<sup>206</sup>
- 60–61 When wind that is extremely irritated and strong, proceeds to the downwards, upwards and horizontal pipes (*dhamani*), then, loosening the bonds of the joints of one side of the body or another, it destroys that flank. Expert physicians call this paralysis (*pakṣāghāta*).<sup>207</sup>
- 62 If someone is damaged by wind, the whole side of their body is incapacitated and without feeling (*acetana*). Then they rapidly fall down or even die.
- 32cd–33ab When wind is full of bile, heat, anguish and fainting can occur. And when it is full of phlegm, there is coldness, swelling and heaviness.<sup>208</sup>
- 63 Experts know that a flank struck by uncontaminated wind is troublesome, very hard to cure. It is curable when mixed with another, and it

<sup>203</sup> Perhaps the bent flanks, भग्नपार्श्व, are meant to echo the image of the bow, like a scoliosis.

<sup>204</sup> It is not clear what the qualifier “inwards” is meant to indicate, medically; perhaps a form of emprosthotonus. The verb नाम्यति is a causative, perhaps passive in sense.

<sup>205</sup> Dalhaṇa again cited Brahmadeva’s opinion on this passage; see note 201 above.

<sup>206</sup> According to Dalhaṇa on 2.1.59 (Su 1938: 266), convulsion (*ākṣepaka*) is also known as अपतानक. He further mentioned that even if, fortunately, it is cured, it nevertheless cripples the limb.

<sup>207</sup> In the *Carakasaṃhitā*, 6.28.55 (Ca 1941: 619), पक्षघात “paralysis” was described as illness of one limb (*ekāṅgaroga*), which may sometimes have corresponded to the contemporary condition monoplegia. Thus, paralysis (*pakṣāghāta*) may sometimes correspond to conditions that Modern Establishment Medicine terms “hemiplegia.” Cf. Figure 2.

<sup>208</sup> In the vulgate, this text appears thirty verses earlier in the chapter (see footnote 187 above). Its context at that point seems awkward. It fits slightly better in the context at this point.



Figure 2: Types of paralysis. Image courtesy of Chiro Sciences.

- is incurable when caused by wasting (*kṣaya*).<sup>209</sup>
- 68cdef, 69cd    Speaking excessively and loudly or eating coarse items, laughing, yawning, burdens, or an uneven bed cause the wind to irritate the face and it brings about paralysis (*ardita*).<sup>210</sup>
- 70–71ab    Half the face becomes crooked and the neck turns upwards. The head trembles, speech is hindered, and the eyes etc., are deformed.<sup>211</sup> There is also pain in the neck, chin and teeth on that side.
- 72cd    Experts in disease call that ailment “facial paralysis (*ardita*)”
- 73    Facial paralysis is definitely not curable for a person who is weak, has unblinking eyes, whose speech is extremely indistinct and one who has

<sup>209</sup> This verse is hard to understand. Ḏalhaṇa on 2.1.63 (Su 1938: 266) explained “another” as meaning one of the other humours. The reference to wasting is obscure in this context, and the comments of Gayadāsa (Su 1938: 266) do not help.

The next five and a half verses of the vulgate version are not present in the Nepalese version. These verses describe rigidity of neck (*manyāsthambha*). According to Ḏalhaṇa, rigidity of neck is a prior symptom of spasmadic contradiction.

<sup>210</sup> This condition was discussed in Dominik Wujastyk 2003b: 122, n. 69. It has features in common with Bell’s Palsy. The Nepalese Version is considerably simpler than the vulgate. The vulgate adds a list of vulnerable persons such as pregnant women, post-partum women, children, old people, etc.

Gayadāsa did not have this passage before him, but Ḏalhaṇa did. The vulgate alone also provides a list of specific facial locations that wind may afflict (2.1.69ab (Su 1938: 267)).

<sup>211</sup> Gayadāsa noted that “eyes etc.” included the brows and the cheeks, etc. (Su 1938: 267), and Ḏalhaṇa on 2.1.70 (Su 1938: 267) copied this sentence.

- a tremor, nor if it has lasted three years.<sup>212</sup>
- 74 There is a tendon (*kāñdarā*) joining the heel and the toes. Afflicted by wind, it prevents the movement of the thigh. That is traditionally called sciatica (*grdhrasī*).<sup>213</sup>
- 75 There is a tendon (*kāñdarā*) from the back of the arm to the base of each of the fingers. It causes the destruction of the activity of the arms. And that is called All Bent (*viśvañci*).<sup>214</sup>
- 76 A dense, very painful swelling cause by wind-blood, in the centre of the knee, that is like a jackal's head, is known as "Jackal-head (*kroṣṭukaśīrṣa*).
- 77 When wind that is located in the waist attacks a tendon of the thigh, then the person may get a limp (*khañja*); there is lameness (*paṅgu*) from the piercing of the two thighs.
- 78 He trembles a lot and walks as if with a limp.<sup>215</sup> He should be known as one with lathyrism (*kalāyakhañja*), someone whose joints have become loose.<sup>216</sup>
- 79 When the foot is placed on an uneven place, wind may cause pain. This so-called wind-thorn (*vātakantaka*) arises, being located in the ankle

<sup>212</sup> The commentators Gayadāsa and Dalhana both mentioned that some people took “three years” to mean that the patient had been drooling from their nose, eyes and mouth for three years. It is unclear where this idea came from.

<sup>213</sup> On “sciatica (*grdhrasī*)” see Dominik Wujastyk 2003b: 123, n. 71. The translation “sciatica” is supported by the World Health Organization (2022: 128), and has been used in English for “pain in the hip” since the fifteenth century. But the modern neurological etiology is obviously not to be assumed for the term गृध्रसी. The English term is sometimes interpreted as “lumbago” or “rheumatism,” although the condition described here specifically affects the feet and thighs and might have included symptoms of gout. The term गृध्रसी is unknown outside medical texts. It is etymologically connected with गृध्र “greedy bird, vulture,” and one might conjecture that it points to the vulture’s gait. See also HML: IIB, 25, n. 322, which is also somewhat inconclusive.

<sup>214</sup> Both the MSS N and H read विश्वची instead of the vulgate reading विश्वाची. There is no such word found in other Āyurveda texts.

<sup>215</sup> “A lot” translates अम्, the unanimous reading of the Nepalese witnesses. The vulgate reads the easier प्रकामन् “stepping forward.”

<sup>216</sup> “Lathyrism” translates कलायखन्जा, etymologically “chickling pea-lameness”. This demonstrates the early Indian awareness of the connection between chickling peas and lameness or paralysis. This link was rediscovered by Sleeman (1893: 1, 127–129) and discussed by Buchanan (1904).

- (*khaluka*).<sup>217</sup>
- 80 Wind mixed with bile and blood causes a burning sensation in the feet, especially when walking a lot. One may designate that as foot-burn (*pādadāha*).
- 81 A person whose feet tingle and become numb is known as having tingling feet (*pādaharṣa*). It is produced by the irritation of phlegm and wind.
- 82 Wind that is located in the shoulder may dry up the joints of the shoulder. Constricting the ducts (*sirā*), it remains there producing dangling arm (*avabāhuka*).<sup>218</sup>
- 83 When the wind obstructs that which carries sound in the ear and remains there, it causes deafness, whether it is pure or mixed with phlegm.
- 85 A wind with phlegm having obstructed the pipes (*dhamani*) that carry sound make men inactive (*akriyaka*), mute (*mūka*), mumbling (*minmira*) and stammering (*gadgada*).<sup>219</sup>
- 84 The wind seemingly splitting someone's head, neck and jaw, and the temples, produces pain in the ears. And he is called "someone with *karmaśūla* (earache)."
- 86 The pain that arises from the locations of feces and urine and descends, as if splitting the anus and genitals is called quiver (*tūnī*) by name.<sup>220</sup>
- 87 That same pain, when it starts from the anus and genitals and running in the wrong direction, forcefully gets as far as the large intestine is traditionally known as counter-quiver (*pratitūnī*).
- 88 A very swollen belly that is inflated and fiercely painful is known as swelling (*ādhmāna*). It is caused by a terrible obstruction of the wind.
- 89 That same pain when it starts in the stomach and excludes the flanks and the heart is known as counter-swelling (*pratyādhmāna*). It is wind mixed up with phlegm.

<sup>217</sup> The word खलुक “ankle” is rare and has several variants in standard dictionaries (e.g., MW: 335).

<sup>218</sup> Dalhaṇa and Gayadāsa both defined two diseases i.e., “drying up” and “dangling arm.”

<sup>219</sup> Note that this and the next verse occur in reverse order in the vulgate. The Nepalese text has the merit of keeping the verses about vocal problems together. On मिन्मिर, cf. Bangla মিনমিৰ “mumbling, speaking faintly.”

<sup>220</sup> As noted in Dominik Wujastyk 2003b: 124, n. 74, the word is spelled तूनी in the manuscripts and vulgate but तूणी in most dictionaries.

- 90 If the wind originates below the navel, whether moving or still, there is a long dense knot like a stone that protrudes upwards, known as wind-stone (*vātāṣṭhīlā*). It blocks the external pathways.<sup>221</sup>
- 91 One should describe this same disease, causing pain, obstructing wind, feces, and urine, as counter-stone (*pratyāṣṭhīlā*). It originates obliquely and is located in the abdomen (*jathara*).

This is the end of the of the first Nidāna, about wind diseases.

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<sup>221</sup> Dalhaṇa on 2.1.90 (Su 1938: 270) discussed the identity of the अषीला “stone,” reporting the opinions of some that it was a kind of long, round stone known in north India, and others who thought it was a long, round, iron vessel used by leather workers. Dalhaṇa glossed वाहिर्गांवरोधिनीम् “blocking the external pathways” as “wind, feces and urine.” Finally, Gayadāsa and Dalhaṇa also noted that “some sources have the phrase नाभेरधस्तात्संजातं चलं वा यदि वाऽचलम् ‘something produced below the navel, either moving or still.’” And in fact, witness N has this half-śloka.

## **Part 3. Śārīrasthāna**



# Śārīrasthāna 1: A Consideration of All Beings

## Introduction

The short account of Sāṅkhya philosophy offered in this chapter of the *Suśrutasamhitā* is several times characterized by its authors as being “special to physicians”.<sup>222</sup> And it does indeed stand slightly apart from the major classical forms of Sāṅkhya philosophy in some regards.

For example, the description of the evolution from Ahaṅkāra given in *Suśrutasamhitā* 3.1.4 (p. 91) corresponds more to the *Māṭharavṛtti* and to the Purāṇas than to other commentaries on the *Sāṅkhyakārikā*. As Solomon pointed out, the description of Ahaṅkāra in Māṭhara’s commentary on the *Sāṅkhyakārikā* (ca. 1000) is unique in the following regard:

All [early Sāṅkhya commentaries] mention the paryāyas of ahamkāra, viz. bhūtādi, vaikṛta and taijasa; but all except M[āṭharavṛtti] simply state that the 16 are produced from ahamkāra and enumerate them. M[āṭharavṛtti] alone explains here that the five tanmātras are produced from bhūtādi which is tāmasa, the 11 organs are produced from vaikṛta which is sāttvika, while both are produced from taijasa which is rājasā.<sup>223</sup>

This historically distinct scheme, as also presented in the Purāṇas, was shown in a clear diagram by Biardeau (1981: 27); see Figure 3.

<sup>222</sup> 3.1.11 वैद्यके तु “but in medicine...”; 3.1.13 चिकित्सिते “in medicine”; 3.1.16 आयुर्वेदशास्त्रेषु “in the treatises about medicine...”; 3.1.16 स एष कर्मपुरुषश्चिकित्साधिकृतः “it is this agentic person that medicine is concerned with.”

<sup>223</sup> Solomon 1974: 52, 180.

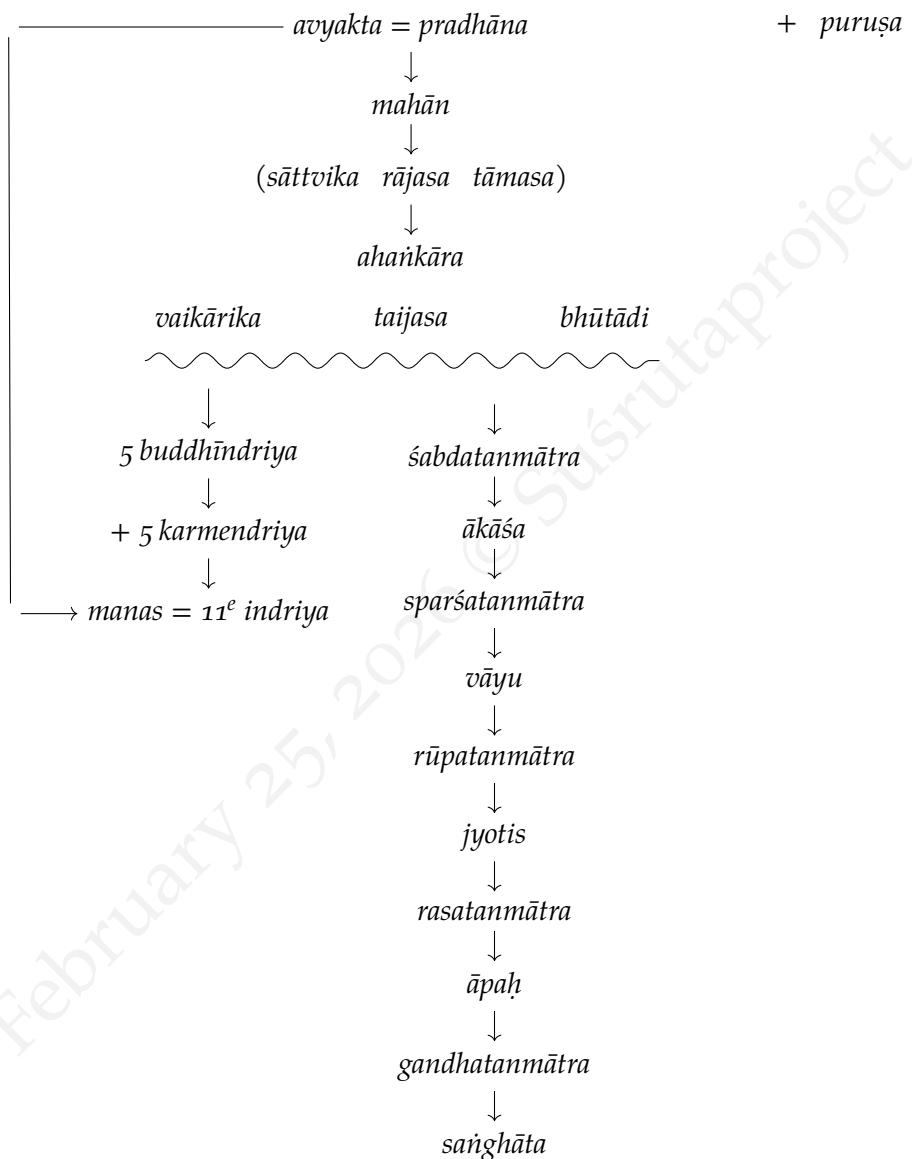


Figure 3: Levels of original creation as presented in the following Purāṇas: *Vāyupurāṇa*, *Brahmāṇḍapurāṇa*, *Viṣṇupurāṇa*, *Mārkaṇḍeyapurāṇa*, and *Kūrmapurāṇa* (after Biardeau 1981: 27). See footnote 235.

Table 2: Homologies according to Mahābhārata 14.42.27–40.

<i>bhūta</i>	<i>adhyātma</i>	<i>adhibhūta</i>	<i>adhidaiva</i>
ākāśa	śrotra	śabda	Diś
marut	tvag	spraśtavya	Vidyut
jyotis	cakṣur	rūpa	Sūrya
āp	jihvā	rasa	Soma
pr̥thivī	ghrāṇa	gandha	Vāyu
	pādau	gantavya	Viṣṇu
	pāyuḥ	visarga	Mitra
	upastha	śukra	Prajāpati
	hastau	karman	Śakra
	vāk	vaktavya	Vahni
	manas	mantavya	Candramas
	buddhir	vijñeya	Brahmā

Another example of the *Suśrutasaṃhitā*'s eclectic account of Sāṅkhya is the list of homologies given in 3.1.7–8. The evolutes of Prakṛti are described as having three aspects or instantiations: in the physical world (*adhibhūta*), in the individual person (*adhyātma*), and in the divine realm (*adhidaiva*). While this terminology is reminiscent of very old language from the Upaniṣads, this specific scheme is not widely known in Sāṅkhya literature, or anywhere.<sup>224</sup> The scheme is first found in the *Mahābhārata*: see Table 2.<sup>225</sup> The scheme also appears in the fourteenth- or fifteenth-century *Tattvasaṃśasūtra* sūtras 7–9 and in its commentaries *Kramadīpikā*

<sup>224</sup> These homologies in the *Suśrutasaṃhitā* were noted by Comba (2011: 55). The adjacent topic of the three kinds of suffering was discussed by Steiner (2007) and Vukadin (2023). For the Upaniṣads, one thinks of *Bṛhadāraṇyaka* 1.5.21 (*adhyātma*), 3.7.15 (*adhibhūta*, *adhyātma*), 2.3.3 (*adhidaivata*), *et passim*. In the Pāli Canon, *ajjhattiṭṭika* (cognate Skt. *adhyātmika*) means “inner, internal, in the physical body,” as is clear from, e.g., *Mahāhatthipadopamasutta* ¶6 where the “internal” earth element is characterized as including head, hair, body hair, nails, teeth, skin, flesh, sinews, bones, marrow, kidneys, heart, liver, etc. Ed. (Trenckner and R. Chalmers 1888–1925: 1, 185), tr. Nānamoli and Bodhi 1995: 279.)

<sup>225</sup> Referred to in *Mahābhārata* 6.30.1 (Sukthankar, Belvalkar, et al. 1933–59: 7, 1666–1668) and then described in detail twice, in 12.300.17–301.14 (*ibid.* 15, 1666–1668) and

and the *Tattvayāthārthyadīpanaṭikā* of Bhāvaganeśa, both of which set out homologous triples, equating ontologies on the personal, physical and divine levels.<sup>226</sup>

Another parallel between the present chapter and the *Mahābhārata* occurs in 3.1.9. The text is explaining the similar and different properties of Puruṣa and Prakṛti. This passage in the *Suśrutasamhitā* is very close in both meaning and wording to *Mahābhārata* 12.210.6–8:<sup>227</sup>

In the same way, both Prakṛti and Puruṣa should be known. But the discerning person should pay particular attention to that special, even greater entity that is different from both Prakṛti and Puruṣa. They both have no beginning and no end and they both have no characteristics. They are both eternal, extremely fine, and they are both greater than Mahat. This is what they have in common. Thus there is another special feature.

तदेवमेतौ विज्ञेयावव्यक्तपुरुषावुभौ ।  
अव्यक्तपुरुषाभ्यां तु यत्स्यादन्यन्महत्तरम् ॥ ६  
तं विशेषमवेक्षेत विशेषेण विचक्षणः ।  
अनाद्यन्तावुभावेतावलिङ्गौ चाप्युभावपि ॥ ७  
उभौ नित्यौ सूक्ष्मतरौ महज्यश्च महत्तरौ ।  
सामान्यमेतदुभयोरेव ह्यन्यद्विशेषणम् ॥ ८

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002 and, in his notes, citations of the parallel passages in the *Carakasamhitā*.<sup>228</sup> Larson and Bhattacharya (1987) provided a major overview of Sāṅkhya literature. Recent overviews of the classical Sāṅkhya theory include those of Chatterjee (2021: §2.4), Adamson

in 14.42.27–40 (*ibid.* 18, 152–153). These and the following parallels were pointed out by Philipp Maas.

<sup>226</sup> Dvivedin 1996: 81–82 and R. Bhaṭṭācārya 1965: 15–16 respectively. On the dates of the works, see Hulin 1978: 152–153; Larson and Bhattacharya 1987: ch. 24 et passim. See also the discussion in Roșu 1978: 134, cited in HIML: IB, 370, n. 4.

<sup>227</sup> (Sukthankar, Belvalkar, et al. 1933–59: 15, 1159). The parallel was pointed out by Christèle Barois.

<sup>228</sup> HIML: IA, 243.

and Ganeri (2022: ch. 22), and Ruzsa (2025). Comba (2011: 54–56) studied the Sāṅkhyā concepts specifically in the *Suśrutasaṃhitā*.

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## Translation

1 So, now we shall explain the anatomy chapter that is a reflection about all beings.<sup>229</sup>

### The production of all things

3 That which is called “the unmanifest” is the causeless cause of all living beings, having the characteristics of sattva, rajas and tamas, having eight forms, and being the reason for the appearance of this whole world.<sup>230</sup>

It is the single basis of the many witnesses (*kṣetrajña*),<sup>231</sup> just as the ocean is to the beings who live in water.<sup>232</sup>

4 From that unmanifest, the Mahat arises, having exactly the same properties.<sup>233</sup> From that Mahat, which has those same properties, arises the Ahaṅkāra, having exactly the same characteristics.<sup>234</sup> It has three as-

<sup>229</sup> The Nepalese version has nouns in apposition (“-चिन्ता ↔ शारीरम्”). The vulgate makes this a single karmadhāraya compound that is slightly easier to parse.

<sup>230</sup> We do not translate the polysemic terms *sattva*, *rajas* and *tamas*, about which a large scholarly literature may be consulted.

<sup>231</sup> “Witnesses” refers to the disembodied, inner selves that witness the world, the most essential kernels of personal consciousness. Glossed in *Carakasaṃhitā* 4.1.61 (Ca 1941: 293) as “the unmanifest self, eternal, sovereign, and unchanging”. Cf. translation and context in Dominik Wujastyk 2023: 239, and Rośu (1978: 132 et passim).

<sup>232</sup> The Nepalese witnesses differ from the vulgate here, reading उदकौजस् “creatures whose power is water.” This is linguistically and semantically implausible. Dalhana remarked that there were different interpretations of this simile in the vulgate version, औदकानाम् “creatures having watery character.” Some thought it meant “like rivers, lakes and other forms of water are supported by the ocean”, while others thought it referred to living beings like fish and plants that are supported by the ocean.” The emendation to उदकौकस् suggested by Philipp Maas is compelling semantically and palaeographically.

<sup>233</sup> In classical Sāṅkhya theory, महत् is a synonym for बुद्धि, “intellect.” In the present passage, this identity is not explicit; rather, it is a cosmological entity. In the cosmology of the *Pātañjalayogaśāstra*, it is pure being, सत्त्वामात्र 2.19 (Āgāse and H. N. Āpaṭe 1904: 85), it is also sometimes designated as the great आत्मन् “great self” in the sense of a universal being.

<sup>234</sup> The Ahaṅkāra, etymologically “the utterance ‘I,’” is the assertion of personal and creative identity. See the classic study by van Buitenen (1957) that discusses the several problems raised by the term.

pects: mutable (*vaikārika*), fiery (*taijasa*) and elemental (*bhūtādi*).<sup>235</sup> From that mutable Ahaṅkāra the eleven faculties (*indriya*) arise, with the very same characteristics. It is as follows: ear, skin, eye, tongue, nose, speech, hand, genitals, anus, feet and mind. Amongst these, the first five are the faculties of cognition (*buddhi*); the next five are the faculties of action (*karma*). The mind has properties of both.

From the Ahaṅkāra as starting point for the elements (*bhūtādi*), arise the five bare entities (*tanmātra*), with exactly the same characteristics.<sup>236</sup> It is as follows: bare sound, bare touch, bare form, bare taste, bare smell.<sup>237</sup>

From these elements (*bhūta*) come ether (*ākāśa*), air, fire, water and earth; from these come sound, touch, form, taste and smell, with the same distinctions.<sup>238</sup> In this way these twenty-four principles (*tattva*) have been explained.

- 5 In this context, entities such as sound are the objects of the faculties (*indriya*) of cognition. Amongst the faculties of action, they are: speaking, holding, enjoyment, excretion and walking respectively.
- 6 The eight productive principles (*prakṛti*) are the unmanifest (*avyakta*), The Great (*mahān*), the I-principle (*ahaṅkāra*), and the five fine elements (*tanmātra*). The rest are the sixteen modifications (*vikāra*).
- 7 And for each of these, the sense object is the physical entity (*adhibhūta*).<sup>239</sup> But they themselves are the personal aspect (*adhyātma*). The

<sup>235</sup> These technical terms occur in *Sāṅkhya-kārikā* 22 as synonyms for Ahaṅkāra. In *Sāṅkhya-kārikā* 25, they are described as emanations coming from Ahaṅkāra (S. S. Sastri 1948: 46–47, 50; Wezler and Motegi 1998: 187–188, 195–196). They also occur in the Purāṇic cosmogonies; Biardeau (1981: 27) offered a useful diagrammatic representation of these showing these relationships, reproduced in Figure 3. See the discussion of these difficult terms by van Buitenen (1957: 23–25).

<sup>236</sup> Earlier, the Ahaṅkāra was said to have three aspects, so we would here expect a description of the fiery (*taijasa*) aspect. But the Nepalese version goes straight to the elemental (*bhūtādi*) aspect. The vulgate text inserts the fiery aspect alongside the elemental as if it were similar in all respects (तैजससहाय).

<sup>237</sup> Or, “the essence of sound,” etc.

<sup>238</sup> On “ether,” see footnote 269.

<sup>239</sup> There is a question about what “of them” refers to. The list that follows has thirteen terms; fifteen if one takes hands and feet as duals; seventeen if one takes eyes and ears as pairs. This does not quite correspond to any of the previous listings. The following list only lists the divine and personal ontologies; the physical ones are not explicitly listed.

The Nepalese version before emendation had a different meaning at this point (ig-

Table 3: Ontologies on the personal, physical and divine levels.

<i>Divine</i>	<i>Personal</i>
Brahmā	of intellect ( <i>buddhi</i> ),
Īśvara	of sense of self ( <i>ahamkāra</i> ),
the moon	of mind,
the directions	of the ear,
wind	of the skin,
the sun	of the eyes,
the waters	of the tongue,
the earth	of the nose,
fire	of the voice,
Indra	of the hands,
Viṣṇu	of the feet,
Mitra	of the anus,
and Prajāpati	of the genitals.

divine aspect (*adhideva*) is thus: Brahmā is the divine aspect of the intellect (*buddhi*), Īśvara is of the sense of the self (*ahamkāra*), the moon is of the mind, the directions are of the ear, wind is of the skin, the sun is of the eyes, the waters is of the tongue, the earth is of the nose, fire is of the voice, Indra is of the hands, Viṣṇu is of the feet, Mitra is of the anus, and Prajāpati is of the genitals.<sup>240</sup>

- 8 This whole group lacks consciousness.<sup>241</sup> And the twenty-fifth, the Person (*puruṣa*), is the one that causes consciousness. And he is connected to the effects (*kārya*) that are the instruments (*kāraṇa*).<sup>242</sup> Even though

noring grammatical difficulties): "Each and every one of them has a sovereign with respect to their domain." See the edition's critical apparatus for details.

240 Expressed as a table in Table 3. On this and the next passage, see discussion above, 89.

241 I.e., the group of twenty-four principles (*tattva*).

242 This sentence is hard to understand, but it is underscoring the unique role of the Person. The vulgate text at this point has, "is united by cause (*kāraṇa*) and result,"

the productive principle (*pradhāna*) is unconscious, they point out that it is active for the purpose of the Person's freedom (*kaivalya*).<sup>243</sup> On this point, they give the examples of causes like the one about milk, etc.<sup>244</sup>

## Prakṛti and Puruṣa

- 9 From this point onwards we shall describe how Prakṛti and Puruṣa have similar and different essential properties (*dharma*). Both are without beginning and both are without end; both both are permanent;<sup>245</sup> both are unsurpassed, both are without characteristics (*liṅga*) and both are omnipresent.<sup>246</sup> But Prakṛti is single, unconscious, has three guṇas, is essentially a seed, is essentially creative and has the essential property of being in the middle. The Puruṣas, meanwhile, are multiple and have consciousness. They do not have the guṇas, they are not essentially seeds, they are not essentially creative, and do not have the essential property of being in the middle.

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a quite different and easier reading. In philosophical prose one would hesitate to interpret instrument (*karaṇa*) as cause (*kāraṇa*) As a dvandva, करणकार्ये breaks Pāṇini 2.2.34 because करण has more vowels than कार्य. Reading the compound करणकार्य not as a dvandva, but as a karmadhārya seems preferable.

- 243 The expression “they point out” suggests reference to outside experts. Since the following milk simile is identical to *Sāṅkyakārikā* 57 (Mainkar 1972: 184–186; Wezler and Motegi 1998: 263), it seems certain that the reference is to this text or a lost predecessor. The *Sāṅkyakārikā* was translated into Chinese in the mid-sixth century and may have been composed one or two centuries before that time (Hulin 1978: 138).
- 244 I.e., the calf in the proximity of the cow causes the milk, in the same way that Prakṛti in the proximity of Puruṣa causes evolution. Ḏalhaṇa on 3.1.8 (Su 1938: 340) explained that the milk, even though it is unconscious (*ajñā*), comes forth (*pravartate*) (in the cow) for the purpose of nourishing a calf. Ḏalhaṇa also gave the example of a man's semen that is incognizant (*ajñā*) but is comes forth (*pravartate*) in the presence of erotic women, at a private party, for the purpose of the man's enjoyment. *Pātañjalayogaśāstra* 4.17 addressed the same issue with the simile of magnetism: the mind (*citta*) was likened to a piece of iron that is attracted by the magnet of sense objects (Āgāśe and H. N. Āpaṭe 1904: 193, et passim).
- 245 This is an emended reading of the Nepalese witnesses, which both read अनित्यौ “impermanent.” It is inconsistent and contextually incorrect to assert that Puruṣa is impermanent. The vulgate reads “permanent.”
- 246 See discussion, p.90.

- 10 Thus, on the assumption that an effect corresponds to its cause, all these particulars (*viśesa*), consisting of sattva, rajas and tamas, come into being.

Some people argue that the Person actually consists of these particulars<sup>247</sup> because he is manifested by them and made out of them.<sup>248</sup>

- 11 In the Vedic tradition, however,<sup>249</sup>

people with a wide perspective consider essential being (*svabhāva*), destiny, time, transformation (*parināma*), the Lord, and chance (*yadṛcchā*) to be Prakṛti.<sup>250</sup>

- 12 So one should note that the elements (*bhūta*) that are produced specifically have their qualities.<sup>251</sup> From those, the entire group of living beings (*bhūtagrāma*) is generated, having their characteristics (*lakṣaṇa*).<sup>252</sup>

<sup>247</sup> Dalhaṇa on 3.1.10 (Su 1938: 340) identifies these as the principles (*tattva*), beginning with महत्.

<sup>248</sup> This opinion of “some people” represents a kind of materialist who thinks that the Person is also composed of prakṛti’s components rather than being distinct and unitary. This is an outsider view as far as early Sāṅkhya is concerned.

On अज्ञन in the compound तदञ्जन “manifested by them,” Kuiper (1953) noted the inadequacy of dictionary entries for derivatives of roots अज्ञ/अञ्ज, and described the root of the present word under no. 3 “show, manifest, mark, adorn, honour.” See ibid., §12, pp. 76–82.

<sup>249</sup> The variant reading वैदिक, in witness N, probably would refer to the Vedic tradition, as it does generally in Sanskrit literature (MW: 1022). Witness H and the vulgate read वैद्यके “in the medical tradition,” which may be a banalization. The subsequent statement listing different views about Prakṛti is not known elsewhere in medical literature, but is very close to Vedic sources such as the Śvetāśvataropaniṣad 1.1–2 (Olivelle 1998: 414–415) and Gauḍapādakārikā 1.8, 9 (Karmarkar 1953: 3–4, 62). Olivelle (2017: 10, n. 19) identified the earliest occurrence of the term वैद्यक as being in Patañjali’s *Mahābhāṣya*.

<sup>250</sup> Dalhaṇa on 3.1.11 (Su 1938: 341–342) discussed whether these six causal entities were to be considered together or separately. Dalhaṇa seems to have accepted Jejjīṭa’s view that these are multiple philosophical views, but that physicians consider the ultimate cause to be Prakṛti. He also recorded Gayadāsa’s view that some thinkers believe that these causes cumulatively constitute Prakṛti. Cf. the similar discussion in Śvetāśvataropaniṣad, *ibid.* HML: IB, 370, n. 5 provided a bibliography on these topics.

<sup>251</sup> Note that the phrase ततो जातातानि भूतानि “So, those that are produced,” differs from the vulgate text, but was known and accepted by Gayadāsa.

<sup>252</sup> This passage contains potential ambiguities about the polysemic word भूत, whose

- 13–14 Its applicability (*upayoga*) is stated always with regard to medicine.<sup>253</sup> Therefore in therapeutics, no consideration is given beyond the elements. Because it has been stated,

[by saying ‘Puruṣa’] he has stated that it originates from a collection of substances beginning with the elements (*bhūta*).<sup>254</sup>

And in the science of medicine (*āyurveda*), it is the elemental senses that are described, as well as the objects of the senses.<sup>255</sup>

- 15 There is a verse on this:

A human being grasps each object of sense by means of their own corresponding sense organs. It is an established fact that one thing cannot be grasped by a different one, because it is constrained by the equivalence of their origins.<sup>256</sup>

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meanings include “elemental substance” (such as earth, air, water, etc.) and “being” (as in creature, animal). The author of the *Suśrutasaṃhitā* used the word in both these senses, even in a single passage. The keyword भूतग्राम “collection of भूत” is a case in point. It also occurs at *Suśrutasaṃhitā* 1.1.22 (Su 1938: 5) where it is described in the main *Suśrutasaṃhitā* text as signifying the aggregate of the four types of living being, namely those born of sweat, the womb, eggs, and sprouts (broadly corresponding to insects, mammals, birds and reptiles, and plants). In his comment on the present passage, Dalhaṇa agreed with this view, glossing भूतग्राम as स्थावरजडमात्सक “consisting of mobile and stationary beings” (Dalhaṇa on 3.1.12 (Su 1938: 341)). Dalhaṇa’s language here is close to the *Gopathabrahmaṇa* 1.29 (ed. Gaastra 1919: 21–22; tr. Patyal 1969: 30–31). He also defended the connection of “element” with “beings” by noting that तत्त्वक्षण “having their characteristics” meant that physical elements like earth have certain characteristics, such as solidity, heaviness and roughness, and that the group of living beings have these same characteristics of the physical elements, because they originate from those elements (पञ्चमहाभूतारब्धस्य भूतग्रामस्य..., Su 1938: 341).

<sup>253</sup> Dalhaṇa on 3.1.14 (Su 1938: 341–342) explained that “its” refers to discussion of the group of living beings, which starts with the five great elements (*mahābhūta*) (पञ्चमहाभूतारब्ध). See also the previous footnote.

<sup>254</sup> I.e., the “person” is the physical subject of medical science, deriving from the elements (*bhūta*), etc. The internal reference here is to *Suśrutasaṃhitā* 1.38 (Su 1938: 9). In that passage, the *Suśrutasaṃhitā* defined the human being (*puruṣa*) as a material creature made out of the five elements and the physical bodily parts and tissues.

<sup>255</sup> The *Yuktidīpikā* discussed the Nyāya view that the senses evolve from the elements, but asserted that the followers of Sāṅkhya reject this view and propose that the senses evolve directly from identity (*ahaṅkāra*) (ed. Wezler and Motegi 1998: 203; tr. Harzer 2006: 67–68).

<sup>256</sup> E.g., the eye can see visual images because the eye and the visual images themselves both originate in the element of fire. But the eye cannot see scents or sounds.

- 16 In the teachings of Ayurveda, witnesses (*kṣetrajña*) are not considered to be [both] omnipresent as well as permanent.<sup>257</sup> From the established opinion of Ayurveda, they bring forward logical reasons to explain the Person as witnesses that are permanent but not omnipresent. Witnesses that are permanent but not omnipresent transmigrate into the wombs of animals, and into humans and gods, according to the determining factors (*nimitta*) of virtue and vice.<sup>258</sup> They may be grasped through inference, they are mobile, they are extremely fine, they have consciousness, they are eternal, they are manifested in the conjoining of semen and menstrual blood. The Person has been defined as “an aggregation of the five great elements and the embodied soul”.<sup>259</sup> Therefore, this is indeed the “patient (*karmapuruṣa*)” who is the subject of medicine.<sup>260</sup>

## Attributes of the Person

- 17 Its attributes (*guṇa*) are happiness and distress, desire and aversion, and effort, breathing in and out, closing and opening the eyes,<sup>261</sup> cog-

<sup>257</sup> In 3.1.9 above, the authors have stated the Sāṅkhya view that the Person is beginningless, endless, permanent and omnipresent. Now, the authors state that Āyurvedic physicians have a different view, namely that the Person is permanent but not omnipresent.

On “witnesses” see footnote 231.

<sup>258</sup> The manuscript readings of the Nepalese witnesses are difficult here, and emendations have been made to preserve the logic of the passage. On च after a dvandva, see Wackernagel and Debrunner 1896–1964: II.1, §70.

<sup>259</sup> I.e., in *Suśrutasaṃhitā* 1.1.22 (Su 1938: 5) and mentioned again in 3.1.14 above.

<sup>260</sup> “Patient” translates कर्मपुरुष, the “Person subject to action (*karma*).” For this sense of the English word, cf. the OED’s entry: “A person who or thing which undergoes some action, or to which something is done; a (passive) recipient. Chiefly in contrast with agent” (OED: Patient 4a). Dalhaṇa on 3.1.16 (Su 1938: 342) glossed कर्मपुरुष both as “the one who experiences the results of karma” (कर्मफलभाक्) and also as “the one who receives the results of medical care” (चिकित्सितकर्मफलम्). See the discussion by Roṣu (1978: 67, 132, 141, 142, 146, 147, 169, 177). The term “कर्मपुरुष” also occurs at 3.8.8 (Su 1938: 380), where it clearly means “patient,” and again at 6.65.22 (Su 1938: 817), where *Suśrutasaṃhitā* 1.1.22 is cited as an example of the interpretative rule called “recontextualization (*prasāṅga*)” (see p. 370 below). Note, that while this citation of 1.1.22 in 6.65.22 is present in the vulgate text of the *Suśrutasaṃhitā*, it is not present in the Nepalese version.

<sup>261</sup> A masculine dvandva.

- nizing, thinking, intending, reflecting, remembering, knowing, deciding, and perceiving sense objects.<sup>262</sup>
- 18 Furthermore, not being malicious, enjoying sharing, tolerance, truthfulness, righteousness (*dharma*), being a believer (*āstikya*),<sup>263</sup> knowing, cognizing, intelligence,<sup>264</sup> willpower,<sup>265</sup> and not being overly attached are associated with sattva.  
 Excessive suffering, being ungenerous (*apradāna*),<sup>266</sup> bad behaviour, a lack of compassion, dishonesty, egoism, hypocrisy, pride, lust (*harṣa*), desire and aversion are associated with rajas.<sup>267</sup>  
 Depression, being a non-believer,<sup>268</sup> unvirtuous behaviour, unreasonableness (*buddhinirodha*), ignorance, lack of intelligence, laziness, and sleepiness are associated with tamas.
- 19 Furthermore, sound, the auditory faculty, the aggregate of all intervals (*chidra*) and separateness are associated with the ethereal (*āntarīkṣa*).<sup>269</sup>  
 The faculty of touch, the aggregate of all gestures (*ceṣṭā*), all spontaneous movements (*spanda*) of the body and lightness are associated with air.<sup>270</sup>

262 This passage adds the vocabulary of Vaiśeṣika and Nyāya to that of Sāṅkhya, showing that the specifically Ayurvedic view of the world being presented is more syncretic than individual philosophical schools. Cf. parallel passages in, for example, *Carakasaṃhitā* (ed. Su 1938: 294, tr. Dominik Wujastyk 2023: 240), *Nyāyasūtra* 1.1.10 (ed. D. N. Josī and V. G. Āpaṭe 1922: 27, tr. Jhā 1939: 34), *Vaiśeṣikasūtra* 3.2.4 (ed. Jambūvijaya 1961: 28, tr. Sinha 1928: 117).

263 Ḏalhaṇa on 3.1.18 (Su 1938: 343) defines this as someone who believes in such things as dharma, liberation and the world beyond.

264 Ḏalhaṇa on 3.1.18 (Su 1938: 343) glossed मेघा as “having the power to concentrate on books” (ग्रन्थावधारणशक्तिः). Cf. his similar statement at Ḏalhaṇa on 1.2.3 (Su 1938: 10), where the qualities of a good medical student were described.

265 MS N reads willpower (धृति), while H reads recollection (स्मृति) and the vulgate reads both. In Sanskrit literature generally, these two virtues often appear together (and with intelligence (मेघा)). The witnesses do not give a compelling reason for choosing any of these options.

266 The vulgate text prefers “excessive wandering about” here, as well as “having no willpower.”

267 कामक्रोधः “desire and aversion” is a dvandva in the masculine.

268 See footnote 263.

269 The term “ether,” translating अन्तरीक्ष, refers to the classical element of extension that separates all entities and prevents the existence of a vacuum.

These characterisations of the elements are not typical in Sanskrit philosophical literature.

270 Ḏalhaṇa on 3.1.19 (Su 1938: 343) described “all gestures” as “bending and straight-

Form, the faculty of vision, colour, warmth, radiance, ripening, intolerance, and sharpness are associated with fire.

Taste, the faculty of taste, the aggregate of all liquids, heaviness, coldness, oiliness and flow, are associated with water.

Smell, the olfactory organ, the aggregate of all solid bodies, and heaviness are associated with earth.<sup>271</sup>

- 20 In that context, ether is mostly sattva, wind is mostly rajas, fire is mostly sattva and rajas, water is mostly sattva and tamas, earth is mostly tamas.
- 21 And on this there is:

PYS 3.44?

*One should note that all these pervade each other.*

*The manifest characteristic of all these is regarded as being in each of the separate substances.*<sup>272</sup>

- 22 *The eight productive entities have been declared and the sixteen modifications, and, concisely, the witness, according to their own system and another system.*<sup>273</sup>

This is the first chapter on anatomy.

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ening, although others say all actions of body, voice and mind” (नमनोन्नमनादिसर्वक्रिया-समूहः, कायवाङ्गमनःक्रियासमूह इत्यन्ते).

- 271 There is a partial overlap of the elemental qualities (*guṇa*) listed in this section with those mentioned in some anonymous stanzas that appear in the *Yuktidīpikā* on *Sāṅkhyakārikā* 38c (Wezler and Motegi 1998: 225), also referred to by Vācaspatimiśra in his *Tattvavaiśāradī* on PYS 3.44 (Prasāda 1912: ??).
- 272 The Sanskrit text of the Nepalese version at this point is supported by both witnesses, but is harder to construe than the vulgate. The vulgate’s द्रव्ये तु makes a clearer sentence, but *lectio difficilior potior*. It is possible that this verse is cited from another con. The general sense is that while these substances pervade each other, they nevertheless preserve their individual characteristics. Frauwallner (1984: 1, 96–97) identified what he called the Sāṅkhya “accumulation theory,” according to which every element possesses, besides its own special quality, additionally the total qualities of the previous element out of which it emanated. It is possible that this verse is informed by such thinking.
- 273 Dalhana on 3.1.22 (Su 1938: 344) commented that the “own system” was surgery (शल्यतत्त्व) and the other system was ear, nose and throat surgery and Sāṅkhya (शालक्यतत्त्वे साङ्ख्ये च). The sentence could also be translated as “depending on itself and depending on another.”

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# Śārīrasthāna 2: On Semen and Menstrual Fluid

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>274</sup> R. P. Das (2003: chs 6–8) also studied topics of this chapter and in chapter 13 provided an overview of the conceptual background of ayurveda on the topics discussed in this chapter.

## Translation

- 1 We shall now explain the anatomical chapter on the purification of sperm (*śukra*) and blood (*śoṇita*).
- 3 Semen (*retas*)<sup>275</sup> is incompetent to produce offspring if it is [characterized by] wind, bile, phlegm, blood (*śoṇita*),<sup>276</sup> decomposition (*kūṇapa*), clumps (*granthi*),<sup>277</sup> stinking pus (*pūtipūya*), low volume (*kṣīṇa*), urine, or feces.

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<sup>274</sup> HIML: IA, 244–246.

<sup>275</sup> The Nepalese version has -रेतांसि “semen” (in the plural) as the subject of the sentence: “seeds are unable to produce offspring....” In the vulgate, -रेतसः is a masculine bahuvrīhi, making “men whose semen has...” the subject of the sentence.

<sup>276</sup> Note that the list begins with the four entities, wind, bile, phlegm and blood, hinting at a four-humour system (see Dominik Wujastyk 2000: 485–486).

<sup>277</sup> Modern Establishment Medicine (MEM) understands that normal ejaculate contains coagula which, however, dissolve after about half an hour. But coagula that do not dissolve may sometimes be a sign of an underlying disorder (see, e.g., Lamming and Marshall 1990: 2, 614–615; Cohen 1990).

## Diagnosis by humours

- 4 • When the dysfunction is caused by wind, there is a colour and a type of pain that typically goes with wind problems.
- If caused by bile the colour and the pain are typical of bile afflictions. If caused by phlegm the discolouration and suffering are characteristic for phlegm disease.
  - And if caused by blood (*śoṇita*) there will be a colouration due to blood and a sensation of a bile affliction. Moreover, when caused by blood (*rakta*) there is the smell of decomposition (*kunapa*).<sup>278</sup>
  - Phlegm with wind causes the appearance of clumps.
  - Bile with blood (*śoṇita*) causes the appearance of foul-smelling pus (*pūtipūya*).
  - Bile with wind (*māruta*) cause a weakening of semen.
  - Humoral colligation (*sannipāta*) causes the smell of urine and faeces.<sup>279</sup>

Cases of foul-smelling sperm, sperm with clumps, and when it reeks of pus are hard to treat. But when sperm contains urine or faeces there is no treatment.<sup>280</sup>

- 5 Moreover, seasonal blood (*ārtava*) too can become afflicted (*upasṛṣṭa*), seedless (*abīja*) because of the three humours, and blood as the fourth, taken individually, in pairs or triples or all together.<sup>281</sup>

This can also be known by means of the humour, colour and pain. In these cases, that which displays decomposition (*kunapa*), clumps and the putrid smell of pus is incurable (*asādhya*). And otherwise it is curable (*sādhya*).

Among these, the kind which shows decomposition, or coagula, or putrid pus is incurable. The other types, however, can be treated.

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<sup>278</sup> Note that the text mentions both शोणित and रक्त. This raises the question of whether the author considered these to be different, or whether it is an artefact of textual transmission.

<sup>279</sup> The expression “humoral colligation,” translating सन्निपात, refers to the simultaneous disorder of three humours at the same time, a condition that is difficult to treat (see Dominik Wujastyk 2016b: 38 *et passim*).

<sup>280</sup> Note that the above characterizations presuppose the direct inspection of an ejaculate. The process of collection is not described in the sources in this chapter.

<sup>281</sup> This translates the text of the oldest surviving witness, N, and the vulgate. But MS H, that normally follows K very closely, has a negative particle, न, reversing the sense of the sentence.

6 And there is a verse on this.

An expert should overcome the first three of these sperm pathologies with special treatments such as unction and sweating, as well as by means of a urethral instillation (*uttarabasti*).<sup>282</sup>

find out  
about ut-  
tarabasti

### Therapies for sperm, by humour

- 6.1 In that context, when the sperm is of the nature of wind, there is an enema (*āsthāpana*) consisting of Bengal quince, Indian kudzu and milk.<sup>283</sup> In the urethral instillations one should use sesame oil well cooked with mahua, grey orchid, deodar, and chir pine. One can also make the patient drink clarified butter with ripe pomegranate, citron fruit, rock salt, a caustic (*kṣāra*), and two kinds of salt.<sup>284</sup>
- 6.2 When the sperm is of the nature of bile, there is an enema of milk cooked with curds, Malay beechwood and liquoricek. One should also apply a paste (*kalka*) of white dammer tree and axlewood in the vagina. There is an oily enema (*anuvāsana*) of sesame oil cooked with liquorice; in the same way, it should only be applied as a urethral instillation.<sup>285</sup> One should make him swallow ghee cooked with wild sugar cane, common smilax, heart-leaved moonseed, white teak, false daisy, and the five roots.
- 6.3 When the sperm is of the nature of phlegm, there is an enema (*āsthāpana*) consisting of a decoction (*kaṣāya*) of golden shower tree. And one should also apply an oily enema (*anuvāsana*) of sesame oil cooked with long pepper, embelia and honey; and it should only be applied as a urethral instillation.

<sup>282</sup> Dalhaṇa on 3.2.6 (Su 1938: 345) noted that “unction and sweating” indicates the “five treatements”: वमन, विरेचन, अनिरुद्ध, अनुवासन and उत्तरबस्ति. He noted that the explicit mention of urethral enema in the verse was for the purpose of highlighting its priority. However, a natural reading of the verse does not suggest that these distinctions were in the author’s mind.

<sup>283</sup> These three recipes are not present in the vulgate text of the *Suśrutasamhitā*.

<sup>284</sup> -विपक्ष “well cooked with...” might be interpreted as “with ripe...”.

<sup>285</sup> By specifying “upper (i.e., urethral) instillation” the author is clarifying that this is not a rectal enema.

One should make him drink a ghee cooked with hairy bergenia, white teak, emblic myrobalan, long pepper, bearded premna, and prickly chaff-flower.

7 And there are verses about this:

When there is blood in the sperm, the physician should give the person ghee cooked with flowers of the fire-flame bush, catechu, pomegranate, and arjun.

8 When it smells like a corpse, he should drink ghee cooked with the sal group of trees. †When clumps appear, it is cooked with stones, or also in ash from a flame-of-the-forest.<sup>286</sup>

9 And also, when it resembles pus, it is treated with items such as phalsa and banyan. When the sperm is deficient it should be treated as was stated before and also as will be described.<sup>287</sup>

10 When it looks like feces, he should be made to drink ghee together with leadwort, vetiver and devil's dung.

10.add1 In these six cases, a wise person should carry out the sequence that starts with oleation.<sup>288</sup>

10.add2-3 It deteriorates as a result of not having sex with women for a long time as well as from the use of actions, and from overusing the drugs that are astringent, spicy and sharp, that are acidic (*amla*), salty, sere (*rūkṣa*), sour (*śukta*) or stale (*paryuṣita*), and because of suppressing (*vegāghāta*) the impulses in vaginas and from intercourse (*gamana*).<sup>289</sup>

<sup>286</sup> The Nepalese text and translation of this sentence are uncertain. The vulgate text reads, 3.2.8 (Su 1938: 345): ग्रन्थिभूते शटीसिद्धं पालाशे वा इषि भस्मनि “If clumps appear, it is cooked with śaṭi or in ash from a *palāśa*.” The vulgate edition notes in a footnote that some vulgate manuscripts add an extra line, स्नेहादिश्च क्रमः षड्बोतासु विजानता. The Nepalese manuscripts read this line two verses further down.

<sup>287</sup> Dalhaṇa on 3.2.9 (Su 1938: 345) noted that “what was stated before” refers to the स्वयोनिवर्धन section, i.e., *Suśrutasamhitā* 1.15.10 (Su 1938: 69), and that “what will be described” refers to *Suśrutasamhitā* 4.26 (Su 1938: 496), the chapter on weakness and strength (क्षीणवलीय).

<sup>288</sup> It is uncertain which six cases the author intended, but probably it refers to the behaviours listed in the next verse.

<sup>289</sup> This passage is hard to interpret and there are no parallels, commentary or meaningful alternate readings.

## Therapies for menstrual blood

- 10.add4 When there is a defect (*doṣa*) in the menstrual blood (*ārtava*) one should advise the therapy starting with oleation.  
And one should use a urethral instillation (*uttaravasti*) exactly as was described before.

- 10.add5  
10.add6  
10.add7  
10.add8  
10.add9  
10.add10  
10.add11

Add tr. of  
3.2.10.add5-  
3.2.10.add11

- 12cd And there is a verse about this:

To purify the menstrual blood (*ārtava*), one should apply the procedure that finishes with a urethral instillation (*uttara-basti*).<sup>290</sup>

- 13cd One should use a paste (*kalka*) as well as cloths and a salutary lavages (*ācamana*).<sup>291</sup>  
14cd In case of a bad smell and the appearance of pus, or the appearance of marrow in the blood.  
15 She should drink a decoction (*kvāṭha*) of white sandalwood or a decoction of red sandalwood.<sup>292</sup>  
14ab When clumps (*granthi*) appear, she should drink velvet-leaf, three heating spices, and Indrajao.<sup>293</sup>  
14.add1 She should drink a decoction (*nīlkvāṭha*) that is the extracted juice (*surasa*) of a caustic (*kṣāra*), dried ginger, and devil's dung.<sup>294</sup>

<sup>290</sup> The “procedure ending with a urethral instillation” probably refers to verse 6 above (see page 103).

<sup>291</sup> The word आचमन्, normally “sipping water from the palm” is here translated “lavage” following the context and Dalhana on 3.2.13 (Su 1938: 345), who described it as “water for washing the vagina” (योनिप्रक्षालनोदक). This treatment may be intended for the condition mentioned in 12cd, but in the vulgate text there is a preceding half verse stating that the treatment is for the “four disorders of menstrual blood.”

<sup>292</sup> The name चन्दन् may refer to several types of sandalwood; presumably one is meant here that is different from white sandalwood, i.e., perhaps Pterocarpus santalinus Linn. f. The vulgate has an extra half-sloka here.

<sup>293</sup> On ग्रन्थि, see note 277.

<sup>294</sup> At this point, the sequence of passages in the Nepalese version differs substantially

- 24 Thus a man has unblemished semen and a woman has pure menstrual blood.<sup>295</sup>

## During menstruation

- 25 During the season (*rtu*), starting from the first day onwards, the chaste woman (*brahmacāriṇī*) foregoes bathing, anointments, ornaments and grooming (*vilekhana*).<sup>296</sup> She should abstain from sleeping during the day, collyriums, weeping tears (*aśrupāta*), massages, cutting her nails, taking showers, laughing, telling stories, hearing too much noise and from exertion.<sup>297</sup>

For what reason? By sleeping during the day, the fetus becomes **deaf**.<sup>298</sup> From collyrium he becomes blind. From weeping, his vision is impaired. From bathing and anointing, he becomes badly behaved. From massage with oil he gets a pallid skin disease (*kuṣṭha*).<sup>299</sup> From cutting the nails he gets ugly nails (*kunakha*). From smearing an unguent he becomes bald. From habitually exercising in the open air he goes mad. For this reason one should avoid these.

For three days of ritual food, the husband should protect ( $\sqrt{rakṣ}$ ) the woman. She lies on a layer of **halfa grass**, and eats a different kind of food from the palm of her hand, or from a plate or from a leaf.<sup>300</sup>

On the forth day, one should show to the husband the woman who has had a purifying bath, is wearing unstitched clothes, is ornamented and

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from the vulgate. For example, the next passage in the vulgate, 3.2.15, occurs above, and the next below on p. 105.

- 295 On this and the following texts, cf. Smets 2010: 389 et passim.
- 296 The word ऋतु “season” in āyurvedic texts can, according to context, refer either to the period of menstruation or else to the period of fecundity following menstruation (R. P. Das 2003: 15 ff., note 27, *et passim*). Dalhana on 3.2.25 (Su 1938: 347) noted that the woman’s abstention should last three days from the first appearance of her menses.
- 297 On the similar prohibitions relating to a menstruating woman as described in Dharmaśāstra literature, as well as the similar defects accruing from disobedience (see Leslie 1989: 284–287).
- 298 Here, the vulgate reads स्वप्नशीलः: “he tends to sleep.”
- 299 On translating कुष in Ayurvedic texts, see Emmerick 1984: 96 ff.
- 300 This sentence is hard to construe because हविष्यं “ritual food” cannot agree with - भोजिनीं.

who has chanted a benediction and recited a blessing.<sup>301</sup>

What is the reason for that?

- 26 And there is a verse on this.

A woman has a bath after her period. The type of man she sees after that determines the type of son to whom she will give birth. She may then show her son to her husband.

- 27 Next, the priest (*upādhyāya*) should perform the appropriate ritual for producing a son. At the end of the ritual, the expert (*vicakṣāṇa*) should anticipate the following procedure.

- 28 Next, after the man has eaten a rice porridge with ghee and milk in the afternoon, having been celibate for a month, at night he should sexually approach the woman who has had a diet rich in oil and mung beans. He then soothes her in a friendly way and he may go to her optionally on the fourth, sixth, eighth, tenth or twelfth day.<sup>302</sup>

- 31 Henceforth, he should approach after a month  
[At this point there is a misplaced folio in MS N]

- 32 **And when conception has occurred in this way**

During one of these nights, the pregnant woman should press three or four drops of juice from one or other of the following: **convolvulus, banyan, Indian bat tree, country mallow, carray chddie**. Then she should administer them in the right nostril if she desires a son and in the left if she wants a girl, and she should not sneeze them out.<sup>303</sup>

- 33 For certain, in the presence of these four, a fetus that follows the rules will come into being, just like a sprout is from a combination of field, seed, water and grass.<sup>304</sup>

29, 30 missing?

Problematic passage in the edition.

301 See Dominik Wujastyk, Birch, Klebanov, et al. 2023: 58 and fn. 167.

302 In the Nepalese version, this text presents a general rule for lovemaking on even days. In the vulgate, the word पुत्रकाम is added, making this a specific rule for conceiving a male child. After this text, sections 29, 30 and 31 of the vulgate are not present in the Nepalese version. These verses state that the above-mentioned special days are beneficial, that odd days lead to the conception of a girl child, and finally the vulgate gives a list of the consequences of conceiving a child with a menstruating woman.

303 There is a textual problem at the start of this passage.

304 The Nepalese version reads क्षेत्रवीजोदकतृणाम् “of field, seed, water and grass” in contrast to the vulgate’s ऋतुक्षेत्रामुवीजानाम् “of season, field, water and seed.” This gives the two versions quite different meanings. In the Nepalese version, the author is referring to the four plants mentioned in the previous verse, **convolvulus, banyan, Indian bat tree, country mallow**, and **carray chddie**. Then the author presents a

- 34 Children born in this manner are beautiful, of noble character and enjoy long lives.<sup>305</sup> They provide release from obligation (*rṇa*) and they themselves have children, benefitting their parents.<sup>306</sup>
- 35 In that context, the element of heat (*tejas*) is the most important factor as far as complexion (*varṇa*) is concerned. That being granted, at the moment the fetus is formed, when the food has water as its chief element, then the fetus is fair.<sup>307</sup> When earth is the predominant element, it is dark (*kṛṣṇa*). When earth and ether are the chief elements, it is dark brown (*śyāma*).<sup>308</sup> Some people say that the newborn (*prasava*) has the same colour as the colour of the food that the pregnant woman commonly eats. Similarly, creatures like snakes, scorpions and large geckos that inhabit black, yellow or white habitats are black, yellow or white.<sup>309</sup> In that context, congenital blindness (*jātyandha*) is caused by the element of brilliance (*tejas*) not reaching the location of eye (*dṛṣṭi*). Similarly, red eyes are a consequence of blood, white eyes are a consequence of phlegm, yellow eyes are a consequence of bile, and dysfunctional eyes (*vikṛtakṣa*) are a consequence of wind.<sup>310</sup>
- 35.1–4 And on this, there are the following:<sup>311</sup>

simple agricultural simile. In the vulgate version, the words of the compound each have a double meaning: they can refer to the agricultural simile, but they can also be construed to mean “menstrual season, womb, nourishing bodily fluids, and male and female semen,” a parallelism not present in the Nepalese transmission. This is how Dalhana interpreted the verse.

- 305 We translate महासत्त्वः as “noble character;” Dalhana, commenting on the vulgate reading सत्त्ववन्तः, refers to the गुणस्, interpreting the expression as “not strongly influenced by रजस् and तमस्.”
- 306 Children born in this manner fulfil their parent’s obligation to have children and they themselves have children, thus continuing the family. The three debts are normally understood as being to the gods, the ancestors and to sages. But Dalhana’s phrasing is odd in that he says पितृणामृणत्रयमोक्षणशीला: “behaving so as to provide release from the three debts to the ancestors.”
- 307 The food of the mother, that is.
- 308 The terms कृष्ण and श्याम often mean more or less the same, a dark blue or black colour. The latter can shade into brown or dark green.
- 309 Cf. also n., p. 271. Cf. HIML: IA, 70 and notes on these poisonous animals as described in the *Carakasamhitā*, and Meulenbeld 1974b: 455-456 on the names *kṛkalāsa*/ *kṛkalāśaka*, *śaya* and *saraṭa* and the confusion surrounding this topic and the indigenous names of some species such as *tīkṭikī*, *jyeṣṭhi*, *jyaṣṭhi*, *girgit*.
- 310 The term विकृताक्ष was known to Kātyāyana (*Mahābhāṣya* on P.6.3.3, (*Mahābhāṣya*: 3, 142)).
- 311 The next four verses are absent in the vulgate; they were reproduced by the editor

If a pure wind affects someone's eyes, they become sunken, blue and dark.

When bile mixed with phlegm, with no impurity, goes into someone's eyes, their eyes are termed "yellowish-red."

When phlegm that is free of any impurity moves to the eyes, their eyes shine with a white circle within a circle.<sup>312</sup>

When blood mixed with phlegm moves into the eyes, those people have eyes that become pigeon-blue, or else bloodshot.

- 36 Just as the ghee in a pot placed on a fire melts, so the menstrual blood of a woman may flow out after sex with a man.<sup>313</sup>
- 37 But when the wind splits the seed (*bija*), two lives (*jīva*) come into the belly (*kukṣi*). They are called "twins (*yama*)," being created from preceding virtue (*dharma*) or its opposite.<sup>314</sup>
  - 37.1 When the mixing is happening, if the man's semen (*retas*) is plentiful and pure then the pregnant woman gives birth to two boys.
  - 37.2 When the mixing is happening, if the woman has a lot of semen (*śukra*) then the pregnant woman gives birth to two girls. There is no doubt about this.

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in a footnote (Su 1938: 348a, n. 3).

The phrase "and here are some verses" appears in the vulgate before 3.2.36.

312 Perhaps this describes the appearance of arcus senilis.

313 It is difficult to know what the author means here, since menstruation is not physiologically caused by intercourse.

Note that the text actually says "a pot of ghee ... melts." But it's not the pot that melts, but the ghee. This may explain the vulgate reading घृतपिण्ड "a lump of ghee." The reviser did not like the imprecise idea of a pot melting.

314 Note the adverbial -पुरा at the end of a Bahuvrīhi.

The commentator Gayadāsa (cited here by Dālhaṇa) disagreed with this interpretation. He preferred to understand धर्मत्तर not as "dharma and its opposite," but as "the opposite of dharma." He explained that according to both scripture and tradition, twins are the result of अधर्म "sin," and that is why penances are necessary after the birth of twins (on 3.2.27 (Su 1938: 348)).

The next two verses are absent in the vulgate; they were reproduced by the editor in a footnote (Su 1938: 348b, n. 3).

## Types of persons

- 38 The term for men and women who have diminished seed is *Āsekya*.<sup>315</sup> Without doubt, after eating something white (*śukla*), his flag is raised.<sup>316</sup>
- 39 Someone who is born in a foul womb is termed a *Saugandhika*. That person gains strength from smelling a vagina and a penis.<sup>317</sup>
- 40abc A man, who has activity in his own anus because of being celibate and then has activity amongst his own women is known as a *Kumbhīka*.<sup>318</sup>

<sup>315</sup> Etymologically, “to be poured into.” On this and the following typologies, see the brief treatment by Meulenbeld (1997: 216–217).

<sup>316</sup> Dalhaṇa on 3.2.38 (Su 1938: 348) made it clear that this is a metaphor for having a penile erection.

“Eating something white” may refer to शुक्र “sperm,” as the vulgate reads. But note that works on aphrodisiacs and fertility (वाजीकरण) in āyurveda and rasaśāstra routinely recommend white substances such as milk for strengthening reproductive ability. See, for example, *Suśrutasaṃhitā* 4.26.27–31ab (Su 1938: 498) and *Carakasaṃhitā* 6.2, all of sub-chapter 2 (Ca 1941: 392–394).

The vulgate has a different reading for the first half of this verse, stating that such a man is a product of parents with deficient seed. Dalhaṇa also gave a detailed description of a man eating the semen ejaculated by another man, and he stated that the terms षट् and मुख्योनि were synonyms for such a person.

The term आसेक्य is given in MW: 161 as “impotent, a man of slight generative power.” This is wrong. It is the referent of the term, not its meaning. Cf. *Mahākośa*: 1, 98.

Some of the features referred to by the term षट्।षट् may have included conditions today covered by Mayer-Rokitansky-Küster-Hauser syndrome and Morris syndrome. The central idea in the Sanskrit usages was that such a person cannot produce children.

<sup>317</sup> Etymologically, “Sweet Smelling.”

<sup>318</sup> The vulgate adds an avagraha before ब्रह्मचर्याद्, meaning “because of *not* being celibate.” Dalhaṇa on 3.2.40abc (Su 1938: 348–349) read the text this way, paraphrasing अब्रह्मचर्यात्, thus inverting the meaning but not clarifying what he thought it meant. But he then cited a passage from “others” that read ब्रह्मचर्यात्, i.e., the anal sex followed or was caused by celibacy, ब्रह्मचर्यात् क्लैव्यवशसंजाताप्रवृत्तित्वात् “because of celibacy, that is, because of being unable to perform because of the effect of impotence.” These unnamed commentators also referred explicitly to erectile dysfunction, शिथिलेनैव मेहनेन, as the result of this celibacy and proposed that a man could get an erection through abnormal (विप्रकृत्या) means and as a result could have sex as a male with a woman. Dalhaṇa also stated that the origin of a person with such a condition was described “in another book” (तत्रान्तरे), and proceeded to cite *Carakasaṃhitā* 4.2.20 (Ca 1941: 303). Dalhaṇa then also cited another verse from Gayadāsa, who himself ascribed it to Kāśyapa (HIML: IA, 164–166), saying that, “A Kumbhila (*sic*) is born

- 40d–41abc Hear about the next one, the *Īrṣyaka*. Someone who has sexual activity after seeing the copulation of other people is termed an *Īrṣyaka*.<sup>319</sup>
- 41d–42 Hear about the fifth, the *Śāndhaka*. A man who, out of delusion, has sexual activity with a young girl (*kaumārī*) during her season as if he were a woman. In such a case, a male is born who looks and behaves like a woman. He is termed a *Śāndha*.<sup>320</sup>
- 43 Moreover, if a woman, during her season, has sexual activity like a man, then if a girl is born she will have the behaviours of a man.
- 44 The *Āsekya*, the *Sugandhin*, the *Kumbhīka* and the *Īrṣyaka* are known to have semen. The man with no semen is termed a *Śāndha*.<sup>321</sup>
- 45 In both of these cases, they have a semen-carrying vessel that dilates as

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when a man with phlegm for semen has sex with a woman who is not passionate (or not menstruating) during her season, when the love is attached to another." (Also cited in *Mahākośa*: 1, 220a–b.)

It is noteworthy that the *Suśrutasaṃhitā* is factual and descriptive in these passages, as befits a medical work, while the commentators introduce a moralistic and critical tone.

<sup>319</sup> Etymologically “one who envies.”

Here again, Dalhaṇa on 3.2.40–41 (Su 1938: 349) cited the opinion of “another book” and cited a passage from *Carakasaṃhitā* 4.2.20 (Ca 1941: 303) that covers similar ground. The description of the *Carakasaṃhitā* is causally framed in terms of the factors वायु and अग्नि.

<sup>320</sup> The vulgate’s भायी “woman, wife” for the Nepalese version’s कौमारी “girl” is probably bowdlerization.

<sup>321</sup> It remains a question as to whether the authors meant the absence of an ejaculate or the clinical observation of childlessness even in the presence of an ejaculate. For a discussion of the present passages and further literature on षट्, see R. P. Das 2003: 581–584; on आसेक्य, see ibid., 527. See also M. J. Sweet and Zwilling 1993: 593–597, et passim; Zwilling and M. J. Sweet 2000; Zwilling and M. Sweet 2010.

a result of unnatural excitement.<sup>322</sup> Then the flag may be raised.<sup>323</sup>

## Birth irregularities

- 46 The **appearance**, behaviour and mentality that is associated with a man and a woman is also the same as that which their **offspring** (*garbha*) has.<sup>324</sup>
- 47 Whenever a woman and a woman have sex together, they release semen on each other. Then a being without bones comes into being.<sup>325</sup>
- 50 **A fetus** (*garbha*) of a deformed shape like a gourd, a scorpion or a snake and others of the same type are known to be often brought about by sin.<sup>326</sup>
- 51 Offspring (*garbha*) that is *vimānitah* by irritation of wind and by preg-

unsolved problem

<sup>322</sup> Dalhaṇa on 3.5.45 (Su 1938: 349) cited the expression नरनारीषण्डौ from the *Carakasamhitā* (Ca4.2.17303, reads -नारि) to establish that women too may have these unnatural excitements.

We have emended the Nepalese verb to the singular, because witness H clearly has शुक्रवहा सिरा “semen-carry vessel” in the singular. Does Ayurvedic anatomy have a single vessel or many? *Carakasamhitā* 3.5.8 (Ca 1941: 250) has a plural, शुक्रवहानां स्रोतसाः. But the *Suśrutasamhitā* 3.9.12 (Su 1938: 3.9.12) has a clear statement that there are two tubess (*srotas*) that carry semen: शुक्रवहे द्वे तयोर्मूलं स्तनौ वृषणौ च “there are two vessels that carry semen. They are rooted in the breasts and the testicles.” The Ayurvedic Man painting has a single शुक्रमार्ग (Dominik Wujastyk 2008: 233, 243). The Jaina *Tandulaveyāliya* lists 10 sperm-carrying vessels (दस सिराओ सुक्रवधारिणीओ, Schubring 1969: 145 ff; Caillat 2019: 5; I am grateful to Jan Gerris for this reference).

<sup>323</sup> On this euphemism, see footnote 316 above.

<sup>324</sup> The vulgate has “food” for the Nepalese version’s आकार “appearance,” and “son” for “offspring.” The Nepalese version seems more perceptive on this point of heredity.

<sup>325</sup> The grammar of the Nepalese and vulgate versions of this verse are quite different. This striking verse has been discussed by several scholars (e.g., Smets 2006: 232–233). The concept of a being born with flesh but no bone and vice versa occurs in *Jaiminīyabrahmāṇa* 1.259 and *Ṣāḍviniśabrahmāṇa* 2.1.1 (Kolhatkar 2005) and later in Purāṇic literature (O’Flaherty 1980).

The Nepalese version of the *Suśrutasamhitā* does not have the following two verses that occur in the vulgate. Dalhaṇa on 3.2.48–48 (Su 1938: 349) said that Jejjāṭa did not read these two verses. Thus, the Nepalese version is the same as Jejjāṭa’s version, as far as this omission is concerned.

<sup>326</sup> The vulgate version of this text says that it is sinful behaviour of women that causes abnormalities. The Nepalese version is quite different, simply attributing deformity to sin and not blaming women specifically.

- nant longing may become hunchbacked, have a shrivelled hand (*kūni*), be lame, mute or have a stutter.<sup>327</sup>
- 52 The newborn may have abnormalities because of the bad behaviour of its mother and father and because of bad actions from the past, by means of the irritation of wind etc.<sup>328</sup>
- 53 The child in the womb does not make wind, urine and feces because it has little impurity and because the wind in the stomach is not functioning.
- 54 The child in the womb does not cry out because the movement of the wind is obstructed since the mouth is covered by the caul and the throat is surrounded by phlegm.
- 55 The inward and outward breathing, movement and sleep that the fetus adopts conform to the inward and outward breathing, movement and sleep of the mother.
- 56 The composition of the body parts, the descent and appearance of the teeth, the absence of hair on the palms all happen by themselves.<sup>329</sup>
- 57 Those cultivated people who in previous embodiments were constantly aware of the scriptures are rich in sattva and have memory of their previous births.<sup>330</sup>

327 The Nepalese version has कूनि while the vulgate reads कुणि. Dalhaṇa on 3.2.51 (Su 1938: 349) felt the need to explain the unusual term, saying कुणिः विकल्पाणिः “having a crippled hand,” but Yādavaśarma Trivikrama Ācārya and N. Śarman (Su 1939: footnote 5) noted a variant विकृतपाणिः, suggesting some instability in the interpretation of this term. Cakrapāṇidatta on 8.2.21 (Su 1939: 690) gave the meaning कुञितकरः “having a hunched hand” (where there is also a variant reading नष्टकरः), cf. *Mahākośa*: 1, 216. The Tamil lexemes *kūṇ* means “bend, curve, hump on the back, humpback” and *kūṇi* means “... become hunchbacked” (DED<sub>2</sub>: #1927). It seems likely that this is a Dravidian word that has been absorbed into Ayurvedic terminology at an early period. Medically speaking, the connection of these conditions with pregnancy might suggest some of the features of Amniotic Band Syndrome.

328 Dalhaṇa on 3.2.52 (Su 1938: 349) took the position that the bad actions were those of the parents, not the child.

329 The text reads शरीराणाम् “of the bodies” that we have translated “of the body parts,” following Dalhaṇa’s interpretation. He also said that “palms” included the soles of the feet.

330 The vulgate text adds a final verse about how the karma of a previous embodiment follows a person to his new life. Witness L adds yet another verse that says the lack of hair on the palms is because they come from the mother, while the areas of the body from the father have much hair.

Here ends the second chapter that is the anatomy.

# Śārīrasthāna 3: On Conception and the Development of the Embryo

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>331</sup> Important subsequent studies of the chapter include those of R. P. Das and of Kritzer.<sup>332</sup>

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<sup>331</sup> HIML: IA, 247–247.

<sup>332</sup> R. P. Das 2003: ch. 8, et passim; Kritzer 2009; 2013; see also the valuable terminological study by Suneson (1991).

## Translation

- 1 Next we shall explain the anatomical chapter on the descent (*avakrānti*) of the embryo.

### Conception

- 3 Semen is of the nature of Soma (*saumya*) and menstrual blood is of the nature of Agni (*āgneya*).<sup>333</sup> Furthermore, in this context there also exists a proximity of the other elements (*bhūta*), by way of a minute special property, because they help one another and they enter into one another.<sup>334</sup>
- 4 In this case, when there is a union of a husband and wife, the wind from the body stimulates the heat (*tejas*). In that case, because of the colligation (*sannipāta*) of fire and wind, the semen that is ejaculated finds its way to the vagina. It is commingled with menstrual blood (*ārtava*), then because of the joining together of Agni and Soma, what is being mingled together arrives in the receptacle of the fetus. He is referred to by names that express synonyms such as, the knower of the field, the sentient, the toucher, the smeller, the seer, the hearer, the taster, the human, the goer, the witness, the creator, the speaker, the one who is, “who is the one that is life at the start?”<sup>335</sup>

333 On the Saumya–Agni classification, see R. P. Das 2003: 521–527; Dominik Wujastyk 2004; Angermeier 2021. The fiery nature of menstrual blood is already stated in 1.14.7 (Su 1938: 59), “...but menstrual blood is of the nature of Agni, because the embryo is of the nature of fire and water.”

334 Dalhaṇa on 3.3.3 (Su 1938: 350) glossed अणुना विशेषण “by way of a minute special property” as सूक्ष्मप्रकारण “in an attenuated manner.” I am grateful to Christèle Barois for drawing attention to the treatment of this topic, and specifically the परस्परोपकार “mutual support” between atoms, by the Buddhist author Śubhagupta (fl. 720–780) Saccone 2015: 126.

Dalhaṇa on 3.3.3 (Su 1938: 350) drew attention to 3.1.21ab (Su 1938: 343) where the idea of this interpenetration (अनुप्रवेश) is mentioned.

335 The last phrase is awkward. It translates यः कोऽसावाच्य आयुरिति, which could be paraphrased, “the one who is the answer to the question ‘who is the one who is life at the outset?’” or “...‘who is that first one who is life?’” The text differs from the vulgate’s यः कोऽसाव इति, that omits आय्य आयुर् (3.3.4 (Su 1938: 350)). Most other early editions print योऽसाविति (e.g., S. M. Gupta 1835–36: v. 1, 320; Su 1889: 313; M. Šarmā

Driven by fate, and impelled by wind, the imperishable, unchanging, inconceivable elemental self (*bhūtātman*) enters into the uterus (*garbhāśaya*) together with sattva, rajas and tamas, gods and demons, and other entities.<sup>336</sup>

- 5 In that context, a predominance of sperm leads to a male, a predominance of menstrual blood leads to a female, and equality of the two leads to a person who is neither male nor female (*napumsaka*).

6ab In that context, there is a twelve-night period that is the season (*ṛtu*).<sup>337</sup>

- 3.3.6.1 †In that context, approaching a woman in season for intercourse during the first day is not conducive to long life (*anāyusya*); a man comes into being.<sup>338</sup> To the extent that the fetus is deposited at that time, because of being expelled it is lost.<sup>339</sup> †

And on the third day, similarly, the body is incomplete and has little duration of life. For that reason, one should avoid the third night. And seed and menses do not develop the proper quality as expected. †Just as an object thrown into a river against the flow does not come back.† Sperm should be seen the same way. Therefore the restricted third night should be avoided. In this context, after seeing the twelve nights of the season, she has no menses.

6cd Some call such women, “having invisible menses.”

3.3.9 And on this:

When the day is over, the lotus inevitably closes. In the same way, when the season is over, the woman’s uterus closes.<sup>340</sup>

<sup>1895–99</sup>: v. 2, 635; C. Bhaṭṭācārya <sup>1908–11</sup>: v. 3, 30. Ghāṇekara (<sup>1936–41</sup>: v. 2, 65) read यः कोऽसावित्य्). No other translators translate this phrase, nor does Ḍalhaṇa gloss it.

<sup>336</sup> In the vulgate, भूतात्मन् “elemental self” is not the subject of the sentence, which then reads less clearly overall.

<sup>337</sup> Slaje (<sup>1995</sup>) clarified the misconception in early Indological scholarship that ऋतु referred to the period of the menses rather than this longer period of menses and ovulation.

<sup>338</sup> This passage appears in the Nepalese version at this point, and is absent from the vulgate version. MS H is the sole witness to the Nepalese version at this point and it is damaged, making the interpretation of this passage difficult. In this sentence, a nominative would read better than the accusative अनायुष्मम्.

<sup>339</sup> In this and the following sentences, parts of witness H are damaged and impossible to read.

<sup>340</sup> The √*kuc* “close, contract” appears in this sense in the *Dhātupāṭha* (1.199 संकोचने) but it is not common in literature. The more common word in this sense would be from √*kuñc* “contract,” although *kuc* is probably the primary IE form (EWA: 1, 361).

- 3.3.7–8 One may know that a woman has her season because she has a full, clear face, a moist body, mouth and teeth, she desires a man, she speaks nicely, and she has relaxed belly, eyes, and hair. Her arms, breasts, loins, navel, thighs, hips and bottom are vibrant and she has the utmost excitement and eagerness.
- 3.3.10 At the right time, what has accumulated over a month and has come via the two pipes (*dhamanī*) is led by wind towards the mouth of uterus.<sup>341</sup> It is slightly dark and smells.<sup>342</sup>
- 3.3.11 From twelve years onwards, blood is present periodically. It ceases after fifty amongst those whose bodies are old and aged.
- 3.3.12 It is declared that there will be a male on even days and a female otherwise. Therefore a clean man who wants descendants should approach the woman at the time of her flower.<sup>343</sup>

## Pregnancy

- 3.3.13 In that context, women who have recently become pregnant experience tiredness, fatigue, thirst, heaviness of the legs, flatulence, clogging of semen and blood, and a rough pulsation of the vagina.
- 3.3.14ab And about this, there is the following:

The sign of a pregnant woman is said to be: both nipples become dark and a row of hair appears, there is nausea and tiredness.

"Given by the grammarians as two distinct roots, not without some justification," Whitney 1885: 19.

341 "Pipes" (धमनी) are defined in the *Suśrutasamhitā* at 3.9.8–11 (Su 1938: 385). This verse was discussed by R. P. Das (2003: 64–66) (see some corrective remarks by C. Vogel (2005).) On the "pipes" and other conduits in the āyurvedic body, see also Dominik Wujastyk 2022: 404–406.

342 The reading of the vulgate text contains the object of the sentence, menses (*ārtava*), explicitly. The commentators take "at the right time" to indicate the onset of menses in a young woman.

343 "Flower" referring to the twelve-day period that has been discussed earlier. Dalhaṇa on 3.3.12 (Su 1938: 352) noted the conflict between the idea presented in passage 5 above and the present idea about odd and even days. He quoted passages by the ancient authorities Videha (see footnote 738) and Bhoja (footnote 29) that squared the circle by asserting that there are greater amounts of semen on even days, and greater amounts of menstrual blood on odd days, etc. See tr. by P. V. Sharma (1999–2001: 2, 143).

- 3.3.16 From that moment onwards, she should not practice intercourse, exertion, excessive dieting, sleeping by day, waking at night, grief, riding in a vehicle, fear, excessive coughing, or therapies like oleation or blood-letting while alone and at the wrong time.<sup>344</sup>

## Fetal development

- 18 In that connection, in the first month, a *kalala* comes into being.<sup>345</sup> In the second, ripening by means of blood, heat and air, a conjunction of the great elements becomes a *ghana*.<sup>346</sup> If it is a *granthi* (*knot*), it is a male; it is a woman if it is a *peśī*; it is a neuter if it is an *arbuda*. In the third, the hands feet and head develop into five bulges (*piṭaka*).<sup>347</sup> And the distinction of the limbs and minor body parts (*pratyāṅga*) is minute. In the fourth, the distinction of the limbs and minor body parts (*pratyāṅga*) become apparent (*pravyakta*). In the fifth, the distinction of the limbs and minor body parts (*pratyāṅga*) become even more apparent (*pravyaktatara*). The element of consciousness (*cetanādhātu*) becomes manifest (*abhivyakta*) because of the fact that the heart of the fetus becomes apparent.<sup>348</sup> How so? Because it (the consciousness) is located there.<sup>349</sup>

344 The vulgate passage 3.3.17, which is not present in the Nepalese version, presents the doctrine that if a part of the pregnant woman's body is assailed by a humour, that same part of the child's body in the womb will be damaged. A similar idea is presented in 3.3.21 below and previously in 3.2.25 (p. 106).

345 On *kalala*, see the useful historical notes by R. P. Das (2003: 535–536), that may suggest a meaning such as “slime.” For a discussion of these terms in Buddhist and other contexts, and further literature references, see Suneson 1991; Agostini 2004; Kritzer 2009; 2013.

346 The word घन in the sense “coagulate, lump” is normally masculine in this sense, but is neuter in the Nepalese version.

347 The word पिटक “bulge” usually means “basket.” Here, perhaps, it suggests a small upside-down basket. MW: 652 cites the word from the *Carakasamhitā* in the sense “blister.” The vulgate normalizes the word to पिण्डक “lump.”

348 The Nepalese version of this passage is interestingly different from the vulgate and, as usual, contains some puzzles.

349 The word कस्मात् “how so?” could, because of sandhi, be read अकस्मात् “for no reason, suddenly.” This would radically change the meaning of the passage: “The element of consciousness suddenly (or “for no reason”) becomes manifest because of the fact

During the fourth month the fetus develops intentionality (*abhiprāya*) with respect to the objects of sense. And the woman starts to have two hearts; she perceives its purposes (*nimitta*).<sup>350</sup> If the dual-hearted nature of the woman is ignored, she will give birth to a hunchback with a withered arm, a man with no semen (*śāṅda*), a dwarf with dysfunctional eyes (*vikṛtākṣa*), or someone eyeless.<sup>351</sup> Therefore she should be given whatever she wants. With her dual-hearted nature being acknowledged, she will give birth to someone heroic and long-lived.

- 19 The physician should gather and give to the pregnant woman whatever objects of sense she wishes to experience, because of the danger of damaging the fetus.
- 20 A woman whose pregnant cravings have been satisfied will give birth to a son full of good qualities. And a woman whose pregnant cravings have not been satisfied causes danger for the fetus or herself.<sup>352</sup>

### **Effects of the mother's experiences on the unborn child**

- 21 When a woman, sharing her heart with the fetus (*dauhṛda*), is slighted in respect of one of the objects of sense, she will bring forth a son who suffers pain in that selfsame sense organ.<sup>353</sup>
- 22 A woman who has a pregnant longing (*dauhṛda*) to see a king gives birth to a son who is wealthy and very fortunate.
- 23 A woman sharing her heart with the fetus (*dauhṛdā*), who is in fine raiment, undergarments, silk and decoration, will produce a charming son who likes ornamentation.

that the heart of the fetus becomes apparent.”

350 The subject of the sentence, “she,” probably refers to the woman, but may refer to the fetus, “it reveals its goals.” It is not clear why the focus of events has jumped back to the fourth month.

351 The term षण्ठ is discussed on p. 110 above.

352 The गर्भ “fetus” could also mean “the womb.” आत्मन् “(danger for) herself” could mean “for the body (of the fetus).”

353 Note the historical and scribal confusions of forms connected with द्वि-हृद् “two-heart” and दोहृद् “pregnant longing” (from two-heartedness with the fetus) as opposed to derivatives of दुर-हृद् “bad-heart,” such as दौर्हृद् “bad-heartedness.” The lexeme दौहृद् “having pregnant longings (from two-heartedness)” is a false Sanskritization of the MIA दोहङ्क, itself < \*द्वैहृद् (Lüders 1940: 46, 183 n. 2). Cf. further notes, parallels and confusions in CDIAL: #6690. The expression “morbid cravings,” appearing in translations and dictionaries, is the result of conflating the two distinct historical forms.

- 24 When she is in an ashram, she gives birth to one who is self-restrained and habituated to virtue.  
 If she gives birth in the presence of an image of a deity, her child is like one who gives joy.<sup>354</sup>  
 If she is within sight of wild species of animals then she gives birth to one who has violent habits.
- 25 The son of a woman who eats Indian monitor lizard has an inclination to sleep and a murderous nature.<sup>355</sup> If she eats the meat of cattle, he is born strong and tolerant of all suffering.
- 26 Because of pregnant craving for buffalo meat, the son is a hero, has red eyes and is hairy.<sup>356</sup>
- 28 Therefore, as regards things that have not yet been mentioned, if a woman concentrates on feminine pregnant cravings she will cause a son to be born who is the same, in terms of body, diet and behaviour.
- 29 What will happen, impelled by the person's karma, recurs repeatedly. In the same way, the effect of fate generates pregnant craving (*dauhṛda*) in her heart.
- 30 In the fifth month, the mind becomes more awakened. In the sixth, the intellect. In the seventh, the body becomes pravyakta (*differentiated*) in all parts. In the eighth month the vital energy (*ojas*) is unstable; one born at that time does not survive.<sup>357</sup>  
 Then, a ritual offering (*bali*) of meat and boiled rice should be given for him as tribute (*bhāgadheya*) because tribute is due to Nairṛta.<sup>358</sup>  
 The birth happens on any of the ninth, tenth, eleventh or twelfth months. If it is different than this, there will be something wrong with him.
- 31 As a matter of fact, the fetal conduit (*garbhāñḍī*) is connected to

354 The reading of the vulgate, पार्षद्- “is like an attendant,” makes better sense than the Nepalese हर्षद्- “one who gives joy.”

355 The noun सुष्पूर, m., “sleepy,” is nominative when it should be accusative (as in the vulgate). Perhaps we have a change of gender as documented for epic Sanskrit by Oberlies 2003: xxxviii–xl, et passim.

356 At this point, The Nepalese version does not include the vulgate's passages on eating boar, deer, and partridge and their consequences for the child.

357 On the concept of ओजस् and its translation as “vital energy,” see R. P. Das 2003: 530–535; Dominik Wujastyk 2003b: xl, et passim.

358 Nairṛta is a demoness who threatens children. In his commentary on this passage, Dalhaṇa cited a passage from the *Kumāratantra* (Su 1938: 353). On this work and its genre, see Filliozat 1937; Bagchi 1941; Dominik Wujastyk 1999: 261–264.

mother's navel that supplies chyle (*rasa*).<sup>359</sup> It supplies his mother's strength (*vīrya*) that comes from the essence (*rasa*) of food.<sup>360</sup> Due to this infusion (*upasneha*), it grows bigger. That causes it to live, even before the differentiation of the limbs has begun, because of the infusion of the criss-crossing ducts (*dhamanī*) that carry chyle (*rasa*) and that from conception onwards run through the whole body.

### The formation of the embryo

- 32 And now, the formation of the embryo.<sup>361</sup>  
 "The head comes into being first of all," says Śaunaka, "because it is the root of it".<sup>362</sup>  
 "Amongst the chief organs of sense, the heart is first," says Kṛtavīrya, "because it is the location of the intellect and the mind".<sup>363</sup>

- 359 In the vulgate text, the umbilical is connected to the mother's नाड़ी not नाभि. Also, the vulgate is explicit that the umbilicus is connected to the fetus's navel.  
 From the contemporary physiological view it is the mother's placenta, not navel, that connects with the umbilical cord. In contemporary usage, a navel can only be a post-delivery anatomical region, and the fluid flowing in the cord is blood, not chyle.
- 360 Or "it supplies the mother's tastes (*rasa*) and strength (*vīrya*) that come from food." The option here is whether the terms रस and वीर्य should be taken in the technical pharmacological sense (रस, वीर्य, विपाक, प्रभाव, see Meulenbeld 1987), or as generic adjectives. Dalhaṇa did not comment on this issue.

- 361 For a parallel discussion in the *Carakasamhitā*, compare 4.6.21 (Ca 1941: 334).  
 362 I.e., the root of the fetus. The तन् in the compound तन्मूलत्वं "the root of it" could refer to the head, and that is indeed the reading of the vulgate text. We take it as picking up the genitive गर्भस्य at the start of this passage.  
 On the medical author (Bhadra)Śaunaka, see HIMAL: IA, 150–152. The Śaunaka who has an opinion about fetal formation appears in the *Carakasamhitā*, here in the *Suśrutasamhitā*, and in the *Bhelasamhitā*. His views in the *Suśrutasamhitā* and the *Bhelasamhitā* concur but differ from the view expressed in the *Carakasamhitā*. In the *Carakasamhitā*, this view about the head is proposed by Kumāraśīrā Bharadvāja (4.6.21 (Ca 1941: 334)).

- 363 The phrase "amongst the chief organs of sense" could be read with the previous phrase about the primacy of the head. MS Kathmandu NAK 5-333 has a dandā before the phrase, suggesting that it is part of Kṛtavīrya's view, but scribal practice gives this low significance. Dalhaṇa does not mention this phrase; Yādavaśarma Trivikrama Ācārya and N. R. Ācārya (Su 1938: 353, note 3) recorded a variant reading देहोन्द्रियाणाम् "amongst the body and the organs of sense."  
 On Kṛtavīrya, see HIMAL: 1A, 370–371; note that the view of the *Suśrutasamhitā* is attributed to Kārkāyana the Bactrian in the *Carakasamhitā* and to Parāśara in the *Bhelasamhitā*.

"It is the navel," says Pārāśarya, "from that, the breath of the embodied person expands".<sup>364</sup>

"It is the hand and foot," says Mārkaṇḍeya, "because they are the root of its motion".<sup>365</sup>

In this context, Subhūtigautama says, "it is the embryo's torso," because of the fact that all the limbs originate from a connection with it.<sup>366</sup>

But this is not correct. The limbs and smaller body parts appear at the same time. Because of the smallness of the embryo at that moment in time they cannot be perceived.<sup>367</sup>

It is like the sprout of a bamboo or the fruit of a mango. Just as in a ripe mango fruit, the fibres, flesh, stone and its core (*majjan*) can be seen separately because of the progression of time, so in the same way, those same things are not perceptible at an early stage (*taruṇa*) because they are so small.<sup>368</sup> It is time that reveals these tiny things such as fibres. In this same way the sprout of the bamboo can be explained.

Thus, although in the early stage of the embryo all the limbs and smaller parts cannot be perceived even though they are present, with the

<sup>364</sup> The reading of the Nepalese version, giving breath as the reason for Pārāśarya's view, is more coherent than the vulgate's version.

On Pārāśarya, see [HIML](#): 1A, 174 et passim. Once again, this person is associated with a different view in the *Bhelasamhitā*. In the *Carakasamhitā*, the navel argument is attributed to Bhadrakāpya.

<sup>365</sup> On Mārkaṇḍeya, see [HIML](#): 1A, 170, 1B: 267 et passim. Mārkaṇḍeya, like Cyavana, is often an archetype of longevity and is cited as such in the Bower manuscript (Hoernle [1893–1912](#): 106–108) and in the alchemical *Rasendramārigala* (*Kakṣapuṭa* 71: कथयामि न सन्देहो मार्कण्डेयेन यत्कृतम्। दीर्घायुःकारकं भूमे रससिद्धे रसायने।). But this archetype does not seem to be at work in the present passage. In the *Carakasamhitā*, this view about the hands and feet is attributed to Badiṣa.

<sup>366</sup> On Subhūtigautama, see [HIML](#): 1A, 158 et passim. His view is not represented in the *Carakasamhitā*.

<sup>367</sup> Note that the vulgate attributes this final summary view to Dhanvantari ([HIML](#): 1A, 247), while the Nepalese version does not. Daḥaṇa apparently did not have this attribution in the text before him, suggesting that it may have been added after the twelfth century. However, in the *Carakasamhitā*, this view is attributed to Dhanvantari. It seems likely that the name Dhanvantari was here added to the *Suśrutasamhitā* because of the passage in the *Carakasamhitā*.

As has been noted in another context, the phrase तत् तु न सम्यक् "But this is not correct," can signal the inclusion of a passage from the *Carakasamhitā* in the vulgate text of the *Suśrutasamhitā* (Wujastyk [2025](#)). It is possible that the present passage entered the *Suśrutasamhitā* under the influence of the *Carakasamhitā* before the ninth century.

<sup>368</sup> The list of a mango's parts parallels the parts of the body.

progression of time they too become clearly manifest.<sup>369</sup> There is no connection between earlier and later time, they say. It is solely because of the smallness that they are not revealed. At the proper time, they become manifest.

- 33 In that context, we shall explain the features present in the body that originate from the father, the mother, chyle, the self, essence (*sattva*), and suitability (*sātmya*).

Thus, the items that originate from the father include the hair, moustache, teeth, nails, body hair, bones, and semen. The soft items that originate from the mother include the muscles, blood, fat, marrow, the heart, the navel, the liver, the spleen, the intestines, and the anus. The items that come from chyle include the build-up of the body, the growth of strength and the preservation and loss of the complexion (*varṇa*). The items that belong to the self include the senses, knowledge, life, happiness and pain. We shall explain the items that are born of essence (*sattva*) later on. The items that come from suitability (*sātmya*) are valour, health, strength, complexion, and intelligence.

- 34 In this context, if milk appears first in her left breast, and if her right flank is larger, and lifts her right thigh first,<sup>370</sup> and if she often has pregnancy cravings regarding objects that have masculine names, and if she only dreams about items like **sacred lotus**, **blue water-lily**, **white water-lily**, **mango** and **hog plum**, that have masculine names, and if she has a glowing face and complexion, then one may say, "She will give birth to a boy." And in the opposite case, a girl. If both her flanks droop, and her abdomen protrudes forwards, and if she has other signs mentioned be-

369 Dalhana on 3.3.32 (Su 1938: 354) cited a passage from the author Bhoja at this point: गर्भे रुणद्धि स्रोतासि रसरक्तवहानि वै । रक्ताज्जरायुर्भवति नाडी चैव रसात्मिका ॥ सा नाडी गर्भमाप्नोति तया गर्भस्य वर्तनम् । यद्यदश्वाति मातास्य भोजनं हि चतुर्विधम् ॥ तस्मादन्नाद्रसीभूतं वीयं त्रेया प्रवर्तते । भागः शरीरं पुष्णाति स्तन्यां भागेन वर्धते ॥ गर्भः पुष्णति भागेन वर्धते च यथाक्रमम् । गर्भं कुल्येव केदारं नाडी प्रीणाति तर्पिता । "The embryo blocks the conduits that carry chyle and blood. From blood comes the placenta and the umbilicus (*nāḍī*) that consists of chyle. That umbilicus goes to the embryo and the embryo is nourished by it. Whatever food the mother eats is of four kinds. From that food, potency, transformed into chyle, proceeds in three ways. One part nourishes the body, one part increases the breast milk, and one part nourishes the embryo, respectively. The umbilicus, being filled up, supplies the embryo, just like an irrigation canal supplies a field." On the author Bhoja, see footnote 29, p. 21; on the four kinds of food, "things drunk, eaten, chewed or licked," see footnote 85, p. 45.

370 Or perhaps, her right thigh is larger or more prominent.

fore, one may know that there will be a child of the third gender (*napum-saka*). If there is a depression in her waist and her belly is like a barrel, she will give birth to twins.

- 35 And there is a verse on this.

Women who are devoted to gods and brahmans, who are pure, who consume a healthy, measured diet, give birth to girls of great virtue. When the opposite is true, the girls are void of virtue.<sup>371</sup>

- 36 The development of the major and minor limbs arises spontaneously. Whatever qualities and faults the major and minor limbs may have should be understood to arise from causes that are the meritss (*dharma*) and demerits of the fetus.

This is the end of the third chapter.

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<sup>371</sup> In MS Kathmandu NAK 5-333, the compounds महारुणा: and निर्गुणा: are f. pl. nom. or f. acc.; the vulgate reads masculine accusatives in both cases, “children of great virtue ...void of virtue”.

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# Śārīrasthāna 4: On the Formation of the Embryo

## Introduction

This chapter opens with sixteen passages that discuss of the seven of skins (*tvac*) and membranes (*kalā*) that form early in the fetus's life.<sup>372</sup> This system of dermal and interstitial membranes (*kalā*) was not known to the *Carakasaṃhitā* as such. Rather, the *Carakasaṃhitā* mentioned six kinds of त्वच् with different names and characteristics. These were classified not according to appearance, as in the *Suśrutasaṃhitā*, but mainly according to the diseases that they supported.<sup>373</sup> The concept of interstitial skins was used in the *Suśrutasaṃhitā* as an explanatory mechanism for the stages of snake envenomation.<sup>374</sup> The *Suśrutasaṃhitā*'s concept of seven skins dominates the narrative of later works.<sup>375</sup>

372 On the system of the कला see *Mahākośa*: 1, 183–184, *Śabdasindhu*: 227–228, Kutumbiah 1962: 6, *HIML*: 1, 247–248 and notes.

373 *Carakasaṃhitā* on 4.7.4 (Ca 1941: 337). This contradiction between the *Carakasaṃhitā* and the *Suśrutasaṃhitā* was discussed by the commentator Cakrapāṇidatta (*idem*).

374 See p. 232.

375 For example, the fourteenth-century *Śārṅgadharasaṃhitā* (1.5.60, Śāstrī 1931: 40) and the sixteenth-century *Bhāvaprakāśa* (1.3.220–222, Brahmaśaṅkaramiśra 1935: 1, 49), which gives seven skins, like the *Suśrutasaṃhitā*, but names and describes them in the manner of the *Carakasaṃhitā*. The *Aṣṭāṅgasaṅgraha* (Śārīrasthāna 5.18, As 1980: 296–297 gives both views.

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002 and, in his notes, citations of the parallel passages in the *Carakasaṃhitā*.<sup>376</sup>

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<sup>376</sup> [HIML](#): IA, 247–249.

## Translation

- 1 Next we shall discuss the anatomical chapter on the analysis of the foetus.
- 3 Fire, and liquid (*soma*), air, sattva, rajas, and tamas, the five senses, the elemental self (*bhūtātman*), and the mind are the life principles (*prāṇa*).<sup>377</sup>

### The seven skins

- 4 You see, sperm and menstrual blood, maturing, get seven skins (*tvac*), for it is like the skins (*santānika*) on heated milk.<sup>378</sup> The first of these, called “Shining (*avabhāśinī*),” makes all colours shine and makes visible five kinds of complexion (*chāyā*). It is the size of one-eighteenth part of a rice grain.<sup>379</sup>

<sup>377</sup> प्राण is here used to refer to all the components of a living being, not merely the five breaths. On this passage, and its concept of multiple प्राण, see Klebanov 2021a: §3.2.3. On the early history of प्राण, see Zysk 1993; 2007. On the expression अग्नीषोम, “fire and liquid,” see Dominik Wujastyk 2004; Angermeier 2021.

The word “mind (*manas*)” is present in the Nepalese version, but not in the vulgate text. The commentator Gayadāsa (fl. ca. 1000) discussed this term, confirming that the word was present in the *Suśrutasaṃhitā* text available to him, and he noted that his predecessor Jejjāṭa did not think this was proper (MS Cambridge Add.2491, f. 33r):

जडस्तु भूतात्मशब्देन न मनोऽभिघर्ते। मनोग्रहणं नाधीयते। तत्र भूतात्ममनसोर्वक्तमेदात्।

But Jejjāṭa does not intend “mind” by the term “elemental self.” The mention of the word “mind” is not taught there. That is because there is an obvious difference between the elemental self and the mind.

This suggests that the word *manas* was present in the earliest *Suśrutasaṃhitā* but was dropped as a result of Jejjāṭa’s objection (that then influenced Candraṭa’s revision).

<sup>378</sup> If we take शुकशोणितस्याभिपच्यमानस्य as a genitive absolute, we could read this statement as “even though [the admixture of] sperm and menstrual blood is forming, seven skins come into existence, like the skins on milk.”

The following characterization of these skins is longer in the vulgate text because it imports the concept of “foundations (*adhiṣṭhāna*).” This concept of skins as “foundations” is present in the *Carakasaṃhitā* account of six skins, which are described as being the foundations of various illnesses. See pp. 220, 127. It seems likely that the vulgate here has been supplemented with material from the *Carakasaṃhitā*.

<sup>379</sup> Dalhaṇa on 3.4.4 (Su 1938: 350) interpreted ब्रीहि “grain of rice” as being a barley corn (a standard unit of measurement).



Figure 4: The *Vṛīhimukha* instrument, as illustrated in *Su 1938*: 37.

The second is called “Red (*lohitā*),” the size of one-sixteenth.  
 The third is “White (*śvetā*),” the size of one-twelfth.  
 The fourth is “Coppery (*tāmra*),” one-eighth in size.  
 The fifth is named “Feeling (*vedanī*),” one-fifth in size.  
 The sixth is named “Scarlet (*rohiṇī*),” the size of one rice grain.  
 The seventh is named “Semen-supporter (*śukradhara*),” the size of two rice grains.  
 Since it will be said, in the chapter about the belly,

Using the rice-tip instrument (*vṛīhimukha*), one penetrates the measure of the thickness of a thumb or a finger’s breadth (*aṅgula*).<sup>380</sup>

### The seven membranes

- 5 You see, the seven membranes (*kalā*) also arise, which are the boundaries between the tissues (*dhātu*) and inner receptacles (*āśaya*).

<sup>380</sup> This sentence is cited from 4.14.18 (*Su 1938*: 461) in the chapter calle *Udarāṇī cikitsitam* “On the therapy of the abdominal ailments.” The measure अङ्गुष्ठादरप्रमाण “the size of the belly of a thumb” is विशतितमभागोनषड्यवप्रमाणम् “one twentieth less than six barleycorns” ( $5\frac{19}{20}$ ) according to Dalhaṇa on 4.4.4 (*Su 1938*: 355). Cf. *Mahākośa*: 10. The procedure described is the puncturing the abdomen and the insertion of a tube to release an abnormal buildup of fluid (ascites); it is today called paracentesis. The citation from the *Cikitsāsthāna* about piercing for ascites illustrates that the sum of the thicknesses of the above-mentioned layers corresponds to the thickness of the belly that has to be pierced.

The “rice-tip” instrument is one of the surgical knives described in *Suśrutasamhitā* 1.8 (*Su 1938*: 35–41), tr. Dominik Wujastyk *2003b*: 83–86; see Mukhopādhyāya 1913: 1, 257–261. See Fig. 4 and the artists’ reconstructions at Mukhopādhyāya 1913: 2, plate LXXI.

6 There are two verses.

*Just as one sees the core (sāra) when wood is being cut, in the same way, one sees tissue (dhātu) when flesh is being cut.<sup>381</sup>*

7 *And experts know that the membrane (kalā) parts are hidden by sinews (snāyu) and covered by amnion (jarāyu) and also surrounded by mucus (ślesman).*

8 The first of these is called “flesh-support (*māṃsadharā*).” From it arise ever new ramifications (*pratāna*) in the flesh: ducts (*sirā*), sinews (*snāyu*), pipes (*dhamanī*), and tubes (*srotas*).<sup>382</sup>

9 On this there is the following:

*Conduits such as the ducts grow in the flesh just like lotus roots located in muddy water grow in all directions in the ground.*

10 The second one is called “blood-support (*raktadharā*).” It is inside the flesh. From it arises blood, particularly in the ducts (*sirā*) and in the liver and spleen.

11 On this there is the following:

*Just as milky sap of a sappy tree can flow from a tree that has been cut, in the same way blood issues rapidly from injured flesh.*

12 The third one is called named fat-support (*medodharā*). You see, all beings have fat in the abdomen and also marrow inside the large bones.<sup>383</sup>

13 And there is a verse on this:

381 सार may here mean “pith,” i.e., the woody core of a tree.

382 On these different conduits, see Rāy, H. N. Gupta, and M. Roy 1980: 26–28; Dominik Wujastyk 2003b: xlvi–xlvii; 2022: 404–406 and the descriptions by S.. N. Dasgupta (1952b: 2, 344–352). The translation “pipe” for धमनी (from the √धम् “blow”) is intended to suggest the primary function of transporting air; “vessel” would be an alternative translation. Adhyāyas 7 and 8 of the Śārīrasthāna describe the सिरा and adhyāya 9 the धमनी, with the स्रोतस् being described at the end of chapter 9.

383 This view differs from that of the vulgate and Dalhaṇa who saw fat in smaller bones and marrow in larger ones.

*Marrow is located especially inside in the thick bones. Whereas, in all others, fat is said to occur together with blood.*<sup>384</sup>

- 14 The fourth one is called phlegm-support (*ślesmadharā*), which is present in all the joints of all living beings.
- 15 There is a verse on this:

*Just as a wheel rotates smoothly on a lubricated axle, so the joints move smoothly when combined with phlegm.*

- 16 The fifth one, which is called the feces-support (*puriṣadharā*), supports the four kinds of food that have descended from the stomach into the colon (*pakvāśaya*). Being located in the colon, it divides up the abdominal cavity (*koṣṭha*).

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<sup>384</sup> The vulgate text adds half a verse here introducing *vasā* as a type of fat that is specifically present in “pure flesh.” It seems that the Nepalese version does not use the term fat (*vasā*) at this point. Dalhaṇa on 3.4.13 (Su 1938: 356) called *vasā* a subsidiary tissue (*upadhātu*). The term occurs more frequently in the *Carakasamhitā*; in the *Suśrutasamhitā*, it normally refers to the fat of animals that live in wet, marshy environments.

- 17 And the liver is continuous with the stomach as well as with Draft tr. from here the entrails .... (*samāśritāḥ*). The holder of faeces layer helps separate the stomach and the feces.
- 18 The sixth one is called *pittadharā* - holder of bile, which digests the four types of ingested food: eaten, drunk, chewed, and licked.
- 19 There is a saying : whatever is eaten, chewed, drunk, or licked and is entering the stomach, gets digested by the power of bile at the proper time.
- 20 The seventh one is called *śukradharā* - holder of semen, which is pervading the entire body of all living beings.
- 21 And there is another saying. Just as ghee is present in milk and molasses in sugarcane juice, that way semen (is present) throughout the bodies of men, as the wise physician would know.
- 22 From a place, (located) two fingers to the right of the bladder outlet, the urine vessel, a man's sperm flows.
- 23
- 24 The courses of the channels of the menstrual flow of those who have obtained embryos (= who have become pregnant) are blocked by the embryo. But because of this no menstruation is visible in pregnant women. Then, that, whose downward movement is obstructed, whose upper part (is) accumulating above, is released into the abdomen. And the remainder begins its movement upward into the breasts. Hence, pregnant women are showing swollen, protruding breasts.
- 25 The liver and spleen both originate from blood. The lungs arise from the froth of blood. The *unduka* (a gland)/stomach ( ?) arises from blood waste.
- 26 There are other sayings : The refined essence of blood and also of phlegm, which is considered superior, when that is being digested by bile, and is also being chased by wind, ? (*anudhāvati*).
- 27 From that his entrails arise in the rectum and the bladder (arises) in the body. There, while being churned and heated, it becomes painful.

- 28 In a living being the tongue arises by which tastes is perceived.
- 29
- 30
- 31 The heart, originating from the essence of blood and phlegm. That which is truly the base, (namely) the arteries that carry prāṇa is said to be especially the seat of consciousness. (OR : That upon which the prāṇa-carrying arteries depend is especially said to be the seat of consciousness.) When enveloped by this inertia, all living beings fall into sleep.
- 32
- 33 However, they declare sleep to be Viṣṇu-like, sinless. It naturally affects all beings. When tamas-dominated phlegm occupies the channels of cognition, that is called Tāmasī Nidrā, which leads to unconsciousness - found at times of dissolution and during dark nights in tamas-predominant individuals. Furthermore, the channels that carry consciousness are (like) torrents of excessive tamas, kapha takes hold. At such moments, the sleep called tāmasic arises - unconscious. It occurs at the time of cosmic dissolution and during nights and days of excesses of tamas. The type called rajobhūyisthā (is) of those who are predominantly sattvic due to some external cause, around midnight, when kapha is diminished (and) vāta is predominant, and also due to mental agitation. It is known as Vaikārikī (psychogenic sleep).
- 34 As it is said. The heart (is) declared the seat of consciousness of embodied beings, o Suśruta. Furthermore, when overpowered by such tamas, sleep enters the body.
- 35 Tamas is the cause of sleep, sattva is said to be the cause of being awake. As expected , one's own natural disposition natural (sleep) is indeed declared the most prominent cause.
- 36 But the embodied self, (who is) the Lord, sleeps, experiencing again what was felt in former bodies. With a mind joined with rajas, it grasps experiences that are both auspicious and inauspicious.
- 37 But when dysfunction of the senses (occurs), due to tamas,

- (it) becomes active. Even though the embodied self is not (truly) asleep, it is said: (it is) asleep.
- 38 And daytime sleep is prohibited in all seasons, except in summer. In cases that are prohibited but exceptions may apply, it still remains prohibited for children , the elderly, the wounded, the weakened, alcohol consumers, and those who are exhausted due to women/sexual activity, travel, riding vehicles, walking, or physical labour. They praise a moment (of quick sleep) of those who are fasting, and in whom fat, vāta, kapha, and rasa have been diminished. Indeed, even for those who have remained awake at night, one should sleep during the day for half the time spent awake. Now, there is a disorder called ‘daytime sleep’. In that context), for those who sleep during the day, it is considered contrary to natural law, and it causes aggravation of all the dosas. Furthermore due to that aggravation, there are/one develops cough, cold, heaviness in the head, body aches, loss of appetite, and weakness of the digestive fire. Indeed even at night, in those who stay awake, those very dosas arise due to that cause.
- 39 And there are more verses. Therefore, one should not stay awake at night and nor should one avoid sleep during the day. Knowing that these two (daytime sleep and night-time wakefulness) cause dosa imbalances, the wise person should go to sleep in moderation.
- 40 Indeed a healthy person is cheerful, endowed with great strength and a radiant complexion. A man (who is neither too fat nor too thin, and who is endowed with grace/charm, may live a hundred years.
- 56 !  
(  
41 )
- Fainting is generally predominantly caused by pitta; dizziness or vertigo arises from a combination of rajas, pitta, and vāta. Drowsiness is caused by tamas, vāta, and kapha; sleep arises from kapha and tamas.
- 42 Insomnia arises from vāta, pitta, mental agitation, depletion, and trauma; it subsides through appropriate

opposing therapies.

- 43 In insomnia oil massage of the head, body rubs, powder massage of the body and gentle stroking massages are beneficial.
- 44 With meals consisting of preparations made from ground rice and wheat flour, prepared with sugarcane products; meals that are sweet, unctuous and enriched with milk, meat broths, and similar nourishing items.
- 45 At night, it would be appropriate to apply a diet with broths of burrowing animals and birds that scatter grain, as well as products with grapes, of white sugar and sugarcane preparations.
- 46 One should arrange soft and pleasing beds and seats. In case of sleeplessness ; however , the wise person should also employ other appropriate measures.
- 47 In the case of excessive sleep, emesis and other purificatory measures are beneficial Fasting), bloodletting, and inducing mental agitation are also (appropriate).
- 48 For those afflicted by kapha, fat, or toxins staying awake at night is beneficial. Daytime sleep, on the other hand, is beneficial for those suffering from intense colic, hiccup, indigestion, or diarrhoea.
- 49 Lack of awareness in the sense objects, yawning, heaviness, and fatigue -if these symptoms appear in someone/in such case, one should diagnose that as drowsiness, which arises from an affliction of sleep.
- 50
- 51
- 52
- 53
- 54
- 55
- 56 see 41
- 57 Indeed, the growth of the foetus is due to the essence, the qualities, and the self-nature; it also essentially depends on timely and appropriate nourishment.
- 58
- 59

- 60 As it is said: And sight and hair pores never grow. These are fixed for mortals - thus is the opinion of Dhanvantari.
- 61 Even when the body is declining), these two always grow - regarding as their nature and constitution thus: nails and hair- such is the fact.
- 62 There are three basic constitutions: wind, bile, and phlegm.
- 63 However, when there is an intense defect in the union of semen and menstrual blood, the constitution takes origin because of that; now hear from me the characteristics of these.
- 64 (Their characteristics are as follows): In that case, the vāta constitution is wakeful, dislikes cold, is unfortunate, and because of that ignoble, afflicted with head diseases/headaches and impaired vision; with cracked hands and feet, dry and scanty hair/baldness, sparse beard, quick-tempered, a tooth-gnasher, weak in strength, and short-lived.
- 65 He is unsteady, with unstable friendships, ungrateful, thin and rough, with prominent veins, and talkative; quick in movement, noisy, (with the mind) in the air, and while asleep, he moves in confusion.
- 66 Unstable in intellect, restless in mind, having little in the way of teeth, wealth, possessions, and friends; he speaks only scarcely and incoherently- this (is) a man of vāta constitution.
- 67
- 68 The pitta-natured person, however, is sweating, tolerant of cold, foul-smelling, yellow (in complexion), or dark; having loose limbs, copper-coloured nails, eyes, palate/uvula?, tongue, lips , soles, palms, and palate; unfortunate, with wrinkles and early grey hair, of loose bowels, with much hunger but hating much heat, quick to anger, quick to be pleased, and has a medium lifespan.
- 69 Intelligent, with a skilled mind, a restrained speaker, radiant in assemblies, and possessing irresistible power; when asleep, he would behold the golden filaments of the palāśa blossom and even the lightning-flash of fire.

- 70 He should not bow to others out of fear, but be gentle to those who bow to him; and if he shows no liking for friendly courtesies to those who bow, then here in this world he will always have agitated speech, for his nature in this world will be one produced by pitta.
- 71 A person of phlegmatic constitution is characterized by a complexion resembling dūrvā grass, vedi, sword blade, moist clay, arīṣṭa wood, sugarcane (or reed) stalk -any one of these shades. Such a person is fortunate, pleasant to look at, and fond of sweet things. He is grateful, steadfast, patient, not greedy, strong, deliberate in grasping things, firm in enmity(, and long-lived.
- 73 He has a smooth, unctuous body; a firm, well-proportioned, and beautiful frame; he is endowed with prosperity; his voice (resembles the deep sound of) a cloud, a drum, or a lion. When asleep, he may see in dreams lotuses, swans, and ruddy geese, and also delightful bodies of water.
- 74
- 75 A person of kapha constitution has a firm grasp 0of the sciences, a stable mind friendship, and after long consideration gives much (in gifts). His speech and words are well-finished and deliberate and he is always showing respect to his teachers.
- 76
- 77 When, in a person's constitution, the characteristics of two dosas are seen, that should be recognized as a combined constitution. There are three kinds- [those involving] the accumulations (of two dosas).
- 78 No aggravation, alteration, or depletion arises from other causes; rather, by the very nature of their constitutions), they know the end of life is known.
- 79 Just as a worm born in poison is not harmed by the poison, in the same way, the body is not afflicted by its own constitution because it was born from it.
- 80 Here, some say that the material nature of men is threefold, described in terms of wind, fire, and water. If a man's body is steady and large, he is (of) the earth-nature, patient in disposition. And one of the ether element is

- pure and long-lived - so declare the great authorities.
- 81 Purity, faith, study in the Vedas, reverence for the teacher, hospitality, and sacrificial worship - these are the characteristics of one belonging to the « brahma-body ».
- 82 Valour, authority, great fortune, perpetual knowledge of the scriptures, and the maintenance of servants - these truly are the bodily marks of one of Indra-like nature).
- 83 Patience, fondness for cold, a tawny/brownish complexion, blond, having yellow/tawny hair, and fondness for water - these are likewise the bodily marks of a of Varuṇa-nature.
- 84 Neutrality, patience, the acquisition and accumulation of wealth, and great productive power - these are the bodily marks of one of Kubera-nature.
- 85 Fondness for perfumes and garlands and love for dance and music, and a habit of amusement- these are indeed the bodily marks of a Gandharva-nature.
- 86 One who fulfills undertakings, is firm in effort , steadfast, endowed with memory, pure, free from attachment, aversion, fear, and ignorance - such a person possesses the nature of Yama.
- 87 Let men know (that) the man engaged in chanting the vow of celibacy, performing fire rituals and study endowed with knowledge and wisdom, possessing the nature of a sage.
- 88 These seven are the pure bodies the passionate ones, know for me: the powerful, the fierce, the brave , the cruel, and the non-envious.
- 89 But eating alone, being conditioned and of an asuric nature, is of this sort of character: exclusive adherence (to one's own view), cruelty, envy, and speech of unrighteousness.
- 90 cf. infra
- 91 cf. infra
- 92 Excessive self-praise is also ca api a bodily characteristic of the rāksasa nature; likewise, disregard for proper conduct, harshness, and fondness for violence.
- 93 Lust for women, shamelessness- a demonic collection of qualities, harshness, restlessness through toil, quickness to anger, and cowardliness.
- 90 (cf.supra?)

(A man) given to pleasure and food, fickle, and of snake-like nature - they consider such a man to be ungenerous, lazy, of bad character, and untrustworthy.

- 94 They consider a greedy and ungenerous man to have the nature of a ghost.
- 91 (cf. supra?)  
 One whose desires are awakened, or who avoids enjoyment, who constantly eats, and who indeed (is) intolerant, has no fixed abode- this is called a bird-like nature. These six are Rājasic traits; but now learn from me about the Tamas-type.
- 95 Poor understanding, slowness, excessive sleep, habitual indulgence in sex, incapacity (to take an initiative), and sorrows - these are to be recognized as beastly qualities.
- 96 Instability, foolishness, cowardice, fondness for water, and mutual jostling - these are qualities entirely fish-like in nature.
- 97 Lacking spirit and strength of limb, devoted solely to food, without cherished aims or desires - that would be a man with the nature of a tree).
- 98 Thus these threefold constitutions, beginning with the rājasic and subsequently as discussed, have been described. Having recognized one's bodily constitution, one should act accordingly, so it is said.
- 99 Thus ends the Śārīra, the fourth chapter.

# Śārīrasthāna 9: An Analysis of the Pipes

## Introduction

Ancient Indian physicians and surgeons were aware of the network of vessels and tendons in the body and they debated their appearance and functions. There are a number of different Sanskrit names for these vessels, such as *sirā*, *dhamanī*, *srotas*, *nādī*, *snāyu*, and *kandarū*, and these terms pose a challenge to the translator. Descriptions of the first four characterize hollow tubes, and other translators have used “vein” and “artery” for at least two of them. But the heart was not thought of as a pump in the Ayurvedic view of the body, nor did ancient Indian physicians think that the blood circulated in the post-Harveian sense. Blood moved outwards radially from the centre of the body, like water from a water-tank irrigating fields. There was certainly no concept of a contrast between venous and arterial circulation, and several of these vessels are most commonly seen as being rooted in the navel, not the heart. So it seems best not to mis-read history and assign provocatively modern names to these vessels.

There is also the interesting question of what it is that was actually considered to be flowing in these vessels. The *sirā* vessels most often carry blood, and “blood-letting” is often called “piercing the *sirās*.” The *dhamanī* vessels most often conduct wind (Skt. *dhām*, “blow”), an idea strongly reminiscent of the classical Greek doctrine of Praxagoras of Cos (fl. ca. 300 BCE), whose *pneuma*-carrying arteries started in the heart and spread out into tubular *neura* that dwindled into nerves.<sup>385</sup> But all the Ayurvedic vessels seem also to transport other substances, including

<sup>385</sup> Steckerl 1958: 17–19, 49–53; Phillips 1973: 137; Walshe 2016: 137–159 et passim.

humours, waste products, sensations, and perceptions.<sup>386</sup> In āyurveda (as opposed to tantra or yoga), the *nādī* vessels are primarily discussed as the locus of the pulse, though what it is that pulses is not made explicit. In one case Vāgbhaṭa used *nādī* to refer to the windpipe. Faced with the word *snāyu*, one is virtually obliged to use its English cognate term “sinew.” But the *snāyus* seem sometimes to refer to what are today called nerves rather than to sinews or tendons, and indeed this is the primary meaning of the cognate term that has evolved in several contemporary Indian languages. The word *kandarā* more unambiguously refers to tendons.

### Terminology

I have chosen to use neutral terms like “pipe,” “tube,” “duct,” and “sinew” to translate some of the above terms, thus retaining the original distinctions but avoiding an inappropriate and a-historical identification with the anatomical distinctions developed especially since the discoveries of William Harvey (1578–1657).

Adhyāyas 7 and 8 of the *Śārīrasthāna* described the *sirās* and adhyāya 9 describes the *dhamanīs*, with the *srotas* being described at the end of chapter 9.

### Fluids and Their Conduits

The types of fluid in the āyurvedic body include blood (*rakta*), milk, semen, breath (*prāṇa*), the juice of digested food (*rasa*), and the humours wind (*vāta*), bile (*pitta*), and phlegm (*kapha*).

These fluids are transported from place to place by three principle types of conduit: ducts (*sirā*), pipes (*dhamanī*), and tubes (*srotas*) described above. Given the importance of this system of fluid distribution to the Āyurvedic physiology, surprisingly little work has been done on clarifying what these conduits do, and how they are explained in āyurvedic theory.<sup>387</sup>

This lack of interest in the fluid mechanics of the anatomy is not new. Early Chinese and Japanese medical books abound in diagrams of the body

<sup>386</sup> S. Dasgupta (1952–61: 344–52) provided a clear account of this topic.

<sup>387</sup> Exceptions include **kutu-anci**S. Dasgupta 1952–61: ii.13.

carrying lines illustrating channels of *chi*, but no Indian book or manuscript to my knowledge shows maps of the medical ducts, pipes, or tubes. In fact, medical illustration does not become established as a tradition in India until relatively recently, only getting underway seriously with the production of Sanskrit and vernacular medical printed texts in the second half of the nineteenth century.<sup>388</sup> And that initiative too, being inspired and influenced by Western anatomy, ignores the traditional conduits of the āyurvedic body.<sup>389</sup>

### Ducts (*sirā*)

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

As a garden or a field is irrigated by water-carrying canals, and each part receives nourishment, so the ducts provide nutrition to the body by means of their contraction and dilation. Their branches are just like the veins on a leaf.

A point of special interest is that the ducts are coloured according to what they carry: those carrying wind are yellowish brown (*aruna*), those carrying bile are dark blue, those carrying phlegm are white, and those carrying blood are red (Su.śā.7.18). It seems likely that these distinctions are based on the observation of different-coloured vessels under the surface of the skin. In yet another simile, Suśruta likens the distribution of these ducts from the umbilical centre through the body to the spokes radiating from the centre of a wheel (Su.śā.7.7).

### Pipes (*dhamani*)

There are said to be twenty-four pipes in the body (Su.śā.9). Like the ducts, they originate in the navel. From there, ten go up, ten down, and four sideways.

Those which go up from the navel support the body by carrying particular items (*vिशेषा*) such as sound, touch, vision, taste, smell, out-breath

<sup>388</sup> **wuja-body**.

<sup>389</sup> Birch 2024; Lust 2018.

(*praśvāsa*), in-breath (*ucchvāsa*), yawning, sneezing, laughter, speech, crying, etc. These ten pipes go from the navel to the heart and there each one divides into three branches, thus producing thirty pipes. Ten of these are devoted to carrying the humours, wind, bile, and phlegm, as well as blood and nutritive fluid (two pipes for each substance). Eight more carry sense impressions: sound, form, taste, and smell (again, two pipes each). Two pipes are used for speech (*bhāṣā*), two for making sound (*ghoṣa*), two for sleeping, and two more for waking up. Two pipes carry tears. Two pipes connected to the breasts carry women's breast-milk; curiously, in men the same two pipes are said to carry semen from the breasts.

Those pipes which go down from the navel carry substances such as wind, urine, faeces, semen, and menstrual blood.

At this point things become a little complicated. On reaching the receptacle of bile the pipes separate out the nutritive juice which has resulted from digestion and carry it as refreshment to the whole body, also supplying it to the upper and horizontal pipes. They fill the receptacle of nutritive juice. And they separate out the three principle impurities: urine, faeces, and sweat.

In between the receptacles of raw and digested food, the pipes divide into three branches, as before. The first ten pipes have the same functions as the first ten upward pipes. The next two carry food to the intestines, and another two carry water. Two carry urine to the bladder. Two generate and transport semen, and two make it ejaculate. In women, the same four pipes carry and discharge menstrual blood. Two pipes are connected to the intestines and function in defecation. The remaining eight pipes supply sweat to the horizontal pipes.

The four pipes which run sideways are said to subdivide hundreds of thousands of times, holding the body together in a network. Their ends are connected to the hair follicles, and through these sweat is carried out and nutritive juice is carried in. This is how massage oils, showers, and ointments can move through the skin and affect the body internally. They are also the means by which pleasant and unpleasant sensations of touch are experienced.

### Tubes (*srotas*)

According to the *Suśrutasamhitā*, there are initially twenty-two tubes in the body, two for each of eleven substances.<sup>390</sup> Two of the tubes (*srotas*) carry breath (*prāṇa*), and are joined to the heart and the pipes (*dhamanī*) which carry nutritive juice. Two more carry food, and are joined to the food-carrying pipes and the stomach. Two carry water and are joined to the palate and the lung (*kloman*). Two carry nutritive juice and are joined to the same places as those carrying breath. Two carry blood, and are joined to the liver, the spleen, and the pipes which carry blood. Two carry flesh, and are joined to the ligaments, skin, and pipes which carry blood. Two carry fat and are joined to the waist (*kaṭī*) and the kidneys. Two carry urine and are joined to the bladder and penis. Two carry faeces and are joined to the receptacle of digested food and the rectum. Two carry semen and are joined to the breasts and testicles. Two carry menstrual blood and are joined to the womb and the pipes which carry menstrual blood. (There is no suggestion that these last pairs are specific to either gender.)

The *Carakasamhitā* adds three more categories of tube: two carrying bone, two carrying marrow (completing the set of seven basic body elements (*dhatu*)), and two carrying sweat. It omits menstrual blood. The *Carakasamhitā*'s description of the various roots of the tubes is different in small details from the *Suśrutasamhitā*'s, and it also asserts that the humours wind, bile, and phlegm are carried in them indiscriminately and all over the body.<sup>391</sup>

Like the horizontal pipes, the tubes in the body divide and subdivide into innumerable tiny branches.

In contrast to the ducts and pipes, the description of these tubes is embedded in a discourse of injury, and the symptoms arising from damage to them are listed.

The *Suśrutasamhitā* recorded the existence of an ancient disagreement amongst physicians as to whether the pipes, ducts and tubes are really separate types of vessel, and in particular whether there is a significant difference between pipes (*dhamanī*) and tubes (*srotas*). He argues that there is indeed a difference between these three types of vessel: they look different, have different connections, and different functions. The authoritative tradition of medical science also asserts their difference. It is merely because

<sup>390</sup> Su.śā.9.12–13; cf. Ca.vi.5.

<sup>391</sup> Ca.vi.5.

of their close proximity, similarity, and small size that they are conflated. The *Carakasaṃhitā* also testified to contemporary debates about the nature of these vessels; it recorded—and rejected—an extreme view that the human body consists only of a conglomeration of tubes.

*Conduits such as the ducts grow in the flesh just like lotus roots located in muddy water grow in all directions in the ground.*

From the heart it enters the twenty-four pipes (*dhamanī*). Ten go up, ten go down, and four are horizontal. Then, through an invisible agency, it nourishes the whole body, day in, day out, making it grow, holding it up, and making it go. One can mark its passage as it courses through the body by inference based on whether diseases are caused by diminution or by superfluity. This nutritive juice (*rasa*) courses through all parts of the body, through the humours, body tissues, impurities, and organs.<sup>392</sup>

## Literature

Meulenbeld (HIML: 1A, 258–259) summarized this chapter of the *Suśrutasamhitā* and documented the relevant research literature to 2002. On these different conduits, see further Kutumbiah 1962: 23–29 and diagrams; Rāy, H. N. Gupta, and M. Roy 1980: 26–28; Dominik Wujastyk 2003b: xlvi–xlvii; 2022: 404–406 and the admirably clear description by S.. N. Dasgupta (1952b: 2, 344–352).

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<sup>392</sup> 1.14

## Translation

- 1 Next, we shall discuss the analysis of the pipes (*dhamanī*).
  - 3 There are twenty-four pipes. And they originate from the navel. Regarding that, some teachers have said that there is no difference between ducts (*sirā*), pipes (*dhamanī*) and tubes (*srotas*), because pipes and tubes are just types of duct. But here, it is said that that is not correct. Pipes, tubes and ducts are quite different. Why? Because of the difference in their colours, in their connections to their roots, because of their divergent functions, and because of traditional doctrine. Their distinct functions only appear to have no functional difference because of the close proximity of their mutual ramifications, the similarity of their functions, and their smallness.
  - 4 Those vessels originate in the navel, you see. Ten of them go up, ten go down, and four go horizontally.
  - 5 You see, the ones that go up support the body, conveying particular things like sound, touch, visible form, taste, smell, exhalation, inhalation, vision, sneezing, yawning, laughter, speaking, crying and so on. But when they near the heart, they become three by three. There are thirty. Ten of them carry two each of wind, bile, phlegm, blood and chyle. He grasps sound, touch visual form, taste and smell by means of eight. He speaks by means of two; he makes sound by means of two.<sup>393</sup> By means of two, he sleeps, by means of two he wakes up. Two carry blood; two connected to the breasts carry womens' breastmilk.<sup>394</sup> Two carry the semen of a man from the two breasts.
- Thus, these thirty, counting their subdivisions, have been described. They hold up and sustain the parts above the navel, i.e., the belly, flanks and back, the shoulders, neck head and arms.<sup>395</sup>
- 11 And there is a verse about this:

*The five primary elements (adhibhūta), becoming five, bring into existence the five senses in five ways. After bringing the five senses*

393 Ḑalhaṇa on 3.9.5 (Su 1938: 384) described “making a sound” as the production of an indistinct sound, as opposed to fully-articulated speech.

394 अ॒रु “blood” can also mean tears, and this is the interpretation of the vulgate. But the anatomy of women’s milk and menstruation suggests “blood.” Ḑalhaṇa did not comment.

395 The sequence of next passages in the Nepalese version differs from the vulgate. The vulgate’s passage no. 6 is not present in the Nepalese version.

*into existence in five ways, they dissolve into five items at the time of death.*

- 7 The ones that go downwards convey wind, urine, feces, semen and menstrual blood. They arrive at the gall bladder (*pittāśaya*). Then, separating out the essence of food and drink that is located there and has been matured by heat, they provide nourishment to those that go upwards and to the ones that go sideways, and they fill up the locations of the chyle (*rasa*).<sup>396</sup>

Every pair of these carry wind, bile, phlem and chyle.<sup>397</sup> There are ten of these. Two of them convey food. Attached to the intestines, two water-carrying ones each connect to the urinary bladder. And two are for making semen appear. In this manner, two of them carry blood. For women, two of them are defined as being for menstrual fluid. Two are connected to the large intestine for expelling feces. Another eight horizontal ones deliver sweat.

These are the thirty divisions that have been explained. They support these items below the navel: the intestine, waist (*kaṭī*), urine, bladder, anus, penis and thighs.

- 8 And there is a verse on this:

*The downward-moving ones perform all these functions completely.  
Now I shall accurately explain the horizontal-moving ones, with their function.*

- 9 Each one of the four horizontal-moving ones is split one hundred times and a thousand times. And these are innumerable. They bind and stretch this lattice-like (*gavūksita*) aperture body. Their apertures are connected to the pores, and through them sweat flows and chyle (*rasa*) provides nourishment.

- 9.add And there are two verses on this:

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396 Dalhaṇa on 3.9.7 (Su 1938: 385) glossed “the locations of the रस as “the heart.”

397 Or “The fluids wind, bile and phlegm.”

## **Part 4. Cikitsāsthāna**



# Cikitsāsthāna 4: On the Treatment of Wind Diseases

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>398</sup>

## Translation

- 1 Now we shall describe the treatment of wind diseases.  
weight
- 3 When the wind enters the stomach, one should sequentially give to the patient, **who has vomited**, the formulation (*yoga*) with six-units (*sad-dharāṇa*), together with tepid water, for seven nights.<sup>399</sup>

398 HML: IA, 265–266.

399 The vulgate has the reading छद्यित्वा which means “after making [him] vomit”. Thus, vomiting is a part of the treatment. Whereas छद्यत् in the H manuscript is ambiguous: vomiting may be part of the treatment or a symptom of the ailment.

The expression “six units” refers to the six ingredients listed in the next passage. Dalhaṇa on 4.4.3 (Su 1938: 420) noted that धरण in this context means a particular weight characterized as equivalent to 21 medium-sized **hyacinth beans**. P. V. Sharma (1999–2001: 303) proposed that that the formulation contains six ingredients each the weight of a *dharāṇa*. See 4.31.7 (Su 1938: 508) where the term धरण is defined in terms of other weights. (In epigraphical Sanskrit, a धरण may be a silver or gold coin (Sircar 1966: 91).)

*Aṣṭāṅgahṛdayasamhitā* 4.21.14 (Ah 1939: 723) is the same verse, mutatis mutandis, but the editor noted (f.n. 6) a variant reading पद्मण in the commentary of Śrīkaṇṭha. There seems to be some confusion about this expression.

Dalhaṇa also noted that सुखास्त्रु (“pleasant water”) means “slightly warm water.”

- 4 “Six-unit” is traditionally the formulation that is **leadwort**, **Indrajao**, **velvet-leaf**, **kutki**, **Indian aconite**, and **myrobalan**. It cures serious diseases.
- 5 When the wind has entered the abdomen (*pakvāśa*) one should treat it with an oil purge. One should also treat it with cleansing enemas and very salty foods.
- 6 When the wind has entered the bladder, a cleansing enema method should be carried out. And once an inflamed wind is in the ears and the like, a procedure that destroys wind should be done.
- 7 When the wind has reached the skin, flesh, and **blood**, one should do an oil rub (*abhyāṅga*), apply a poultice (*upanāha*), rubbing (*mardana*) and ointments (*ālepana*). One should also perform blood-letting.<sup>400</sup>
- 8 When the wind has got into the ligaments, joints, and bones, an expert should apply oleation (*sneha*), a poultice (*upanāha*), cauterization (*agnikarma*), binding, and rubbing (*unmardana*).
- 9 When the wind is deep within the bone, then a strong physician should insert a tube (*nāḍī*) into the bone, which has been split open by manual agitation (*pāṇimantha*), and suck out the wind.<sup>401</sup>
- 10ab When the wind has reached the semen, one should perform the treatment for the defects of the semen.<sup>402</sup>
- 10cd-11 When the wind has reached the whole body, an intelligent person should conquer it by means of immersion, sauna (*kuṭī*), trench sweating (*karsū*), blanket sweating (*prastara*), oil massage, enema, and blood-letting.<sup>403</sup> Or, if is located in a single limb and is stuck there, a

<sup>400</sup> On the translation of methods of medical touch, such as अभ्यङ्ग and संवाहन, see Brooks 2021: 122–131. मर्दन्, उन्मर्दन् mean “pressing or vigorous rubbing.” The vulgate includes ducts (*sirā*) as an added place that wind can enter.

<sup>401</sup> Although grammatically the expression “which is split” could be construed with “wind,” it has to be understood here as referring to the bone. The word order is not obvious. Dalhaṇa on 4.4.9 (Su 1938: 420) interpreted पाणिमन्थ as the name of a particular awl and described the bone being pierced by this awl so that a double-headed tube can be inserted into the resulting opening.  
This verse is in *na* *vipulā* metre.

<sup>402</sup> Dalhaṇa comments (Su 1938: 421) that this treatment for the defects of the semen is mentioned [earlier] as the शुकशोणितशुद्धि, the purification of the semen and the blood. This is the Śārīrasthāna Ch. 2, शुकशोणितविशुद्धि.

<sup>403</sup> These forms of sweating treatment are described in the *Carakasamhitā* (1.14.39–63 (Ca 1941: 90–92)).  
Regarding blood-letting, Dalhaṇa on 4.4.11 (Su 1938: 421) commented that because

- thoughtful physician may conquer it with cow-horns.<sup>404</sup>
- 12 Or, if it is mingled with phlegm (*balāsa*), bile, and blood, the physician should treat it with remedies that are compatible (*avirodhin*).<sup>405</sup> However, when the wind is inactive, he should perform blood-letting many times.<sup>406</sup>
- 13 And one should lick the milk cooked in **the lesser five roots** together with salt and soot from the chimney (*āgāradhūma*), mixed with oil and also a juice (*rasa*) that has the sourness of a fruit.<sup>407</sup>
- 14–16ab Alternatively, cereal soup with a good amount of ghee is a wholesome food that repels wind. However, a *sālvala* poultice is famous as being a lukewarm and very salty substance made of the **cottony jujube** group combined with an item that repels wind and together with all the sour drugs and the meat of creatures from marshes and water that have all the oils.<sup>408</sup> One should always apply a bandage with that to people who are ill with wind.
- 16cd–18ab One should tightly bind someone who is bent, afflicted by pain, or whose limbs are numb (*stabdha*), with a strip of cloth (*paṭṭa*) made of bark, cotton or wool (*ūrṇa*).
- Alternatively, after massaging the affected body part and applying the

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the verse has the plural form सिरामोङ्कैः, five blood vessels have to be drained of blood if the wind is not pacified by oil massage, etc.

404 शूक्र “cow-horns” refers to bloodletting by horn; see the description at *Suśrutasaṃhitā* 1.13.5 ([Su 1938: 55](#)).

405 The word बलास is used here in the slightly unusual meaning “phlegm;” see Dalhana on 1.45.70, 6.61.33 ([Su 1938: 202, 802](#)) and *Mahākośa*: 553.

406 We read सुसवाते with witness H, but Dalhana glossed सुप्ति-, the reading of the vulgate, “it is wind characterized by drowsiness (*supti*) caused by a covering of blood.”

407 The vulgate reading दिल्लात् for the Nepalese लिल्लात् changes the meaning to “one should smear.”

Dalhana on 4.4.13 ([Su 1938: 421](#)) glossed पञ्चमूर्ती as optionally the first or the second five roots. On this therapy, cf. Cakrapāṇī’s commentary on 1.5.3 ([Ca 1941: 36](#)) for a similar therapy.

The “juice” (रस) was glossed by Dalhana as specifically being a meat broth (*māṃsarasa*). He said that the sourness may come from fruits such as pomegranate.

रसाष्ट्र may mean a vinegar made from fruit ([MW: 70](#)), so the expression फलाष्ट्रो रसः in the text here may mean a vinegar made from sour fruit. Cf. धान्याष्ट्र.

408 Cf. सत्त्वण “sweat from a poultice” in *Mahākośa*: 898. *Aṣṭāṅgasaṅgraha* 1.26.3 ([As 1980: 188](#)) describes a poultice called “sālvala” made with numerous ingredients (the commentator Indu elaborates, p. 189). [MW: 1068](#) glossed शाल्वण as “a poultice, cataplasm,” based on the *Suśrutasaṃhitā*.

- śālvala poultice on it, one should insert it into a sack made of the hide of a **cat**, **mongoose**, or **otter**, or else of **deer**.<sup>409</sup>
- 18cd–19 Vomiting and an errhine done skilfully alleviate the wind that has entered the chest, between the shoulder-blades (*trika*), the shoulders, or the nape of the neck.<sup>410</sup> The wind located in the head is defeated by blood-letting and by the application of oil to the head (*śirobasti*).
- 20–21ab In that context, one should let the oil remain carefully for one thousand measures (*mātrā*).<sup>411</sup> Only an enema (*basti*) can curtail the wind, whether it is throughout the whole body or in just one limb. Its force (*vega*) is like the wind.<sup>412</sup>
- 21cd–26 Oils, perspiration, oil massage, enema, unctuous purging of the bowels, *śirobasti*, oiling the head, unctuous smoke, gargling with lukewarm water, errhines, an oily paste (*kalka*), milks, meats,<sup>413</sup> soups, oils,<sup>414</sup> any unctuous substance, unctuous and salty meals that are made sour by fruits, bathing with lukewarm water, massages, saffron, **agarwood**, **malabathrum**, **costus**, **cardamom**, **crape jasmine**, garments made of silk, wool, and fur, soft cotton garments, inner rooms with sunlight, no wind flow, and a soft bed, taking the warmth of fire, and celibacy, etc., are to be collectively employed for patients with wind diseases.
- 27 One should take 12 grams each of pastes (*kalka*) of **turpeth**, **red physic nut**, **clove bean**, **gamboge**, **the three myrobalans**, and **embelia**, with 48 grams of **viburnum-root** and **kumkum tree**, and six kilos of the juice of **the three myrobalans** and curds and three kilos of ghee.<sup>415</sup> One should

409 For गोणी, Monier-Williams, Leumann, Cappeller, et al.: 367 recorded “sack” and “torn or ragged clothes;” it may have been a sling or similar support.

410 On त्रिक्, see *Mahākośa*: 1, 387, citing Ḏalhaṇa on 3.6.26 (*Su* 1938: 374) “the junction between the shoulder-blades and the neck.”

411 Ḏalhaṇa on 4.2.20 (*Su* 1938: 422) interpreted मात्रा as a measure of time, citing an unattributed verse defining it as the time of a blink, a snap of the fingers or the utterance of a single vowel. The expression might possibly be taken to refer to a measure of the oil’s volume.

412 This phrase is awkward. The idea here seems to be that an enema decisively stops the wind. The vulgate revised this to make it more obvious: “only an enema can block the force of the wind, like a mountain.”

413 The plural indicates milk and meat from various animals.

414 This is the second occurrence of the word न्तेहाः in this sentence. This seems to be an anomaly.

415 The measure of 12 grams is expressed as an अक्ष. See Dominik Wujastyk 2003b: 263,

then mix these ingredients all together and cook the mixture. This is called the *viburnum*-ghee. They prescribe this oily bowel purge in cases of wind disorder.

This procedure for making *viburnum*-ghee should followed for making *Asoka tree*-ghee and *chinaberry tree*-ghee.

- 28 Take wood that has been used in instruments for grinding sesame seeds. Chop those that have been used to grind the sesame seeds for a long time into tiny pieces. Next, crush them, put them into a large pot of water and make them into a paste. Then, collect the oil from the surface of the water, either with a cup or by hand, and cook it into a mixture (*pratīvāpa*) that has herbs that destroy wind added to it, following the *snehapāka* (oil-cooking) method.<sup>416</sup> This is the fine oil (*aṇutaila*) that is mentioned in wind disorders. It is called fine oil (*aṇutaila*) because it is produced from ingredients of fine (*aṇu*) oil.
- 29 Alternatively, one should burn a patch of ground using many sticks of wood belonging to the *the greater five roots*. After one night, when the fire has gone out, the ash should be removed. Then, when the earth has been extinguished, it should be soaked with a hundred pots of sesame oil cooked with herbs like *beggarweed*. It should be left in that condition for one night.<sup>417</sup> Next, one should put all the earth that is oily in water and then pour it into a large cauldron. The oil that rises to the surface should be taken out with both hands and stored in a private place. Next, one should thoroughly cook that oil a thousand times for as long as possible with a thousand parts of a decoction of wind-alleviating herbs, meat soup, milk, and *mangosteen*.<sup>418</sup> An admixture (*pratīvāpa*)

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which is based on the fourteenth-century *Śārigadharasamhitā*. The measure of 48 g is a विल्व, more commonly called a पल (*idem*). Six kilos is two पात्र, which is a liquid measure of approximately  $2 \times 3$  kg (*idem*). There is one पात्र of ghee. Dalhaṇa on 4.4.27 (*Su* 1938: 422) commented on the measurements mentioned in this recipe.

<sup>416</sup> This special method of preparing oil in three grades is described at *Suśrutasamhitā* 4.31.11 (*Su* 1938: 509). See also *Mahākośa*: 1, 944.

<sup>417</sup> Meulenbeld (HIML: 1B, 104, n.123) noted that the *Carakasamhitā* 6.26.23, 74 (*Ca* 1941: 598, 602) stated that the group starting with *beggarweed* (विदारिगन्धा) is the same as the छत्वपञ्चमूल or the स्थिरादि groups.

<sup>418</sup> On “thousand cooking (*sahasrapāka*)” see *Mahākośa*: 1, 891, सहस्रवारं पाचितं तैलम् “oil cooked a thousand times” citing the present passage. The *Carakasamhitā* has a similar sense (3.6.16 (*Ca* 1941: 256)).

Dalhaṇa commented that the word *mangosteen* (*amla*) here means काञ्जिक, the sour, fermented water drained after boiling rice (*Su* 1938: 423).

is added to the oil containing the Himalayan herbs (*haimavata*), herbs of the southern region, *Withania*, and other herbs that reduce wind.<sup>419</sup> While the oil is being cooked, one should blow conch shells loudly, open umbrellas, beat kettle drums and wave chowries. Then, when the oil is perfectly cooked, it should be removed from the heat and poured into a golden or silver pot and stored. This thousand-cooking (*sahasrapāka*) oil has irresistible potency and is fit for kings.

Similarly, something cooked a hundred times with a hundred ingredients is called a “hundred-cook (*śatapāka*).”

- 30 One should collect fresh leaves of *castor oil tree*, *Malabar nut*, *weaver's beam tree*, *Indian beech*, *Indian spinach*, and *leadwort*. These leaves should be thoroughly pounded along with salt in a mortar. This mixture should be put in a oil pot which is smeared with cow-dung and then heated. This “leaf-salt (*patralavanya*)” is indicated for wind disorders.
- 31 In the same way, one should pound the stalks of *oleander spurge*, *eggplant*, and salt and throw ghee, oil, fat, and marrow into a pot full of that.<sup>420</sup> Then, one should smear it and heat it as before.<sup>421</sup> This is the fat-salt (*sneha-lavanya*) that is indicated for wind disorders.
- 32 One should collect the fresh fruits, roots, leaves, and branches of this group of twenty: *silky Dalbergia*, *flame-of-the-forest*, *Tellicherry bark*, *Bengal quince*, *purple calotropis*, *oleander spurge*, *prickly chaff-flower*, *weaver's beam tree*, *corky coral tree*, *marsh barbel*, *horseradish tree*, *burflower tree*, *rajmahal hemp*, *Malabar nut*, *Indian beech*, *Indian spinach*, *hairy-fruited eggplant*, *yellow-berried nightshade*, *marking-nut tree*, *Asoka tree*, and *headache tree*.<sup>422</sup> Then mix them with salt and heat them as previously. Then liquefy them using the alkali method and cook them.<sup>423</sup> And in this case, the additive (*prativāpa*) is the *long pepper* group.<sup>424</sup>

<sup>419</sup> Dalhaṇa on 4.4.29 (Su 1938: 423) commented that हैमवताः refers to the herbs that grow in the northern region. But the term can also be a more specific taxon, i.e., *sweet flag* and *white clitoria*.

<sup>420</sup> The syntax here is not perfectly clear.

<sup>421</sup> As previously, the pot should be smeared with cow-dung.

<sup>422</sup> There are 21 items in this list. The vulgate does not include the statement “group of twenty,” and significantly expands the list.

<sup>423</sup> Methods of preparing alkalis are described in *Suśrutasamhitā* 1.11 (Su 1938: 45–50). Cf. Dalhaṇa on 6.42.40–44, 58.46 (Su 1938: 720, 790) et passim.

<sup>424</sup> The *long pepper* group is described at *Suśrutasamhitā* 1.38.22–23 (Su 1938: 166). It is

This salt is called the The Efficacious (*kalyāṇaka*). When there is wind disease, it is recommended in drink and food for those afflicted by enlarged spleen (*plīhan*), sluggish digestive fire (*agnisaṅga*), indigestion (*ajīrṇa*), loss of appetite (*arocaka*), haemorrhoids (*arśas*).<sup>425</sup>

Here ends the fourth chapter, about the treatment of wind diseases.

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a group known for sharpening the appetite (*dīpana*).

<sup>425</sup> Most of these ailments are listed at *Suśrutasaṅhitā* 1.11.8 (Su 1938: 46) as conditions treatable with internal alkali preparations.



# Cikitsāsthāna 5: On the Treatment of Great Wind Diseases

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>426</sup>

## Translation

- 1 Now we shall describe the treatment of great wind diseases.
- 3 Some people say that there are two kinds of wind-afflicted blood (*vātarakta*), the superficial (*uttāna*) and deep (*avagādha*).<sup>427</sup> However, this is not correct.

Why?

It is like pallid skin disease (*kuṣṭha*): having been superficial, it becomes deep after an interval of time. Therefore counting it as two things is rejected.

- 4 In this regard, it brings about pains that are caused by wind-afflicted blood (*vātaśoṇita*).

The wind of someone who habitually eats too much, and heavy, hot food, gets irritated by specific things like conflicts with strong people.<sup>428</sup>

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<sup>426</sup> [HIML](#): IA, 266.

<sup>427</sup> On wind-afflicted blood (*vātarakta*), see the discussion at [77](#).

Dalhaṇa commented ([Su 1938](#): 424) that उत्तान refers to being situated in the skin and flesh, and अवगाद्धा refers to being situated internally.

The view referred to can be found at *Carakasaṅghītā* 1.19.3 ([Ca 1941](#): 109–110) and 6.29.19 ([Ca 1941](#): 628). See the contextual discussion by Emmerick ([1984](#): 101).

<sup>428</sup> Dalhaṇa on 4.5.4 ([Su 1938](#): 424) noted that “conflicts with powerful people, etc.”

The wind's path is obstructed by corrupted blood that suddenly unites with it and causes pains that are triggered by blood with wind in it. Experts refer to that as "wind-afflicted blood (*vātaśonita*)."<sup>429</sup> It initially establishes itself in the hands and feet. Then it spreads throughout the body. Its preliminary symptoms are pricking, burning, itching, swelling, stiffness, rough skin, throbbing of the ducts, sinews and pipes, and weakness of the thigh. There is also the chance appearance of brown and red round patches (*mandala*) that arise on the soles of the feet, fingers, ankles and wrists. This disease fully manifests in people who do not have treatment and who do not behave as they should.<sup>429</sup>

Its characteristics have been stated. In the case of any of these, those who do not take precautions develop disability.

- 5 Wind-blood most commonly gets irritated in those who are very delicate, those who have wrong diet and activity, those who are corpulent, and those who live in comfort.<sup>430</sup>
- 6 In such a case, one should treat a patient if they are strong, self-possessed, and well-resourced, as long as they are not also afflicted by cramp (*sariṅkoca*)  
the patient who is not degenerating due to wasting of life air, thirst, fever, unconsciousness, dyspnea, trembling, and loss of appetite, is not oppressed by the contraction [of limbs], is strong, composed, and has the means.

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were listed in the *Vraṇapraśna* chapter (*Suśrutasamhitā* 1.21); see *Suśrutasamhitā* 1.21.19 (Su 1938: 103). A long list of wind-irritants is given in that passage. Dalhaṇa on 1.15.32 (Su 1938: 73), *et passim*, glossed अञ्चशन not as "overeating" but as "eating when previous food is not yet digested."

- <sup>429</sup> This specific type of "treatment" (*pratisāra*) is described as being of four types at *Suśrutasamhitā* 4.40.69 (Su 1938: 558), i.e., paste, linctus, honey and powder (*Mahākośa*: 1, 527).
- <sup>430</sup> This same passage occurs in 2.1.40 (Su 1938: 263), where Dalhaṇa questioned its appropriateness given its repeated occurrence here. See footnotes 193 and 195 (pages 77 and 78).

7 In the treatment, at the beginning itself one should do blood-letting of the wind-affected body part little by little and more than once. That (slow blood-letting) is because of the danger of further aggravation of wind. One should avoid doing blood-letting of the part hardened or weakened by excessive wind.<sup>431</sup> Thereafter, one should make the patient do the remedies of vomiting, etc. If the wind that is mixed [with blood] or separated is very aggravated then one should make him consume aged ghee or goat-milk. Or, [one can give him] half a measure of oil added with an *akṣa* of liquorice and cooked with hare foot uraria<sup>432</sup>, or the oil that is sweetened by sugar and honey and cooked with dried ginger and bulrush. Or, one should boil milk with an eight times volume of the decoction of the following herbs: beautyberry, grey orchid, ??, hare foot uraria<sup>433</sup>, toothbrush tree, wild asparagus, ??, and ?. This milk should then be used to cook oil with the admixture of pastes of ??, ??, ??, snake mallow, deodar, sweet flag, and ?. This (resultant) should be utilised in drinks, etc. Or, one should use the oil that is cooked with a decoction of wild asparagus, prickly chaff-flower<sup>434</sup>, ??, liquorice, giant potato, heart-leaf sida, country mallow, and ??<sup>435</sup>, with the admixture of cottony jujube, etc. Or, one should use the heart-leaf sida-oil that is cooked as śatapāka.<sup>436</sup> Or, [the affected body part] should be moistened with milk that is boiled with the roots of wind-alleviating herbs, or it should be moistened with sour things.<sup>437</sup> In that regard,

Draft tr. from here

431 In H, the reading अस्त्रन् does not make sense given the context. Therefore, we have accepted the vulgate reading स्त्रन् for the translation.

432 Ḑalhaṇa glossed (*Su 1938*: 425) śṛgālavinnā as pṛśniparṇī.

433 According to Ḑalhaṇa, śṛgālavinnā is pṛśniparṇī.

434 Ḑalhaṇa glossed (*Su 1938*: 425) mayūraka as apāmārga.

435 Ḑalhaṇa commented (*Su 1938*: 425) that halfa grass, wild sugarcane, tall reed, halfa grass, ??, and ?? are called tṛṇa (grass).

436 Śatapāka seems to be an oil that is prepared with a hundred parts of some things similar to sahasrapāka that is prepared with one thousand parts of some herbs. Refer *Cikitsāsthāna* Ch. 4 text 29 for the preparation of sahasrapāka.

437 Ḑalhaṇa commented (*Su 1938*: 425) that the sour things (amla) are ??, Indian jujube,

five remedies prepared with milk are described. For preparing a poultice, milk should be cooked in ghee, oil, fat, marrow, and *dugdha*<sup>438</sup> separately with each of these powdered grains or pulses---barley, wheat, sesame, mung beans, or green gram---that is mixed with unctuous pastes of cottony jujube, purple roscoea, ??, ??, heart-leaf sida, country mallow, hare foot uraria<sup>439</sup>, ??, ??, sugar, bulrush<sup>440</sup>, ??, and sweet flag. Or, the essence of unctuous fruits<sup>441</sup> can be used as a poultice. Or, a *veśavāra*<sup>442</sup> prepared from the flesh of a fat *cilicima* fish<sup>443</sup> can be used instead. Or, [one can use] the poultice containing Bengal quince-rind<sup>444</sup>, crape jasmine, deodar, ??, grey orchid, peas, *costus*, ??, liquor, yogurt, and whey. Or, [one can use] the ointment prepared by mixing citron, *amla*<sup>445</sup>, salt, and ghee with honey and horseradish

The webpage  
<https://hindi.shabd.in/vairagya-shatakam-bhag-acharya-arjun-tiwari/post/117629>  
 says that this verse belongs to the *Nīhiratna*. I could not find this text.

??-water, etc. *Surā* is some kind of liquor, *sauvīraka* is perhaps the fruit of the jujube tree, and *tuṣa* is perhaps *Terminalia Bellerica* (विभीतक).

438 In the *Suśrutasāñhitā*, the word for milk is *kṣīra* or *payas* but not *dugdha*. Therefore, the word *dugdha* here can mean the sap of plants or something that is extracted.

439 *śṛgālavinnā*

440 For *kaśerukā*

441 Dalhaṇa commented (*Su* 1938: 425) that the unctuous fruits mentioned here are sesame, castor, flax, ??, etc.

442 In H, the reading वैश्वारो does not make sense. It should have been वेश्वारो, as shown in the vulgate, which is the reading we have accepted here.

*Veśavāra* is boneless meat minced, steamed, and added with spices, ghee, etc. Refer to 'Ayurveda Medical Dictionary' by Ranganayakulu Potturu.

Perhaps the word वैश्वार is an earlier form of the word वेश्वार.

443 H has the compound word नलपीनमत्स्य. नलमीन is a particular fish known as *cilicima* (चिलिचिमः). See *Amarakośa*. Also, if the name is नलमत्स्य then the word पीन (fat) within the name is not according to proper Sanskrit. But, it can be allowed because the word मत्स्य (fish), instead of being a part of the name, can be considered to mean fish in general and thus the word पीन becomes its modifier. Thus, नलपीनमत्स्य can mean "a fat fish that is a नल (*cilicima*)".

Dalhaṇa says in his comment (*Su* 1938: 425) that नलमीन is a type of रोहित (*rohita*). Monier Williams says that *rohita* is a kind of fish: *Cyprinus Rohitaka*. Regarding the *rohita* fish, there is a *subhāṣita*: अगाधजलसञ्चारी न गर्व याति रोहितः । अङ्गुष्ठोदकमात्रेण शफरी फक्षरायते ॥ This indicates that *rohita* is a deep water fish.

444 The word पेसिका in H should be read पेशिका.

445 Perhaps it could mean vinegar or sour curds. Refer to Monier Williams Sanskrit

- tree-root. Or else, [one can use] the unctuous sesame paste.
- 8 When the [condition of wind-blood] has a predominance of bile, the patient should be made to drink a decoction of grapes, ??-fruit, Indian ipecac, liquorice, sandalwood, and white teak. This decoction is sweetened with honey and sugar before consumption. Or, the decoction of wild asparagus, pointed gourd, malabathrum, *triphalā*, ??, and heart-leaved moonseed should be given. [The patient should be administered] ghee that is prepared with sweet, bitter, and astringent [remedies].<sup>446</sup>  
 [The patient] should be sprinkled with a decoction of ??, lotus stalk, white sandalwood, and wild Himalayan cherry mixed with goat-milk<sup>447</sup>, or with rice water that is mixed with milk, sugarcane juice, honey, and sugar, or with whey and sour rice gruel mixed with a decoction of grapes and sugarcane. Or else, [the patient] should be sprinkled with ghee that is prepared with *jīvanīya*<sup>448</sup> or sprinkled with ghee that is purified for one hundred times.  
 The poultice [to be applied] should be made of rice flour or of the paste of sour rice gruel mixed with tall reed, Indian willow, scramberry<sup>449</sup>, ??, ??, turmeric, horned pondweed, sacred lotus, etc. The poultice should be mixed with ghee.
- 9 The [condition of wind-blood] with a predominance of blood should be treated in the same way. Also, blood-letting should be done repeatedly.
- 10 However, when the [condition of wind-blood] has a predominance of phlegm, the patient should be made to consume a decoction of emblic myrobalan and turmeric that is sweetened with honey, or a decoction of *triphalā*, or a paste

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 Dictionary.

446 Dalhaṇa commented (Su 1938: 425) that the sweet remedies are cottony jujube, etc., bitter remedies are pointed gourd, etc., and astringent remedies are *triphalā*, etc.

447 The compound word ending with कषायेण is taken to be a *bahuvrīhi* for अजाक्षरेण (goat-milk).

448 *Jīvanīya* seems to be a group of medicinal herbs. There is an Ayurvedic preparation called *jīvanīya-ghṛta*. Refer to the Āyurvedīya Śabdakośa vol. 1.

449 तालीस should be read तालीश

of liquorice, ??, chebulic myrobalan, and ?? . He should be made to drink chebulic myrobalan with water mixed with a little urine. He should be sprinkled with oil, urine, salty water, and liquor that are acidic<sup>450</sup>. Or, he should be sprinkled with a decoction of golden shower tree, etc. The patient should be massaged with ghee cooked with sour cream, urine, liquor, ??<sup>451</sup>, liquorice, ??<sup>452</sup>, and wild Himalayan cherry.

The poultice should be made of either the paste of white mustard, or the paste of sesame and *Withania*, or the paste of ??<sup>453</sup>, Indian cherry, and wood-apple, or the paste of honey, horseradish tree, and hogweed,<sup>454</sup> or the paste of dry ginger, long pepper, black pepper,<sup>455</sup> hare foot uraria, and hairy-fruited eggplant.<sup>456</sup> These five poultices are prepared with salty water. Thus, they have been described.

- 11 In case of combined aggravation of two humours or simultaneous aggravation of all three humours, the stated methods of treating those aggravations should be combined.<sup>457</sup>
- 12 In all [aggravations], one should consume chebulic myrobalan with jaggery. Or, one should have a diet of rice cooked in milk for ten days and should drink a mixture of long peppers crushed in milk, with increasing by five long peppers each night. Then one should reduce them again by the order of five more [each night].<sup>458</sup> In this way, one should [reduce] all the long peppers. This is called *Pippalīvarddhamānakam* (Increasing Long Peppers). It indeed cures wind-blood,

450 Reading the word सुक्त in H as शुक्त

451 Monier Williams states Rumex Vesicarius for śuktā

452 DCS has this entry: Cryptolepis buchananii Roem. et Schult. (Surapāla (1988),

453) Decalepis hamiltonii Wight et Arn. (Surapāla (1988), 453)

453 According to V. S. Apte, दारु can mean देवदारु.

454 H has a short अ at the end instead of the long आ.

455 च्योषतिका refers to the group of these three pungent spices. Also see *Sūstrasthāna* 14.35.

456 In H, the Sanskrit syntax does not match up with what the author is trying to say. The name of the fifth paste should also have been in the nominative case, as the other four pastes.

457 It means that the respective methods of treating the aggravation of individual humours should be combined.

458 In H, the letter ज् in भूयच्छ should have been श.

The provi-  
sional edi-  
tion should  
be modified  
accordingly.

intense fever,<sup>459</sup> loss of appetite, jaundice, abdominal affection, piles, heavy breathing, cough, wasting disease, weak digestion, and heart disease.

The poultice is a paste of bluebell barleria, sandalwood, rajmahal hemp, ??, wild asparagus, bulrush,<sup>460</sup> country mallow, wild Himalayan cherry, liquorice, Indian dill, ??, ??, ??, heart-leaf sida, country mallow, and Holostemma creeper mixed with milk. Or it is a paste of white teak, liquorice, and ?? mixed with ghee and cream. Or it is olibanum cooked with milk that is mixed with ??, ??, resin of white dammer tree, liquorice and the group of sweet herbs.

Old ghee that is cooked with emblic myrobalan and chir pine and sweetened with sugar and honey is for drinking. Old ghee that is cooked with *jīvanīya* or that is cooked with a decoction of ?? is for sprinkling. Cooked heart-leaf sida oil is for sprinkling, bathing, enema, and eating<sup>461</sup>. One should eat food preparations made of rice, ??, barley and wheat accompanied with milk, meat soup, or mung beans soup that is not sour. Blood-letting also [should be done]. The treatments of vomiting, purging of bowels, enema, and oily enema should be conducted when the humours are highly aggravated.

13

14 There are verses in this regard.<sup>462</sup>

*There is immediate relief by the application of remedies such as these by which the physicians cure the chronic condition of wind-blood.*

15-16      *Poultice, sprinkling [oil], plaster, oil*


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459 Perhaps विषमज्वर could mean irregular fever.

460 H has कशेरुका.

461 Perhaps it means that one should eat foods cooked in that oil.

462 The word भवति in H should have been भवन्ति.

*massage,<sup>463</sup> spacious and comfortable rooms<sup>464</sup> with no wind, soft pillows, comfortable beds, and soft massages are recommended in the condition of wind-blood.*

- 17 *Exercise, mating, anger, eating hot, sour, or salty foods, sleeping during the day, and food that is slimy or heavy should be avoided.*
- 18 One should treat the person who is affected with spasmodic contraction,<sup>465</sup> who does not have droopy eyes and crooked eyebrows, whose fingers have not become rigid, who is not perspiring or trembling, who is not in a state of delirium, who is not bed-ridden,<sup>466</sup> and who is not restrained externally. There at the beginning itself,<sup>467</sup> after rubbing the patient with oil and making him perspire, one should treat him with a strong *avapīda*<sup>468</sup> in order to clear his head. Then, the patient should be made to drink filtered ghee that is properly cooked with a decoction of *beggarweed* and other herbs, sugarcane juice, milk, and yogurt. In that way, the wind does not spread exceedingly. Thereafter, one should gather wind-alleviating herbs such as *deodar*, etc. and other constituent parts, along with *barley*, ??, and *horse gram*, and the flesh of a freshwater aquatic creature all at one place and prepare a decoction of them. One should take this decoction and mix it properly

There, Dalhaṇa commented that deliberation on *avapīda* had been done earlier when it was mentioned. Find that description to know more details.

- 463 In H, the part व्यजनानिलः does not make proper sense in the verse. Emending it to व्यजनानि च could be a consideration, but fanning (व्यजन) a patient with wind-blood is not good, as understood from the recommendation that such a patient should stay in a non-windy room. Therefore, we have accepted the vulgate reading for the first half of this verse.
- 464 In H, read the स सरणानि as शा.
- 465 In H, the reading अपताकिनम् should have been अपतानकिनम्.
- 466 V. S. Apte has खद्धयति. The Āyurvedīya Śabdakośa has the entry खद्धापातिन् which means “one who is inclined to fall from bed.” Perhaps the reading in H has an error of the letter या which should have been पा.
- 467 In H, प्रागैव should have been प्रागेव.
- 468 The Āyurvedīya Śabdakośa has the entry अवपीड that means administering an oily paste through the nose. Refer SS Cikitsāsthāna Ch. 40 text 44 for a better understanding of *avapīda*.

with sour substances and milk, and then cook the *pratīvāpa*<sup>469</sup> of liquorice in this mixture along with ghee, oil, body fat, and bone marrow. This is *trivṛt* that should be recommended in treatments of sprinkling, oil massage, applying a poultice, oral consumption, oily enema, and errhine for patients having spasmodic contractions.

The patient should then be made to sweat by the methods described earlier. If the wind is stronger then the patient should be immersed in [a vessel] filled with lukewarm fluid used for sprinkling (*trivṛt*). Or he should be kept in the hot fireplace of a blacksmith.<sup>470</sup> Or else he should be made to sweat by [a mixture of] ??, *veśavāra*,<sup>471</sup> and milk.

Oil cooked with the juice of radish, ??, ??, spurge, and clove bean should be used in sprinkling, etc. for patients with spasmodic contractions.<sup>472</sup> Sour yogurt mixed with black pepper and drunk on an empty stomach alleviates spasmodic contractions. Or else, ghee, oil, body fat, or bone marrow [can be consumed on an empty stomach].

This procedure of treatment thus described is for spasmodic contractions caused only by wind. When mixed humours cause it then the treatment should also be mixed. And when the spasms subside the patient should be given *avapīda*-s. One should also consider the fats of cock, crab, black fish, and porpoise.<sup>473</sup> Milk prepared with wind-alleviating medicines. Gruel prepared with barley, ??, horse gram, radish, yogurt, ghee, and oil.

One should treat this recurring spasm for ten nights with oil massage, purging of bowels, enemas, and oily enemas.

One should also look up the treatment of diseases caused by

469 It refers to an admixture of substances to medicines either during or after decoction. Refer to Monier-Williams's Sanskrit dictionary.

470 H has the reading रथकारचुल्याम् that means "fireplace shaped like a chariot", but the vulgate reading रथकारचुल्याम् makes more sense here. Thus, we have accepted it.

471 Refer the above text no.7 for *veśavāra*. In H, the syllable वै should have been वे.

472 The word तैलम् is not present in H but is present in the vulgate. We have accepted it.

473 H has the reading रसान् which means "juices". It seems unrealistic that juice would be extracted by crushing these whole animals. Vulgate has the reading वसाः instead of रसान् which appears to be the more probable reading. Thus, we have accepted it.

wind. One should also undertake preventive measures.

- 19 One should treat the paralytic (hemiplegic) patient whose limbs are not languid, who is in pain, and who is self-composed. There, at the beginning itself the patient should be massaged with oil and made to sweat. After cleansing the patient with a mild purifier,<sup>474</sup> he should be administered with an oily enema and then a non-oily enema. Then at the appropriate time, he should be treated with special enemas of the brain and the head according to the method prescribed in the treatment of *āksepaka*.<sup>475</sup> *Anutaila* should be used for massage.<sup>476</sup> *Sālvala* should be used for poultice.<sup>477</sup> heart-leaf sida oil should be used for oily enema. In this way, the unremitting patient should take the treatment for three to four months.

20

21

- 22 One should treat the patient with *ardita*<sup>478</sup> who is strong and possesses the means with the method prescribed in treating wind diseases. The unique thing is the treatment with enemas of the brain and the head, errhine, smoke, poultice, and steam bath through tubes. Then, one should take the great five roots (*pañcamūlī*) with grass and prepare its decoction in milk mixed with twice the water. Then, the decoction with the milk remaining<sup>479</sup> should be brought down [the stove] and filtered. It should then be mixed with a *prastha*<sup>480</sup> of oil and again placed over fire and cooked thoroughly. Then, the oil mixed with milk should be brought down [the stove] and then churned after it cools down. This is called *ksīrataila* that should be used in drinks, etc. for patients with *ardita*.

474 According to P. V. Sharma, this refers to mild evacuatives (purgatives).

475 Refer *Nidānasthāna* 1.50-51 for *āksepaka*.

476 For the procedure of preparing *anutaila*, refer *Cikitsāsthāna* 4.28.

477 For the procedure of preparing *sālvala*, refer *Cikitsāsthāna* 4.14-15.

478 Refer *Nidānasthāna* 1.71-72 for *ardita*.

479 It means that the water has evaporated.

480 Dalhana commented (*Su 1938*: 425) that a *prastha* is a measure of weight that is equal to 32 *pala-s*.

Search for  
the section  
where the  
treatment  
of *āksepaka* is de-  
scribed.

Make the  
first letter  
of sentence  
capital.

- 23 In the diseases of *grdhrasī*, *viścañcī*, *krostukasīrsa*, *paṅgukalāya*, lameness, *vātakantaka*, burning sensation in the foot, numbness of the foot, *avabāhuka*, deafness, and *dhamanīvāta*, one should pierce the blood vessel as described earlier and, barring the case of *avabāhuka*, one should look up the treatment for wind diseases.
- 24 However, in the case of *karnamūla*,<sup>481</sup> lukewarm juice of ??<sup>482</sup> mixed with *liquorice*, oil, and salt should be put into the ears.<sup>483</sup> Or else one can use goat urine, *liquorice*, and oil. Or else one can use oil that is cooked with *citron*, *pomegranate*, ?? juice, and urine.<sup>484</sup> Or else one can use oil that is cooked with sour liquor, buttermilk, and urine. One should also make the patient sweat with a steam bath through tubes. One should also look up the treatment for wind diseases. More will be said later.
- 25 In the case of *tūnī* and *pratitūnī*, one should make the patient drink ghee and salt with hot water. Or else one should administer the powder of *long pepper* and other herbs with hot water. Or else one should make the patient drink ghee that is made thick with *asafoetida* and *barley ash*.<sup>485</sup> One should also treat the patient with enemas.
- 26 In the case of *ādhmāna*,<sup>486</sup> however, one should do *avatarpaṇa*,<sup>487</sup> heating the hands, *phalavartikriyā*,<sup>488</sup>

<sup>481</sup> The vulgate has the reading कर्णशूले which appears to be a more credible reading according to the context.

<sup>482</sup> शङ्कर appears to be a name of ginger. Refer to the Sanskrit dictionary of Monier Williams.

<sup>483</sup> In H, the reading रसैः does not seem to make sense here. Hence we have accepted the vulgate reading रसम्.

<sup>484</sup> In H, the word तैल should have been तैलम् to make proper sense. The vulgate has this reading. Thus we have accepted it.

<sup>485</sup> यवक्षार is an alkali prepared from the ashes of burnt green barleycorns. Refer to the Sanskrit dictionary of Monier Williams.

<sup>486</sup> Refer to *Nidānasthāna* 1.88. V. S. Apte explains it as “swelling of the belly”. P.V. Sharma has translated it as flatulence.

<sup>487</sup> We are unclear about its meaning. The vulgate has the reading अपतर्णण that means fasting.

<sup>488</sup> The entry फलवर्ति has the meaning “suppository” in the Sanskrit dictionary of Monier Williams. The Cambridge dictionary explains suppository as “a small, solid pill

stimulation of digestion, and [administer] digestives. One should also employ the purging of bowels and enemas.

In the case of *pratyādhmāna*,<sup>489</sup> one should employ vomiting, fasting, and stimulation of digestion.

- 27 In the case of *asthīlā* and *pratyasthīlā*,<sup>490</sup> the procedure is that of *gulma* and internal abscess.
- 28 The beneficial asafoetida, the three pungent spices (long pepper, black pepper, and dry ginger), *sweet flag*, ?? grains, *wild spider flower*, *pomegranate*, ??, *velvet-leaf*, *leadwort*, ??, *rock salt*, ??, ??, *barley ash*, *natron*, *long pepper* root, ??, ??, ??, ?? (juniper berry), and ?? (cumin seeds) should be powdered. This powder should be mixed with a lot of *citron* juice. Then it should be made into pills each weighing one *akṣa*. Thereafter the patient of wind disease should consume one pill every morning. This medicine indeed cures *gulma*, rapid breathing, cough, loss of appetite, heart disease, *ādhmāna*, *pārśvadara*, *bastisūla*, *anāhamūtra*, painful piles, *plīhodara*, and *pānduroga*. Also, this medicine is excessively used in cases of *tūnī* and *pratitūnī*.
- 29 There are verses in this regard.

*The wind that has entered into the body tissues should be correctly understood as either pure or vitiated by humours<sup>491</sup> and should be cured accordingly.*

- 30 *The wind that is accompanied by fat causes a swelling that is painful, hard, and cold. The*

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containing a drug that is put inside the anus, where it dissolves easily." Refer to the link <https://dictionary.cambridge.org/dictionary/english/suppository>. Last accessed 30-Oct-2023.

489 Refer to *Nidānasthāna* 1.89. According to the Sanskrit dictionary of Monier Williams, it is a kind of tympanites or wind-dropsy.

490 Refer to *Nidānasthāna* 1.90 and 1.91.

491 In H, the reading लक्षणान्यामैश्च does not make sense. Hence I cannot translate it. Perhaps the correct reading could be लक्षणास्यात्त्र. This would connect with the two conditions of the wind as stated in the verse.

- physician should properly treat it like a treating a swelling.
- 31 When the wind accompanied by phlegm and fat enters the thighs, it causes pain in and immobility of the thighs due to numbness, pain, and fever.
- 32 Also, the thighs become pained, stiff, cold, and do not quiver due to sleep. They become heavy and as if belonging to someone else.<sup>492</sup>
- 33 That is called *urustambha*. Others call it *ādhyavāta*. In that case, one should drink the sandharana powder with cool water.
- 34 Similarly, consuming the powder of long pepper and other herbs with hot water is beneficial. Or else, one should consume the powder of triphalā with honey and *kutki*.
- 35-38 Or else, one should drink the best Indian bdellium-tree or ?? with urine. Such a person cures the wind that is afflicted by phlegm and accompanied by fat, as well as heart disease, loss of appetite, gulma, and internal abscess. One should employ salty urine [therapy], sudation, and hard rubbing. One should also apply [the paste of] mustard and pongame oiltree fruits mixed with urine.<sup>493</sup>
- One should eat old ??s, koda millet, ??, etc. along with uncooked<sup>494</sup> flesh of wild animals and unsalted vegetables that are beneficial.
- 39 When the phlegm and fat become amply reduced one should again employ the treatment of oil massage, etc. for the patient.

<sup>492</sup> In H, the verb वर्तते should have been in the dual. Also, the word आस्थरौ does not make sense. The vulgate has the sensible reading अस्थरौ which we have accepted here.

<sup>493</sup> The word दिव्येत् in H is not a proper Sanskrit word. We have taken its proper form दिव्यात् as given in the vulgate.

<sup>494</sup> The vulgate has the reading अघृतैः that means without ghee.



# Cikitsāsthāna 15: On Difficult Delivery

## Literature

Meulenbeld offered an annotated overview of this chapter on fetal mal-presentation and a bibliography of earlier scholarship to 2002.<sup>495</sup> R. P. Das made observations about the afterbirth (*aparā*) that is mentioned in 4.15.17 (Su 1938: 432).<sup>496</sup> Selby has explored gyencological narratives in ayurveda.<sup>497</sup>

## Translation

- 1 And now we shall explain the difficult delivery medically treated.
- 3 Nothing else is more difficult than the extraction of a foetus since it has to be performed in the region of vagina, liver, spleen, intestines and the uterus. Actions like pushing up, pulling down, cutting off, incising, removing, pressing and straightening must be done using one hand, without hurting the foetus or the pregnant woman, Therefore, having considered that and obtaining permission, one should proceed with care.
- 4 Eight types of the positions of difficult foetus have earlier been mentioned briefly. Even if, in the natural birth process also the large / wrong way of the head, shoulders or hips of a foetus / child cling firmly in the passage.

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495 HIML: IA, 271–272.

496 R. P. Das 2003: 517.

497 Selby 2005a,b.

- 5 In the case of a live foetus, the delivering ladies should attempt to deliver it. And, during this process, they should be made to hear the sacred verses repeatedly meant for expulsion of a foetus.
- 6 *O beautiful woman, may the divine nectar and the moon and the sun and Uccaiśravas reside icumbhalakan your house.*
- 7 *O lady, may this nectar extracted from the water release this tiny foetus of yours. May the fire, wind, sun and Indra together with the ocean bestow upon you the peace.*
- 9 And, as mentioned before (3.10.16-20) the medicine should be administered. In the case of a dead fetus, (the physician) having inserted (his) hand lubricated with the *dhanvaka*, *mṛttikā* – soil, the *sālmalī*- the *seemul* and ghee into the vagina of a woman lying on her back, whose thighs are bent with the elevated waist with the support of the cloth of *cumbhalaka* should take away the fetus. In the case, the fetus coming out with both the thighs, should be stretched out in a normal way. If the fetus has reached with only one thigh, spreading out its other thigh it should be taken out. If the fetus is coming out with its buttocks portion, squeezing the buttocks upward, spreading the thighs it should be taken out. A fetus having come in a transverse position like an oblique (तिर्यकीनस्य ?) iron club, lifting upward its half of the lower part from behind, straightening its half of the upper part, bringing it to the passage of vagina, it should be taken out. The last two positions of the dead fetus cannot be accomplished. Thus, in this state, instrument should be employed / surgery should be undertaken.
- 10 But, the live fetus should not be torn apart in any case. As, the live fetus may kill the mother and self soon.
- 12 Next, assuring safety to the lady, cutting the head of the fetus with the instrument that has disc on the top (मण्डलाघ) or finger shaped instrument(अङ्गुलिशस्त्र); removing the skull, the fetus should be taken out holding the forceps at its chest and armpit. If the head of the fetus is not separated, the fetus should be drawn out from its orbital regions or cheek (with the forceps); if the shoulders are stuck up in the passage, the fetus should be taken out by cutting its arm / arms at the shoulder region; tearing the abdomen when bloated with wind just like a stretched leather bag used for holding water, casting off the intestine,

the loosened fetus should be taken out. Or else, if its thighs are adhered to the passage, the bones of the thighs should be cut and fetus is removed.

- 13 The fetus is adhered to the passage from whichever its body part, the physician by separating that part should remove the fetus carefully and by all means the woman should be protected.
- 14 For, irritated wind causes different movements of the fetus. In this situation, the wise physician should act intelligently.
- 15 And, the learned physician should not delay even for moment in removing the dead fetus as it kills mother in no time like a breathless animal.  
If impacted with hip, the hip bones should be cut and then delivered.



## **Part 5. Kalpasthāna**



# Kalpasthāna: Introduction

The *Kalpasthāna* of the *Compendium of Suśruta* is one of the most important treatises on toxicology surviving from the ancient world.<sup>498</sup> Other treatises, such as the *θηριακά* (*On Wild Animals*) and *Ἀλεξίφαρμακα* (*Antidotes*) of Nicander of Colophon (possibly fl. second century BCE) or the *Περὶ τῶν ἴοβολῶν θηρίων καὶ δηλητηρίων φαρμάκων* (*On Venomous Beasts and Poisonous Drugs*) by Aelius Promotus (fl. ca. first century BCE– first century CE) do not approach the *Kalpasthāna* in length, taxonomic detail or organization.<sup>499</sup>

## The Sequence of Chapters

The Nepalese version of the *Suśrutasamhitā* reverses the sequence of chapters six and seven (see Table 4).

This difference in sequence does not have an immediately obvious significance, but it appears to be the most original known sequence of chapters, since it was already known to Jejjāṭa.<sup>500</sup>

<sup>498</sup> Liu (2021) provides a valuable overview of poison treatises in the ancient world, inexplicably omitting mention of the *Kalpasthāna*.

<sup>499</sup> On Nicander, see Gow and Scholfield 1953, the facsimile of MS Paris BNF Greek suppl. 247 published by Touwaide, Aslanoff, and Föerstel (1997), and Touwaide 2019. On Aelius Promotus, see W. Smith 1870: 29; Gostomiris 1897: 363–368; Ihm 1995.

<sup>500</sup> See note 762 below.

Table 4: Chapters of the *Kalpasthāna*.

<i>Chapter title</i>	<i>Nepalese</i>	<i>vulgate</i>
Annapānarakṣākalpa	1	1
Sthāvaraviśavijñāna	2	2
Jaṅgamaviśavijñāna	3	3
Sarppadaśṭavijñāna	4	4
Sarppadaśṭacikitsita	5	5
<b>Mūṣikākalpa</b>	<b>6</b>	<b>7</b>
<b>Dundubhisvana</b>	<b>7</b>	<b>6</b>
Kīṭakalpa	8	8

## The Spread of Indian Toxicological Lore to Medieval Islamic Authors

### The *Kalpasthāna*'s diffusion

From the late eighth century onwards, the *Kalpasthāna*, or parts of it, began to circulate beyond the Indian subcontinent and to influence medical literature in early Persia, Tibet and Cambodia.

In the late eighth century, the *Kalpasthāna*, as part of the *Suśrutasamhitā*, was translated into Persian and Arabic at the Abbasid court of Baghdad by an Indian physician who is often known by the name Mankah.<sup>501</sup> The principle source of information about this translation is the ‘Uyūn al-anbā’ fī ṭabaqāt al-ṭibbā of Ibn Abī Uṣaybi‘ah (ca. 1201–1270).<sup>502</sup> Ibn Abī Uṣaybi‘ah mentioned that al-Rāzī used the *Suśrutasamhitā*, among other Indian

<sup>501</sup> On the name and its variants, see HIMAL: IB, 202, notes 2, 3. For an account of this translation process see the account of Kahl (2015: 14–18) and especially his useful reconstruction of likely historical events (16–17).

<sup>502</sup> On Ibn ‘Abī Uṣaybi‘ah, see Hilooowala 2019. This author based his information on the earlier authors Abū Ḥafṣ al-Kirmānī (fl. ca. 800) and on an-Nadīm (d. 990). Al-Kirmānī’s treatise is unfortunately lost to history and known only through citations in other authors (see Bosworth 1994; van Bladel 2011).

works, and that it had been translated into Arabic at the orders of the Barmakid Yahyā ibn Khālid.<sup>503</sup> The *Suśrutasamhitā* passages used by al-Rāzī have been identified and printed in parallel with the Arabic translation by Kahl.<sup>504</sup>

Ibn Abī Uṣaybiṭah gave a detailed description of the translation in Baghdad of a work that was almost certainly the *Kalpasthāna*:

Shānāq was the author of several books, notably: 1. On poisons, in five parts. Mankah al-Hindī translated it from Sanskrit into Persian, and a man by the name of Abū Ḥātim al-Balkhī was assigned the task of transcribing it in Persian writing; he then expounded upon it to Yahyā ibn Khālid ibn Barmak. The work was subsequently translated [into Arabic] for the caliph al-Ma'mūn by his client, al-Ṭabbāṣ ibn Sa'īd al-Jawharī. The latter was also assigned the task of reading it aloud to al-Ma'mūn.<sup>505</sup>

There are several interesting features of this account, some of which have been discussed elsewhere.<sup>506</sup> As the pioneering work of Strauss showed, the *Poison Book* of "Shanaq" contained material directly translated from the first chapter of the *Kalpasthāna*.<sup>507</sup> The reception of these materials from the

503 Savage-Smith, Swain, and van Gelder 2019: 3.2, 987. Ibn Abī Uṣaybiṭah said the work consisted of ten chapters, which does not match the six books of the known *Suśrutasamhitā*. He listed separately a work on poisonous snakes that could have been the *Kalpasthāna* (*ibid*, 989). On the transmission of Sanskrit medical knowledge to Baghdad through the influence of the Barmakids, see van Bladel 2011; Shefer-Mossenohn and Hershkovitz 2013; Kahl 2015; Dominik Wujastyk 2016a.

504 Kahl 2015:76–82. Unfortunately, Kahl (p. 14) accepted the impossible dating of a medical author Suśruta to the sixth century BCE, in spite of citing Meulenbeld, HIML, amongst his references. However, his remarks dating the redaction of the *Suśrutasamhitā* to the period third-sixth century CE are not incorrect.

505 Savage-Smith, Swain, and van Gelder 2019: 3.2, 990.

506 E.g., in the notes to the translation of Savage-Smith, Swain, and van Gelder, in HIML: IA, 352 and elsewhere. It has not been remarked before that the interpreter Abū Ḥātim al-Balkhī was from Balkh, the original home of the Buddhist Barmakid family.

507 The passages cited by Strauss (1934: 14–19) include quite literal translations of *Kalpasthāna* 1.37, 1.40, 1.42, 1.29–34cd, 1.47, 1.51cd–52, 1.69, and the famous characterization of a poisoner at 1.19cd–23 (see above, p. ??). The translator of this Arabic work may only have been aware of chapter 1 of the *Kalpasthāna*.

*Suśrutasamhitā* under the name “Shanaq” remains a historical puzzle.<sup>508</sup> Several other Islamic authors knew and cited the *Suśrutasamhitā*.<sup>509</sup>

The *Suśrutasamhitā* was also a formative source for later Arabic works on toxicology. One of the earliest mentions of Shanaq is made in ibn Wahshiya’s *Book on Poisons* (ca. 950). He refers to Shanaq’s book as great and important. This statement is attested to by the fact that much of Shanaq’s work was used by ibn Wahshiya.<sup>510</sup>

The author Suśruta was also cited as a famous authority in Tibetan lexicographical literature of the early ninth century.<sup>511</sup>

Shortly after this time, inscriptional evidence by King Yaśovarman I (r. 889–910) shows that the *Suśrutasamhitā* was known in Cambodia.<sup>512</sup>

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<sup>508</sup> Most scholars agree that this is a Perso-Arabic reception of the Sanskrit name Cāṇakya, but that name was associated not with the *Suśrutasamhitā*, but with the *Arthaśāstra* during or after the time of the Gupta empire (Olivelle 2013: 33–36). The suggestion that it may be “Śaunaka” is not supportable HIMAL: 1A, 150–152.

<sup>509</sup> Listed with references in HIMAL: 1A, 352.

<sup>510</sup> Levey 1966: 6.

<sup>511</sup> HIMAL: IA, 352.

<sup>512</sup> *Idem*.

# Kalpasthāna 1: Protecting the King from Poison

## Introduction

### The meaning of “kalpa”

What does “*kalpa*” mean in the context of this section of the *Suśrutasamhitā*? In medical contexts, this polysemic term can mean an appropriate drug recipe, a suitable medication, or any proper therapy. The present section of the *Suśrutasamhitā* deals with poisonous herbs, animals and insects, so one might expect the term to refer to antidotes or at least drugs. However, the usage here points more to the sense “procedure,” or “formal procedure,” a sense that, in a secular context, echoes the *kalpa* of the *Kalpasūtras*, the “formal procedures” of Vedic ritual.<sup>513</sup> The twelfth-century author Aruṇadatta,<sup>514</sup> glossed *kalpa* simply as *prayogaḥ* “procedure” and as *yojanam* “usage”.<sup>515</sup>

## Chapter 1 of the Kalpasthāna

The first chapter of the Kalpasthāna of the *Suśrutasamhitā* addresses the topic of protecting a king from those who would assassinate him using

<sup>513</sup> Winternitz (1981–85: 252) translated कल्प in the Vedic context simply as “ritual.” He went on to describe the *Kalpasūtras* as, “born out of the necessity to compile the rules for the sacrificial ritual...for the practical purposes of the priests.” Gonda (1977: 467) also used “ritual practice,” giving useful further notes from classical authors in foot-note 8.

<sup>514</sup> “A learned man with a great command of a number of sciences,” (HIML: 1A, 661).

<sup>515</sup> Sarvāṅgasundarī on Aṣṭāṅgahṛdayasaṃhitā 1.16.17ab (Ah 1939: 246) and 5.1 *gadyasūtre* 2 (Ah 1939: 735) respectively.

poison. The king's kitchen is presented as the site of greatest vulnerability. The staff in the kitchen must be vetted carefully and watched for signs of dissimulation. The description of the body-language that tells a poisoner (verses 18–25) are engaging and vivid. These verses are closely parallel in sense to a passage in the *Arthaśāstra* that says,

The signs of a poisoner, on the other hand, are as follow: dry and dark look on the face, stuttering speech, excessive perspiration and yawning, trembling, stumbling, looking around while speaking, agitation while working, and not remaining in his place.<sup>516</sup>

Next, the text discusses the signs of poison in toothbrushes, in food, drink, massage oil and other items that are likely to come into physical contact with the king. In passages that are again paralleled in the *Arthaśāstra* the work describes how poisoned food kills insects and crackles in a fire, flashing blue and the reactions of various birds to poison are described.<sup>517</sup>

The work then moves on to the various symptoms experienced by the king after being poisoned, and remedies appropriate to each case. Poison exhibits characteristic signs when added to milk and other drinks.<sup>518</sup> Further forms of poisoning, their symptoms and treatments are described and finally the king is advised to live amongst trusted friends and to protect his heart by drinking various ghee compounds. He should eat the meat and soup made from various animals, including peacock, mongoose, alligator, deer. The chapter ends with the description of an emetic.

## Literature

A brief survey of this chapter's contents and a detailed assessment of the existing research on it to 2002 was provided by Meulenbeld.<sup>519</sup> Translations of this chapter since Meulenbeld's listing have appeared by Dominik Wujastyk (2003b: 131–139), P. V. Sharma (1999–2001: 3, 1–15), and Srikantha Murthy (2000–02).<sup>520</sup>

<sup>516</sup> *Arthaśāstra* 1.21.8 (Kangle 1965: 1, 30), translation by Olivelle (2013: 97).

<sup>517</sup> Cf. *Arthaśāstra* 1.21.6, *ibid.*, Olivelle (2013: 96).

<sup>518</sup> Cf. *Arthaśāstra* 1.21.6 again.

<sup>519</sup> HIML: IA, 289–290.

<sup>520</sup> For a bibliography of translations to 2002, including Latin (1847), English (1877), Gujarati (1963) and Japanese (1971), see HIML: IB, 314–315. Singhal and Dwivedi

## Translation

- 1–2 And now I shall explain the procedure (*kalpa*) for safeguarding food and drink, as were declared by the Venerable Dhanvantari.<sup>521</sup>
- 3 Divodāsa, the king of the earth, was the foremost supporter of religious discipline and virtue. With unblemished instruction he taught his students, of whom Suśruta was the leader.<sup>522</sup>

Is Dh. the  
teacher of  
Su. else-  
where?

### [Threats to the king]

- 4–5 Evil-hearted enemies who have plucked up their courage, may seek to harm the king, who knows nothing of it. He may be assailed with poisons by or by his own people who have been subverted, wishing to pour the poison of their anger into any vulnerability they can find.<sup>523</sup>
- 6 Therefore, a king should always be protected from poison by a physician.

(1976) translated this sthāna.

521 MS H adds in the margin अथ खलु वत्स सुश्रुतः “Now begins Vatsa Suśruta.” This phrase has been copied here by the scribe from the beginning of the *Suśrutasamhitā* chapter in the *sūtrasthāna* on the rules about food and drink (1.46.3 (Su 1938: 214)). The scribe presumably felt, not unreasonably, that this section had common subject matter with the present chapter. Further, SS 1.46.3 is one of the few places in the Nepalese transmission of the *Suśrutasamhitā* that names Dhanvantari and integrates him into the narrative of the *Suśrutasamhitā* as the teacher of Suśruta.

The mention of Dhanvantari here is one of the few times in the Nepalese transmission that this authority is cited as the source of Ayurvedic teaching, and the unique occurrence of this actual phrase, “as was declared by the Venerable Dhanvantari.” See the discussion by Klebanov (2021a: 28–32), who concluded that the earliest recoverable recension of the *Suśrutasamhitā* may have had the phrase only at this point and not elsewhere in the work. See the further discussion by Birch, Dominik Wujastyk, Klebanov, Parameswaran, et al. (2021). “Dhanvantari” is mentioned in the Nepalese version at 1.1.21, 1.19.37, 1.46.3, 1.29.71, 1.34.1.1, 2.1.3, 2.7.3, 3.19.13.3, 4.2.3, (5.1.2, note), 5.4.3, 6.60.2, 6.64.84.

522 This is a quite different statement from the vulgate which has Dhanvantari as the teacher, and calls him the Lord of Kāśī (*kāśipati*) (Su 1938: 559). Dalhaṇa followed the vulgate but explicitly noted the reading before us with small differences: दिवोदासः क्षितिपतिस्तपोधर्मश्रुताकरः “Divodāsa, the king of the earth, was a mine of traditions about discipline and virtue.”

523 Verses about the use of Venemous Virgins as a weapon do not appear in the Nepalese manuscripts. Cf. Dominik Wujastyk 2003b: 81 f., 132. This material is present in the commentary of Gayadāsa.

- 7 The racehorse-like fickleness of men's minds is well known. And for this reason, a king should never trust anyone.<sup>524</sup>
- 8–11 He should employ a doctor in his kitchen (*mahānasa*) who is respected by experts, who belongs to a good family, is orthodox, sympathetic, not emaciated, and always busy.
- 12–13 The kitchen should be constructed at a recommended location and orientation. It should have a lot of light,<sup>525</sup> have clean utensils and be staffed by men and women who have been vetted.<sup>526</sup>
- 17–18ab The chefs, bearers (*vodhāra*), and makers of boiled rice soups and cakes and whoever else might be there, must all be under the strict control of the doctor.<sup>527</sup>
- 18cd–19ab An expert knows people's body language (*ingita*) through abnormalities in voice, movement and facial expression. He should be able to identify a poisoner by the following signs.
- 19cd–23 Wanting to speak, he gets confused, when asked a question, he never arrives at an answer, and he talks a lot of confused nonsense, like a fool. He laughs for no reason, cracks his knuckles and scratches at the ground. He gets the shakes and glances nervously from one person to another. His face is drained of colour, he is grimy (*dhyāma*) and he cuts at things with his nails.<sup>528</sup> A poisoner goes the wrong way and is absent-minded.
- 25–27 I shall explain the signs to look for in toothbrush twigs, in food and drink as well as in massage oil (*abhyāṅga*) and combs (*avalekhana*); in dry rubs (*utsādana*) and showers, in decoctions (*kaśāya*) and massage ointment (*anulepana*); in garlands (*sraj*), clothes, beds, armour and ornaments; in slippers and footstools, and on the backs of elephants and horses; in snuff (*nasya*), inhaled smoke (*dhūma*), eye make-up (*añjana*),

<sup>524</sup> The verb √ śvas is conjugated as a first class root in the Nepalese manuscripts.

<sup>525</sup> We read महच्छुचिः with the Nepalese manuscripts and against the vulgate's मह-  
च्छुचि. We understand शुचिः as a neuter noun meaning "light" following Apte  
(Apte: 1050a).

<sup>526</sup> Verses detailing the ideal staff are omitted in the Nepalese manuscripts. Cf. Su 1938: 560; Dominik Wujastyk 2003b: 132.

<sup>527</sup> The word सौपोदनैकपूर्णिक "chefs for the boiled rice soups and cakes" is grammatically interesting. The term सूपोदन (as opposed to सूपौदन) is attested in the *Bodhāyanīya-*  
*grhyasūtra* 2.10.54 (Shastri 1920: 68). More pertinently, perhaps, सूपोदन is attested in  
the Bower Manuscript, part II, leaf 11r, line 3 (Hoernle 1893–1912: vol. 1, p. 43).

<sup>528</sup> The word ध्याम is glossed by Dalhaṇa (in a variant reading) as someone who is the  
colour of dirty clothes 5.1 (Su 1938: 560).

Cf.  
Arthaśāstra  
1.21.8.

- etc., and any other things which are commonly poisoned. Then, I shall also explain the remedy.
- 28 Flies or crows or other creatures that eat a poisonous morsel (*bali*) served from the king's portion, die on the spot.
- 29 Such food makes a fire crackle violently, and gives it an overpowering colour like a peacock's throat.
- 30–33 After a *chukar partridge* partridge looks at food which has poison mingled with it, its eyes are promptly drained of colour; *grey peacock-pheasant* drops dead. A *koel* changes its song and the *common crane* rises up excitedly.<sup>529</sup> It will excite a *Indian peafowl* and the terrified *parakeet* and the *common myna* screech. The *swan* trembles very much, and the *racket-tailed drongo* churrs.<sup>530</sup> The *bull* sheds tears and the monkey releases excrement.<sup>531</sup>
- 34cd Vapour rising from tainted food gives rise to a pain in the heart, it makes the eyes roll, and it gives one a headache.<sup>532</sup>
- 35, 36cd In such a case, an *errhine* and a *collyrium* that are *costus*, *lemongrass*, *spikenard* and *honey* (*madhus*);<sup>533</sup> a paste of sandalwood on the heart

529 The verb अच्छति “rises up” is a rare form best known from epic Sanskrit (see Oberlies 2003: 212, §7.6.1). The transmitted form कोञ्चि is obviously a colloquial version of Sanskrit कौञ्चि. Commenting on 1.7.10 (Su 1938: 31), Dalhaṇa interestingly gave the colloquial versions of several Sanskrit bird names, even singling out pronunciation in the specific location of Kānyakubja. For कोञ्चि he said that people pronounce it कुरञ्ज and कोचि. The form कोञ्चि is found in Pāli (see Cone 2001: 731, who notes that Ardhamāgadhī has the same form). Elsewhere, Dalhaṇa called the bird कौञ्चिर, कौञ्चि, and कैचर (1.46.105 (Su 1938: 223), 6.31.154 (Su 1938: 684) and (6.58.44 (Su 1938: 790) respectively).

530 Dalhaṇa seemed confused about the *racket-tailed drongo* (*bhṛīgarāja*). He called it a generic drongo (भ्रमरक), a word that can also mean “bee” (Dave 1985: 62), and then he said that it is like the *black drongo* (*dhūmyāṭa*) (for a nice explanation of this name, see Dave 1985: 62–63) and that people call it “the king of birds.”

531 MS Kathmandu KL 699 reads “*bull* (*vṛṣabha*)” for “*chital deer* (*pṛṣata*).” The latter may perhaps be mistaken for the former in the Newa script, although the reading of MS Kathmandu KL 699 is hard to read at this point.

532 “Tainted” translates उपक्षित. The word’s semantic field includes “to hurl, throw against,” and especially “to insult verbally, insinuate, accuse.” The commentator Dalhaṇa glossed the term as, “spoiled food given to be eaten” (विदूषितस्यान्नस्य भोक्तु दत्तस्य), but he noted that some people read “उखाक्षित” or “thrown into a pan.” Other translators have commonly translated it as “served,” perhaps influenced by Dalhaṇa’s “given (दत्त).”

533 The vulgate supplies another phrase and verb at this point that is not present in the

- may also provide relief.<sup>534</sup>
- 37 Held in the hand, it makes the hand burn, and the nails fall out. In such a case, the ointment (*pralepa*) is **beautyberry**, **velvet-mite**, **soma** and **blue water-lily**.<sup>535</sup>
- 38–39 If he eats that food, through inattention or by mistake, then his tongue will feel like a pebble (*asthīlā*) and it will lose its sense of taste. It stings and burns, and his saliva (*ślesman*) dribbles out.<sup>536</sup> In such a case, he should apply the treatment recommended above for vapour (*bāṣpa*), and what will be stated below under “toothbrush twigs”.<sup>537</sup>
- 40 On reaching his stomach, it causes stupor (*mūrcchā*), vomiting, the hair

Nepalese transmission, but that makes the text flow more easily.

- 534 Singhal et al. (1972–82: 350) discussed the difficulties in identifying लामज, a plant cited more often in the *Suśrutasaṃhitā* than in the *Carakasaṃhitā*; Dalhana adopted the common view that it is a type of *uśira* or vetiver grass. The grammatical neuter form मधुस् “sweetness” of the Nepalese manuscripts is less common than neuter मधु “honey, sweetness, liquorice.”
- 535 “Beautyberry” (*Callicarpa macrophylla* Vahl.) is one identification of श्यामा, but vaidyas and commentators have different ideas about the plant’s identity (see glossary).

On translating इन्द्रगोप as “velvet-mite,” see Lienhard 1978. Dalhana’s remarks show that he had a reading इन्द्रागोप before him, and he tries to explain इन्द्रा and गोप as separate plants. But he also says that some people read इन्द्रगोप.

Dalhana curiously parsed the name सोमा (f.) out of the compound; this feminine noun is almost unknown to Ayurvedic literature. Some dictionaries and commentators consider it a synonym for गुडूची, others for ब्राह्मी or चन्द्रतरु. Dalhana also mentioned that some people think the word refers to the soma creeper (*सोमलता*), which might explain his choice to take the word as feminine. But the compounded word is far more likely to be सोम (m.), the well-known mystery plant (see Dominik Wujastyk 2003b: 76–78, 125). If this can be taken as rue (*Ruta graveolens*, L.), as some assert, one can point to a pleasing passage in Dioscorides where rue plays an antitoxic role: “...it is a counterpoison of serpents, the stinging of Scorpions, Bees, Hornets and Wasps; and it is reported that if a man be anointed with the juice of the Rue, these will not hurt him; and that the serpent is driven away at the smell thereof when it is burned; insomuch that when the weasel is to fight with the serpent she armeth herself by eating Rue, against the might of the serpent” (cited from Potter: 262; not found in Osbaldeston and Wood 2000).

- 536 The word अष्टीला is normally feminine. The Nepalese manuscripts read it with a short अ- ending. Gayadāsa noticed that some manuscripts read अष्टील with a short -अ ending (MS Bikaner RORI 5157, f. 5v:7–8) and Dalhana reproduced his observation. The vulgate reading चास्यात् “and from his mouth” is more obvious (*lectio facilior*), but is not attested in the Nepalese manuscripts.
- 537 Poisoned toothbrushes are discussed in verses 48 ff. below.

stands on end, there is distension, a burning feeling and an impairment of the senses.<sup>538</sup>

- 41 In this case, vomiting must quickly be induced using the fruits of **emetic nut**, **gourd**, **red gourd**, and ??, taken with milk and **watered buttermilk**, or alternatively with rice-water.
- 42 Reaching the intestines (*pakvāśaya*), it causes a burning feeling, stupor, diarrhoea, thirst, impairment of the senses, flatulence (*āṭopa*) and it makes him pallid and thin.
- 43 In such a case, purgation with the fruit of indigo (*nīlī*), together with ghee, is best. And ‘slow-acting poison antidote (*dūṣīviśāri*)’ should be drunk with honey and curds (*dadhi*).<sup>539</sup>
- 44 When poison is in any liquid substances such as milk, wine or water, there are various streaks, and foam and bubbles form.
- 45 And no reflections are visible or, however, if they can be seen once more, they are distorted, fractured, or tenuous and distorted too.<sup>540</sup>
- 46 Vegetables, soups, food and meat are soggy and tasteless. They seem to go stale suddenly, and they have no aroma.
- 47 All edibles lack aroma, colour or taste. Ripe fruits rapidly rot (*pra√kuth*) and unripe ones ripen.<sup>541</sup>
- 48 When a toothbrush twig has poison on it, the bristles are corroded and the flesh of the tongue, gums and lips swells up.<sup>542</sup>
- 49 Then, once his swelling is lanced, one should rub (*pratisāraṇa*) it with **fire-flame bush** flowers **jambul**, **mango** stones and **chebulic myrobalan**

I'm still unhappy about this verse.

Mention this in the introduction as an example of the scribe knowing the vulgate.

fn about sadyas+

538 I translate मूच्छी in the light of the metaphors discussed by Meulenbeld (2011), that include thickening and losing consciousness.

539 The ‘slow-acting poison’ is discussed at 5.2.25 ff. (Su 1938: 565).

540 Both Nepalese witnesses read विकृत (distorted) twice, which is tautologous. In the first occurrence both read विकृता without proper termination. One might read the sandhi in the second occurrence as or not distorted (*vāvikṛtā*), but this gives no better sense. The scribe of MS Kathmandu NAK 5-333, apparently the original hand, added in the margin the alternate reading “double (*yamalā*)” as in the vulgate. Perhaps the scribe too was troubled by the tautology. It is also evidence that he was aware of a witness with variant readings similar to the vulgate. We emend for grammar but retain the *lectio difficilior*.

541 The root √कुश “stink, putrify, rot” is apparently known only from its few uses in the *Suśrutasaṃhitā*.

542 Gayadāsa and Ḏalhaṇa pointed out that “tooth socket (दन्तवेष्ट)” and “gum (दन्तमांस)” have the same meaning (2.16.14–26 (Su 1938: 331–332)).

- fruit mixed with honey.<sup>543</sup>
- 50 Alternatively, the rubbing (*pratisāraṇa*) can be done with either the roots of sage-leaved alangium, the bark of blackboard tree or siris seeds.<sup>544</sup>
- 51ab One should give advice about a poisoned tongue-scraper or mouth-wash (*kavala*) in the same way as for a toothbrush twig.
- 51cd Massage oil that has been laced with poison is slimy, thick and discoloured.
- 52 When the massage oil has been contaminated with poison, boils arise, pain, a discharge (*srāva*), inflammation of the skin, and sweating.<sup>545</sup> And the flesh splits open.
- 53–54 In such a case, sandalwood, crape jasmine, costus, and vetiver, bamboo leaves, heart-leaved moonseed and heart-leaved moonseed, white clitoria, sacred lotus, and Indian barberry should be made into an ointment (*anulepana*) for the patient, who has been sprinkled with cold water. That is also recommended as a drink with the juice and leaves of wood-apple.<sup>546</sup>
- 55 In the case of a dry rub (*utsādana*), a shower (*parīṣeka*), an infusion, a massage ointment (*anulepana*), or in beds, clothes, or armour, the physician should understand that it is the same as for oil massage (*abhyāṅga*).<sup>547</sup>
- 56–58 When a comb has poison in it, the hair falls out, the head aches and blood oozes from the follicles (*kha*) and lumps (*granthi*) appear on the head. In such a case, one should repeatedly apply an ointment of black earth soaked with bear's bile,<sup>548</sup> ghee, beautyberry,<sup>549</sup> black creeper,

Bear's bile  
instead of  
deer's bile.

- 
- 543 This recipe is different from the vulgate.
- 544 The spelling of the name अङ्कोल् varies अङ्कोट, अङ्कोठ, अङ्कोल (GVDB: 5); Dalhaṇa noted that the form अङ्कोल् is a colloquialism (1.37.12 (Su 1938: 161)). The sentence is awkward and we have emended शिरीषमाषक to be a plural, as in the vulgate, rather than the ablative singular of the Nepalese witnesses. We follow Dalhaṇa in interpreting the compound to refer to the distinctive bean-like siris seeds, rather than to mung beans (5.1.50 (Su 1938: 562)).
- 545 The feminine स्फोटा for "boils" is unattested.
- 546 This compound could be interpreted as "wood apple juice and malabathrum." Note that this recipe is differs from that of the vulgate, which requires urine.
- 547 See verse 52 above.
- 548 Dalhaṇa comments here that 'bile is that fluid which goes along inside the tube attached to the liver' (कालखण्डलभनलिकामध्यगतजलं पित्तम्) 5.1.57 (Su 1938: 562).
- 549 See note 535.

and **prickly amaranth**. Good alternatives are either the fluid extract of cow-dung, or the juice of **royal jasmine**, the juice of **purging nut tree**, or household soot.<sup>550</sup>

- 59 If either massage oil for the head, or a helmet for the head, in a wash, turban, or garlands that are contaminated with poison, then one should treat it in the same way as a comb.
- 60–61 When face make-up is poisoned, the face becomes dark and has the symptoms found with poisoned massage oil. It is covered with spots (*kantaka*) that are like lotus-spots (*padminikantaka*).<sup>551</sup> In this case, the drink is honey and ghee, and the ointment (*pralepa*) is sandalwood with ghee, curds, honey, **verbena**, **scarlet mallow** and **hogweed**.<sup>552</sup>
- 62–63ab Elephants and the like become ill and they dribble saliva. And the rider gets spots (*sphoṭa*) and a discharge on his scrotum, penis, and rectum. In this case, one prescribes the same therapy as for poisoned massage oil for both the rider and the mount.
- 63cd–65ab When there is poison in snuff (*nasya*) or smoke, the symptom (*liṅga*) is blood coming out of the apertures of the head (*kha*), a headache, a flow of mucus (*kapha*) and impairment of the senses. In such a case, ghee of cows etc., boiled up with their milk and **Indian aconite**, is prescribed, with **henna**, as a cold drink or errhine.
- 65cd–66 Flowers lose their fragrance and colour, and wilt. On smelling them, he gets a headache and his eyes fill with water. In this case, the treatment is what was proposed above for vapour (*bāṣpa*) and that which is traditional for face make-up.
- 67–68 When it is in ear-oil, there is degeneration in the ear, and painful swell-

punarnavā  
in the N &  
K MSS

śrīta for  
śrīta

<sup>550</sup> The plant identifications in this passage follow Dalhaṇa's glosses, although he noted a difference of opinion on the identity of **purging nut tree** (lit. "mouse-ear").

The expression धूमो वागारसंज्ञितः "...or the smoke termed "house"' is commonly interpreted by translators and in Ayurvedic dictionaries as 'household soot,' and this does seem to be the meaning, in context. The term was comprehensively discussed by Meulenbeld (2008b: 443). Cf. note 652, p. 217.

<sup>551</sup> See the description of this condition at 2.13.40 (Su 1938: 323), where the skin on the face is characterized as having pale circular patches that are itchy and have spots.

<sup>552</sup> The common plant-name पुनर्णवा is read as पुनर्णवा in both Nepalese witnesses. This unusual form is technically-speaking legal according to Pāṇini 8.4.3, but is not attested in published texts. पुनर्णवा is found rarely in some other Nepalese manuscripts such as the *Brahmayāmala* (a.k.a. *Picumata*, 44.81, transcription thanks to Shaman Hatley), and elsewhere (e.g., in Gaṇapatiśāstrī 1920–25: 20, where it is the name of a constellation).

ing. There is also a discharge from the ear and in such a case it needs to be irrigated (*pratipūraṇa*) promptly with ghee and honey. Extracted juice (*svarasa*) of **wild asparagus** and very cold juice of **white cutch tree** are also recommended as something beneficial.<sup>553</sup>

- 69 When poison is mixed in with eye make-up (*añjana*), he gets tears and rheum (*upadeha*), with a burning feeling, pain, faulty vision (*dr̥stivibhrama*), and possibly even blindness.<sup>554</sup>

70–71 In this case, one must immediately drink ghee and have it also in an eyewash (*tarpaṇa*) with **long pepper**. One should have an eye ointment (*añjana*) of the juice of **periploca of the woods** and have the extract (*niryāsa*) of **three-leaved caper**, **wood-apple** and **periploca of the woods** and the flower of **marking-nut tree**.

- 72–73 Because of poisoned slippers there will definitely be a swelling, numbness (*svāpa*), a discharge (*srāva*) and an outbreak of spots (*sphoṭa*) on the feet. One should clean (*pra/ sādh*) footstools together with slippers.

- 74 Ornaments lose their lustre, and they do not shine as they used to. They damage their respective locations with burning, sepsis (*pāka*), and fissuring (*avadāraṇa*).<sup>555</sup>

- 75ab One should apply the stated procedure for massage oil (*abhyāṅga*) to poisoned slippers and ornaments.

- 75cd–76 In the case of the affliction (*upasarga*) by poison which has been described above, starting from ‘vapour’ and ending with ‘ornaments,’ the physician should observe the side-effects (*upadrava*) and then prescribe the therapy called the Great Fragrance (*mahāsugandha*) antidote, which I shall describe.<sup>556</sup>

- 77–78ab He should prescribe it in drinks, liniments (*ālepana*), errhines (*nasya*), and in eye ointment (*añjana*). Also, he should use sharp purgatives and emetics. If bleeding is present, he should have the indicated veins

<sup>553</sup> The syntax of the Nepalese version is slightly unclear, but the vulgate has smoothed out the difficulties.

<sup>554</sup> The term translated as “faulty vision” could also mean “rolling eyes.” “Eye make-up” is normally made of **Indian barberry**.

<sup>555</sup> The reading अवदारण in MS Kathmandu KL 699 is not attested elsewhere in Sanskrit literature. On “sepsis” for पाक, see Dominik Wujastyk 2003b: xlv–xlvi.

<sup>556</sup> This antidote is indeed described later, in dramatic terms, at 5.6.14–27 (Su 1938: 581). A recipe with eighty-five ingredients including cow’s bile, it is praised as chief of all antidotes, one that can drag the patient back from the very jaws of death, from even the poisonous fangs of Vāsuki. A useful survey of the meanings of उपसर्ग (“affliction”) was given by HML: IB, 332

Medical difference from Sharma.

example where the vulgate clarifies that these should be used separately; appears to be a gloss inserted into the vulgate text.

The two uses of prāpta are hard to translate. prāptā → kṣipram is an example of the vulgate banalizing the Sanskrit text to make sense of a difficult passage.

pierced.

- 78cd–79ab If either purging nut or a fern is tied on to the King's wrist, then all food that is mixed with poison will be rendered free of poison.<sup>557</sup>
- 79cd–80 He should always guard his heart when amongst people who are not his friends.<sup>558</sup> Before eating, he should drink the kinds of ghee called "Invincible" and "Immortal".<sup>559</sup> He should drink ghee (*sarpis*), honey, curds (*dadhi*), milk (*payas*), or cold water.
- 81 He should consume monitor lizard, peacock, mongoose, chital deer, and blackbuck too, that destroy poison, and their juices.
- 82 As discerning person should add well-crushed black creeper,<sup>560</sup> liquorice, and sugar to the meats of Indian monitor lizard, mongoose and blackbuck too.
- 83 Add sugar and Indian aconite to peacock flesh, together with ginger. And for meat from a chital deer, he should add long pepper, with ginger.
- 84ab A cold neem broth with honey and ghee is wholesome too.
- 84cd A discerning person should partake of hard and soft foods that counteract poison.<sup>561</sup>
- 85 If poison might have been drunk, a person who has protected his heart should make himself vomit using long pepper, liquorice, honey, sugar, sugar cane juice, and water.

✓ vyadhi  
not ✓ vedha  
(also elsewhere and for the ears), causative optative.

The first chapter in the Kalpas.

557 In early Ayurvedic literature, the plant अजरुहा is mentioned only here and its identity is unknown. It may be a fern of the Nephrodium family, according to T. B. Singh and Chunekar (GVDB: 7). Dalhana, on 5.1.78 (Su 1938: 563), cited a description of the two plants from the little-known authority Uśanas (HIML: IA, 660 et passim) who described अजरुहा as a white root with spots on it that looks like collyrium when it is split; when drunk with sandalwood it causes poison to be digested.

558 The Carakasamhitā described "protecting the heart" (हृदयावरण) as drinking several sweet, oily drinks to surround the heart and keep it safe (6.23.46 (Ca 1941: 574)). Dalhana on 5.1.79–81 (Su 1938: 563) explained it as taking a number of anti-toxic medicines, including those listed in the present passage, in order to cover or hide (प्रच्छादन) the heart. Note that the Nepalese version reads the opposite of the vulgate: one should guard one's heart when amongst enemies, not friends. This is far more logical; it is also the reading known to the 1.8.89 (As 1980: 79).

559 These ghee compounds are described in later chapters: see 5.2.47–49 (Su 1938: 566) and 5.6.13 (Su 1938: 581).

560 Dalhana on 5.1.82 (Su 1938: 563) equated this with turpeth.

561 On this expression, see Yagi 1994.



# Kalpasthāna 2: Poisonous Plants

## Introduction

This section begins with several lists of poisonous plants. The Sanskrit names for these plants are mostly not standard or familiar from anywhere in Sanskrit or ethnobotanical literature. It remains a historical puzzle why these particular names are so difficult to interpret. However, we are not the first to encounter these difficulties.

In the eleventh century, Cakrapāṇidatta commentated on a similar list of poisons in the *Carakasamhitā*, and referred to the *Suśrutasamhitā* on the topic.<sup>562</sup> He also noted that,

In assigning the names to these plants, the main authorities are the Kirātas and Śabaras, who know about these things because they can explain these matters on the basis of a succession of teachers.<sup>563</sup>

About a century later, the learned commentator on the *Suśrutasamhitā*, Ḏalhaṇa, remarked,

In spite of having made the greatest effort, it has been impossible to identify these plants. In the Himalayan regions, Kirātas and Śabaras are able to identify them.<sup>564</sup>

From the view of Sanskrit authors, Kirātas and Śabaras were tribal peoples.<sup>565</sup>

<sup>562</sup> Cakrapāṇidatta on 6.23.11 ([Su 1939](#): 571).

<sup>563</sup> Cakrapāṇidatta on *Carakasamhitā* 6.23.11 ([Su 1938](#): 571).

<sup>564</sup> After *Suśrutasamhitā*, *kalpasthāna* 2.5 ([Su 1938](#): 564).

<sup>565</sup> Both communities are mentioned in Sanskrit literature from antiquity. The Kirātas

In the tenth or eleventh century, the author Bhikṣu Govinda cast his alchemical treatise as a dialogue with a Kirāta king called Madana who was a master of the alchemical art.<sup>566</sup> So there was an awareness amongst Sanskrit medical and alchemical authors of that period that different populations were a source of specialized knowledge in these domains, and the Sanskrit authors were open to these sources and indeed depended on them.

Dalhaṇa also recorded variant readings of these poison names from the manuscripts that he consulted of the lost commentary of Gayadāsa (fl. c. CE 1000). The identities of these poisons have thus been in doubt for at least a thousand years.<sup>567</sup> Firm identification has in many cases been equally impossible for us today.

One path for exploration in this situation is to attempt to reverse-engineer some identifications by considering the known toxic plants of India.<sup>568</sup>

## Shock

An important new topic introduced in this chapter (34–39) is that of “toxic shock” (*vega*). When a patient has been poisoned, the effect of the toxin is expressed in their body in seven waves or pulses, *vegas*. At each stage, symptoms are slightly different and a different therapeutic regime is prescribed (40–44).

The Sanskrit term *vega* has a range of uses, from “impulse” to “urge, jerk, rush, speed,” or “impetus.” It appears in the well-known passage in

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are associated especially with Eastern Nepal, the Himalayan and north-eastern regions of South Asia, while the Śabara people are mainly associated with Odisha and West Bengal. Representative studies on these communities include Elwin (1955), B. K. Roy (1970), Chatterji (1974), G. P. Singh (1990), Subba (1999), Girish P. Singh (2008), and R. Rai (2019).

<sup>566</sup> [HIML: IIA, 620](#).

<sup>567</sup> See Dominik Wujastyk [2003b](#): 80–81.

<sup>568</sup> Valuable reference sources on Indian plant toxicology in general include V. V. Pillay [2013](#); chs. 10, 11 and Barceloux [2008](#): parts 1.II, 3 and 4. More generally Bown ([NEH](#): 41 et passim) comments usefully of herbs in general that “it goes without saying that if they can do good, they must contain substances that in excess can poison.” See for a general list of poisonous plants, see Wikipedia contributors [2025c](#).

the *Carakasamhitā* about avoiding illness not ignoring or suppressing “natural urges,” *vegas*, such as the desire to urinate.<sup>569</sup>

According to the author of the *Aṣṭāṅgasaṅgraha*, Ālambāyana was the ancient authority who declared that the seven pulses (*vega*) of toxic shocks affect, successively, the seven substrata (*āśraya*) of the body, from blood to semen, and Dhanvantari originated the idea that this applied to victims of snake-bite.<sup>570</sup>

The commentator Indu (fl. 1000–1150) cited verses by Ālambāyana asserting that the pipes in the body carry poison to the heart, but that the heart can be protected by ghee.<sup>571</sup>

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>572</sup>

<sup>569</sup> See *Carakasamhitā* 1.7 (Ca 1941: 49–55), discussed and translated in Dominik Wujastyk 2003b: 7–8, 15–17.

<sup>570</sup> *Aṣṭāṅgasaṅgraha* 6.40.35 (As 1980: 844): ससेति वेगा मूर्छाद्या विदेहपतिना स्मृताः ॥३४॥ रक्तमांसवसान्नायु तथाऽस्थ्याद्यास्थ्यः क्रमात्। आश्रयाः सप्त सप्तानामित्यालम्बायनोऽब्रवीत्॥३५॥. The following verse named Dhanvantari as the originator of the idea that toxic pulses are experienced specifically by a person bitten by a snake (वेगान्धन्वन्तरिस्तद्वत्सर्पदृष्टस्य मन्यते। 36ab). The commentator Indu noted that Dhanvantari was the teacher of Suśruta, i.e., that “Dhanvantari” was shorthand for *Suśrutasamhitā*. On Ālambāyana, see p. 250, note 784.

<sup>571</sup> *Aṣṭāṅgasaṅgraha* 6.40.60 (As 1980): याः सिराः सर्वगात्रेषु हृदये सम्प्रतिष्ठिताः। ताभिरस्य विषं सर्वं हृदयं सम्प्रधावति॥ घृतेन तु प्रतिच्छन्नं विषं नाति प्रपीडयेत्। निर्वाणजननं सर्पिः प्राणिनां प्राणवर्द्धनम्॥ हृदयावरणास्तद्वद्दक्ष्या भौज्याश्च सागदाः॥

<sup>572</sup> HIMAL: IA, 290–291.

## Translation

- 1 And now I shall explain required knowledge (*vijñānīya*) about stationary poisons.<sup>573</sup>
- 3 It is said that there are two kinds of poisons, stationary (*sthāvara*) and mobile (*jaṅgama*). The former dwells in ten sites, the latter in sixteen places.
- 4 Traditionally, the ten are: root, leaf, fruit, flower, bark, milky sap (*kṣīra*), pith (*sāra*), resin (*niryāsa*), minerals (*dhātu*), and the tuber.
- 5 In that context,

A The eight items with poisonous roots are:<sup>574</sup>

1. liquorice,<sup>575</sup>
2. sweet-scented oleander,
3. jequirity,
4. Indian aconite,<sup>576</sup>
5. mountain gardenia,<sup>577</sup> and ending with
6. leadwort,
7. country sarsaparilla,<sup>578</sup> and
8. medhshingi.<sup>579</sup>

<sup>573</sup> No reference is made to Dhanvantari (see Birch, Dominik Wujastyk, Klebanov, Parameswaran, et al. 2021). “Stationary” here is a term contrasted with “moving,” and signifies plants as opposed to animals and insects.

<sup>574</sup> Some South Asian plants with poisonous roots that we would expect to see in this list include *Croton tiglium*, L., *Calotropis* spp. (purple calotropis (*arka*), etc.), *Citrullus colocynthus* L. Schrad. (colocynth (*indravāruṇī*)), and *Ricinus communis* L. (castor-oil (*eranda*)), (CIPP).

<sup>575</sup> Liquorice eaten in excess can be poisonous, but it is unlikely to be the plant intended here. T. B. Singh and Chunekar (GVDB: 124) specifically noted that the poisonous root mentioned in this passage, “remains to be identified.” Cf. glossary for discussion.

<sup>576</sup> The vulgate reads snakeroot (*sugandhā*), which can be poisonous.

<sup>577</sup> Conjectural identification with mountain gardenia (*karahāṭa*); similar-sounding candidates also include galls (*karkataka*) and mountain gardenia (*karaghāṭa*), but since this is a prose passage, there would be no reason to alter the word to fit a metre.

<sup>578</sup> The text reads masculine *ananta*, which is not a plant name. Gayadāsa’s commentary on 5.2.5 (Su 1938: 564) noted a variant reading of feminine *anantā* in place of *gargaraka*, earlier in the compound. But the feminine country sarsaparilla (*anantā*) is not a poisonous plant.

<sup>579</sup> Meulenbeld (1989: 61, n. 3) argued that our text reads a masculine or neuter noun *vijaya*, which never signifies cannabis. However, unlike the vulgate, the unanimous

B The leaf-poisons include:

- poison-leaf,
- drum-giver,
- an aroid, and
- a large aroid.

C The fruits of items like: *jequirity*, *marking-nut tree*, and *poison-bench* are:

- water snowflake,
- pollen,
- bluebell barleria,
- unknown fruit poison,
- an aroid
- a large aroid
- spurge,
- crow.

D The flower-poisons include those of:

- musk mallow,
- Indian fumitory,<sup>580</sup>
- an aroid, and
- a large aroid.

E the bark, pith (*sāra*) and resin (*niryāsa*) of:

- gourd,
- mountain gardenia,
- an aroid, and
- munj grass.

F The milky sap of:

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readings of the Nepalese manuscripts give feminine *vijayā*. Nevertheless, even the feminine form only started to signify *Cannabis sativa* L. after the end of the first millennium (Meulenbeld 1989; Dominik Wujastyk 2002; McHugh 2021). See further notes in the glossary under *medhshingi*.

<sup>580</sup> रेणु and रेणुक/-का are different plants (Indian fumitory (*renu*), pollen (*renukā*)). MS Kathmandu KL 699 reads the first; the scribe of MS Kathmandu NAK 5-333 added an additional -क in the margin. Three further plants are in the vulgate version of this list, *rattan* (*vetra*), *kadam flowers* (*kādamba*), and *gourd* (*vallīja*).

- water snowflake,<sup>581</sup>
- red physic nut,
- oleander spurge, and
- luffa.

G The mineral (*dhātu*) poisons include:<sup>582</sup>

- orpiment,
- cuttle-fish bone,
- ashes, and
- vermilion.<sup>583</sup>

H The tuber poisons are:

- jequirity,
- Indian aconite,
- sarṣapaka,
- leadwort,
- muddy-bulb,
- 'Virāṭa's plant',
- nutgrass,
- atis root,
- climbing diamond flower,
- radish,
- 'alas, alas',
- big poison, and
- galls

## Symptoms of poisoning

### Roots, leaves, fruits, bark, and milky sap

7–10 People should know that root-poisons cause writhing (*udvesṭana*), ranting (*pralāpa*), and delirium (*moha*), and leaf-poisons cause yawning,

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<sup>581</sup> While the identity of this plant is uncertain, the Nepalese version of the *Suśrutasamhitā* does not present the hopeless problem of the vulgate's reading कुमुदनी (see Dominik Wujastyk 2003b: 140, n. 100).

<sup>582</sup> The following identifications are even more than usually uncertain. Note that the vulgate text specifies that there are two mineral poisons.

<sup>583</sup> If this identification as **vermilion** (*rakta*) (cinnabar) is correct, it is an unexpectedly early mention of the substance.

wrigthing, and wheezing (*śvāsa*).

Fruit-poisons cause swelling of the scrotum, a burning feeling and writhing. Flower-poisons will cause vomiting, distension (*ādhmāna*) and sleep (*svāpa*).

The consumption of poisons from bark, pith (*sāra*) and resin (*niryāsa*) will cause foul breath, hoarseness (*pāruṣya*), a headache, and a discharge of phlegm (*kapha*).<sup>584</sup>

The milky sap (*kṣīra*)-poisons make one froth at the mouth, cause loose stool, and make the tongue feel heavy.<sup>585</sup> The element (*dhātu*)-poisons give one a crushing pain in the chest, make one faint and cause a burning feeling on the palate.

These poisons are classified as ones which are generally speaking lethal after a period of time.

### 11–17 Symptoms of tuber poisoning

The tuber-poisons, though, are severe. I shall talk about them in detail.<sup>586</sup>

With **jequirity**, there is numbness and very severe trembling.

With **Indian aconite**, there is rigidity of the neck, and the faeces, and urine become yellow.

With **Indian mustard derivative**, the wind becomes defective (*vātavai-guṇya*), there is constipation (*ānāha*), and lumps (*granthi*) start to appear.

With **leadwort**, there is weakness in the neck, and speech gets jumbled.<sup>587</sup>

With the one called **muddy-bulb**, there is a discharge (*praseka*), the faeces pour out, and the eyes turn yellow.

The '**Virāṭa's plant**' causes pain in the body and illness in the head.

<sup>584</sup> At 1.2.6 (Su 1938: 11), Ḏalhaṇa glossed hoarseness (*pāruṣya*) as *vāgrūkṣatā*, “a rough, dry voice.”

<sup>585</sup> At 6.54.10 (Su 1938: 773), Ḏalhaṇa glossed loose stool (*vidbheda*) as *dravapuriṣatā*, “having liquid stool.”

<sup>586</sup> See Ḏalhaṇa's comments on the impossibility of identifying the following plants, p. 195 above. All the following plant identifications are tentative in the extreme; see the glossary for discussion.

<sup>587</sup> The verse in the Nepalese version ends with a plural verb that does not agree with the dual of the sentence subject.

- Paralysis of one's arms and legs and trembling are said to be caused by nutgrass.<sup>588</sup>
- 15b With big poison, one's limbs grow weak, there is a burning feeling and swelling of the belly.<sup>589</sup>
- 16a With white lotus, one's eyes go red, and one's belly becomes distended.<sup>590</sup>
- 16b With radish, one's body is drained of colour and the limbs are paralysed.<sup>591</sup>
- 17a With 'alas, alas', a man turns a dark colour (*dhyāma*), and gasps.<sup>592</sup>
- 17b With atis root one gets violent knots (*granthi*) and stabbing pains in the heart.<sup>593</sup>
- 18a With monkey, one leaps up, laughs, and bites.
- 18b-19a There are thirteen tuber-poisons that are said to be fiercely potent. These ones that have been stated are connected with ten positive qualities.<sup>594</sup>

<sup>588</sup> The substitution in MS Kathmandu NAK 5-333 affecting 15cd is caused by an eye-skip to the word *viṣena* in 2.17.

*Mustaka*

<sup>589</sup> The poisonous root big poison (*mahāviṣa*) is not clearly identifiable, although *viṣā* is commonly aconite. Verse 6 above notes that there are several kinds of aconite.

<sup>590</sup> The word *pūṇḍarīka* very commonly means white lotus. The entire plant is edible and cannot be the poison intended here. T. B. Singh and Chunekar (GVDB: 252) noted that this poison is unidentified and that it is also listed as a poison in *Carakasamhitā* 6.23.12571. At that locus, the commentator Cakrapānidatta referred to the present chapter in the *Suśrutasamhitā* and also said that the identities of these poisonous plants could only be ascertained by consulting Śabaras and Kirātas, since they alone were experts in receipt of traditional wisdom from their lineages of teachers (एतेषां च संज्ञासंबन्धे शबरकिरातादय एव तद्विद्याः प्रमाणं, ते हि गुरुप्ररंपरया व्याख्यानयन्ति ॥).

<sup>591</sup> The word *mūlaka* very commonly means the radish, *Raphanus sativus*, L. The root is edible and cannot be the poison intended here. T. B. Singh and Chunekar (GVDB: 317) noted that this poison is unidentified.

<sup>592</sup> Identification of *hālāhala* is uncertain. It may simply be a mythical poison, or its specific identity may have been lost over the centuries. Late *nighaṇṭus* identify it as *stomaka* = *vatsanābha*, i.e., *Aconitum napellus*, L. (Sodhalanighaṇṭu p. 43). Dalhaṇa on 5.2.17 (Su 1938: 564) interpreted our "gasps" as "the man laughs and grinds his teeth." But this gloss is probably displaced and intended to apply to verse 2.18.

<sup>593</sup> T. B. Singh and Chunekar (GVDB: 407) noted that *vatsanābha* and *śringīviṣa* are two different varieties of poisonous Aconites that are difficult to distinguish.

<sup>594</sup> This verse reads differently, and scans poorly, in the vulgate. The vulgate's प्रत्यक्तानि "are contradicted" is awkwardly explained by Dalhaṇa as "are stated individu-

19cd–20ab The ten are, traditionally:

- dry,
- hot,
- sharp,
- rarefied,
- fast-acting,
- pervasive,
- expansive,
- limpid,
- light, and
- indigestible.

- 20b Because of dryness, it may cause inflammation of the wind; because of heat it inflames the choler and blood. Because of the sharpness it unhinges the mind, and it cuts through the connections with the sensitive points (*marman*). Because it is rarified it can infiltrate and distort the parts of the body.<sup>595</sup>
- 22 Because it is fast-acting it kills quickly, and because of its pervasiveness it affects one's whole physical constitution (*prakṛti*).<sup>596</sup> Because of its expansiveness it enters into the humour (*dosa*)s, bodily constituents (*dhātu*)s, and even the impurities. Because it is limpid it overflows, and because it is light it is difficult to treat. Because it is indigestible it is hard to eliminate. Therefore, it causes suffering for a long time.
- 24 Any poison that is instantly lethal, whether it be stationary, mobile, or artificial, will be known to have all ten of these qualities.

## Slow-acting poison

- 25cd–26 A poison that is old or destroyed by anti-toxic medicines, or else dried up by blazing fire, wind, or sunshine, or which has just spontaneously

ally" (Dalhaṇa on 5.2.18cd (Su 1938: 535)). "Positive" translates कुशलानि, which is not present in the vulgate.

595 We read the active *vikaroti* with Dalhaṇa against the transmitted passive *vikriyeta*, since it must be the parts of the body that are distorted, not the poison.

596 Dalhaṇa on 5.2.22 (Su 1938: 565) explained this as "takes the form of pervading the whole body (*akhiladehavyāptirūpam*)."

- lost its features,<sup>597</sup> becomes a slow-acting poison (*dūṣīviṣa*).<sup>598</sup> Because it has lost its potency it is no longer perceived. Because it is surrounded by phlegm (*kapha*) it has an aftermath that lasts for a very long time.
- 27 If he is suffering from this, the colour of his stools changes, he gets a sour, bad taste and is very thirsty. Speaking nonsensically and close to death, wandering about, he may feel faint, giddy, and aroused.<sup>599</sup>
- 28 If it lodges in his stomach (*āmāśaya*), he becomes sick because of wind and phlegm; if it lodges in his intestines (*pakvāśaya*), he becomes sick because of wind and cholera. A man's hair and limbs fall away and he looks like a bird whose wings have been chopped off.
- 29a–c If it lodges in one of the body tissues such as chyle (*rasa*), it causes the diseases arising from the body tissues, that have been said to be wrong.<sup>600</sup> and it rapidly becomes inflamed on days that are nasty because of cold and wind.
- 29d–31 Listen to its initial symptoms (*liṅga*): it causes heaviness due to sleep, yawning, disjunction (*viślesa*) and horripilation (*harṣa*) and a bruising of the limbs (*aṅgamarda*).<sup>601</sup> Next, it causes intoxication from food (*annamada*) and indigestion, loss of appetite (*arocaka*), the condition of having a skin disease (*koṭha*) with round blotches (*maṇḍala*),<sup>602</sup> dwindling away (*kṣaya*) of flesh, swelling of the feet, hands, and face, the fever called *pralepaka*, vomiting and diarrhoea.<sup>603</sup> The slow-acting poison might cause wheezing, thirst and fever, and it might also cause distension of the abdomen.
- 32 These various disorders are of many different types: one poison may produce madness, while another one may cause constipation (*ānāha*),

597 Dalhaṇa specified that this refers to the ten qualities that are mentioned above (5.2.26 (*Su 1938*: 565)).

598 Dalhaṇa cited this verse at 1.46.83 (*Su 1938*: 222) while explaining *dūṣīviṣa* (see p. 205).

599 Similar symptoms of slow-acting poison are described at 2.7.11–13 (*Su 1938*: 296) in the context of contamination dropsy (*dūṣyodara*). This may explain why the vulgate inserted reference to this disease at this point.

600 The expression *ayathāyathoktān* “stated to be unsuitable” is hard to understand here, but is clearly transmitted in the Nepalese version.

601 Dalhaṇa 5.2.30ab (*Su 1938*: 565) glossed “disjunction” as the loss of function of the joints in regard to movement.

602 The last ailment could perhaps be ringworm.

603 The *pralepaka* fever was described by Dalhaṇa, at 6.39.52 (*Su 1938*: 675), as an accumulation of phlegm in the joints. Its symptoms are described in 6.39.54

and yet another may ruin the semen. One may cause **emaciation**, while another pallid skin disease (*kuṣṭha*).

- 33 Something is “corrupted” by repetitively keeping to bad locations, times, foods, and sleeping in the daytime. Or, traditionally, “corrupting poison” (slow-acting poison (*dūṣī-viṣa*)) is so called because it may corrupt (*dūṣayet*) the body tissue (*dhātu*)s.

#### 34- The stages of toxic shock

In the first shock of having taken a stationary poison, a person’s tongue becomes dark brown and stiff, he grows faint, and panics.

- 35 In the second, he trembles, feels exhausted, has a burning feeling, as well as a sore throat. When the poison reaches the stomach (*āmāśaya*), it causes pain in the chest (*hṛd*).
- 36 In the third, his palate goes dry, he gets violent pain (*śūla*) in the stomach (*āmāśaya*), and his eyes become weak, swollen and yellow.
- 37 In the fourth shock, it causes the intestines and stomach to be exhausted (*sāda*), he gets hiccups, a cough, a rumbling in the gut (*antra*), and his head becomes heavy too.
- 38 In the fifth he dribbles phlegm (*kapha*), goes a bad colour, his **ribs crack** (*parśvabhedā*), all his humours are irritated, and he also has a pain in his intestines (*pakvādhāna*).
- 39a In the sixth, he loses consciousness and he completely loses control of his bowels.
- 39b In the seventh, there are breaks in his shoulders, back and loins, and he stops breathing.<sup>604</sup>

#### Remedies for the stages of slow poisoning

- 40 In the first shock of the poison, the physician should make the man, who has vomited and been sprinkled with cold water, drink an antidote (*agada*) mixed with honey and ghee.
- 41a In the second, he should make the man who has vomited and been purged drink as before;

<sup>604</sup> Here at 5.2.24 (Su 1938: 566) Dalhaṇa glossed *sannirodha* as “complete cessation, i.e., of breath” (*sannirodhah samyañnirodhah, ucchvāsasya iti śeṣah*). The manuscripts all read *skanda* where *skandha* must be intended; this confusion is known from Buddhist Hybrid Sanskrit (Edgerton 1953: 2, 608).

- 41b on the third, drink an antidote and a beneficial nasal medicine (*nasya*) as well as an eye salve (*añjana*).
- 42a In the fourth, the physician should make him drink an antidote that is salt with a little oil.<sup>605</sup>
- 42b In the fifth, he should be prescribed the antidote together with a decoction (*kvātha*) of honey and liquorice.
- 43 In the sixth, the cure (*siddhi*) is the same as for diarrhoea. And in the seventh, he perishes.<sup>606</sup>
- 44 In between any one of these shocks, once the above treatment has been done, he should give the patient the following cold gruel (*yavāgū*) together with ghee and honey, that will take away the poison.
- 45–46 A gruel (*yavāgū*) made of the following items in a stewed juice (*nih-kvātha*) destroys the two poisons: luffa,<sup>607</sup> wild celery,<sup>608</sup> velvet-leaf, sunflower,<sup>609</sup> heart-leaved moonseed, myrobalan siris, and Indian

605 At 6.52.30 (Su 1938: 769) Dalhaṇa noted that *sindhu* can be interpreted as salt (*saindhava*).

606 The vulgate text here is quite different, recommending that the patient have medicated powder blown up his nose. It may be possible to detect the evolution of the Nepalese अवसीदेत् to the vulgate's अवपीड़य. The vulgate version is hard to construe, and we see Dalhaṇa struggling to interpret it in his commentary on 5.2.43ab (Su 1938: 566). This sternutatory is, however, recommended in the Nepalese version at 5.5.30ab (Su 1938: 576), for the seventh shock of poisoning by a striped snake (*rājimat*). It is possible the text migrated from that location to this.

Another difference at this point is that the Nepalese version also does not support the vulgate's passage on the crow's foot (*kākapada*) therapy (Dominik Wujastyk 2003b: 145, n. 106). The same is the case at 5.5.24 (Su 1938: 575) and the clear description at 5.5.45 (Su 1938: 577), in neither of which is the therapy supported in the Nepalese version. This therapy seems unknown to the Nepalese transmission. The therapy may have migrated into the vulgate *Suśrutasaṃhitā* from the *Carakasaṃhitā* 6.23.66–67 (Ca 1941: 574).

607 At 4.10.8 (Su 1938: 449) Dalhana glossed कोशवती as देवदाली and at 4.18.20 (Su 1938: 472) as कटुकोशातकी, vocabulary pointing to *Cucumis cylindrica*, *Cucumis actangula* or *Luffa echinata*. See glossary under ??.

608 A plant often cited in *Suśrutasaṃhitā*, but rarely in *Carakasaṃhitā* (GVDB: 4). Dalhaṇa glossed it here, 5.2.45 (Su 1938: 566), as *ajamodā*, wild celery, but noted that others consider it to be *moraṭa*, *rajmahal hemp*. There is considerable complexity surrounding the identification of *moraṭa/mūrvā* and related synonyms (GVDB: 314–316). Taking *agnika* as a short reference to *agnimantha*, often identified as headache tree, might be plausible, since that is antitoxic or anti-inflammatory, but such a short reference is not known elsewhere.

609 At 5.2.45 (Su 1938: 566) Dalhaṇa said that this plant has leaves like the *paṭola*, poin-

cherry, white siris, the two kinds of turmeric,<sup>610</sup> and the two kinds of hairy-fruited eggplant,<sup>611</sup> hogweed, peas, the three heating spices, the two kinds of Indian sarsaparilla<sup>612</sup> and blue water-lily.

### The Invincible Ghee

- 47–49 There is a famous ghee called “Invincible”. It rapidly destroys all poisons but is itself unconquered. It is prepared with a mash (*kalka*) of the following plants: liquorice, crape jasmine, costus, deodar, peas, Indian madder, cardamom and cherry, cobra’s saffron, blue water-lily, sugar, embelia, sandalwood, malabathrum, foxtail millet, rosha grass, the two turmerics,<sup>613</sup> the two Indian nightshades,<sup>614</sup> the two kinds of Indian sarsaparilla,<sup>615</sup> beggarweed, and heart-leaf sida.

### Curing the ‘slow-acting’ poison

- 50–52 Someone suffering from “slow-acting poison (*dūṣīviṣā*)” should be well sweated, and purged both top and bottom. Then he should be made to drink the following eminent antidote which removes “slow-acting poison:”

Take long pepper, rosha grass, spikenard, lodh tree, cardamom, natron, scented pavonia, red ochre, as well as ??, and pondweed.

This antitoxin, taken with honey, eliminates slow-acting poison. It is called the “enemy of slow-acting poison (*dūṣīviṣāri*),” and it is not prohibited in other situations.

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ted gourd, T. B. Singh and Chunekar (GVDB: 280, 443) argued plausibly that this is a synonym for *arkapuṣṭī*, panacea twiner, as Dalhaṇa also stated in 1.45.120 (Su 1938: 206), and the leaves of Holostemma and Trichosanthes are indeed strikingly similar. The appearance of the plant, a creeper with sun-like flowers, fits the name. But there remains much controversy about the identities of these candidates (e.g., ADPS: 195–198).

610 I.e., turmeric and Indian barberry.

611 I.e., hairy-fruited eggplant and yellow-berried nightshade.

612 I.e., country sarsaparilla and black creeper.

613 I.e., turmeric and Indian barberry.

614 I.e., hairy-fruited eggplant and yellow-berried nightshade.

615 I.e., country sarsaparilla and black creeper.

- 53–54 If there are any other side-effects (*upadrava*), such as fever, a burning feeling, hiccups, constipation (*ānāha*), depletion of the semen, distension, diarrhoea, fainting, skin problems, bellyache (*jaṭhara*), madness, trembling, then one should treat each one in its own terms, using anti-toxic medicines.
- 55 For a prudent person, the slow-acting poison can be cured (*sādhya*) immediately. It is treatable (*yāpya*) if it is of a year's standing. Other than this, it should be avoided for the person who eats unwholesome things.

# Kalpasthāna 3: Poisonous Insects and Animals

## Introduction

The Sanskrit names of the creatures, especially insects, described in this chapter present a special challenge.<sup>616</sup> In particular, in the early passages of this chapter, there are long compound words containing lists of insect-names and it is not obvious where word-division should take place. For example, the Nepalese version of 5.3.5 (Su 1938: 567), has the compound *citraśīrṣaśarāvakuṛdiśatadārukāri*medakaśārikā. The first name is not hard: *citraśīrṣa* “Speckle-head.” But should the second insect be called *śarāva*, followed by *kurdiśata*, or *śarāvakurdi* followed by *śatadārukā*, or *śatadārukāri*, etc. No past translators have given serious attention to this problem. In 1844, Hessler (1844–55: 219) thought the list was to be divided thus: *śarāva*, *kurdi*, *śatadāruka*, *arimedaka*, and “*Gracula religiosa*,” i.e., *śārikā* (see Table 5). In 1907, Kunjalal Bhishagratna (1907–16: v. 2, 696) used *śarāva*, *kurdiśata*, *dāruka*, *arimedaka*, and *śārikā-mukha*. Singhal and Dwivedi (1976: 56) chose similarly, but preferred *dārukārika* and *medaka*. P. V. Sharma (1999–2001: v. 3, 27) preferred *dārukāri* and *medaka*, as did Valiathan (2007: 608). None of these authors attempted translation or identification of the insects, and it seems clear from the randomness of their choices that none of them had concentrated on this problem. In such a case, one hopes for help from the medieval commentators, but Dalhaṇa did not comment on these names either. As mentioned below (p. 265), he abdicated responsibility insect names, delegating the topic to the “people who lived in various localities.”

<sup>616</sup> This is discussed in more detail on p. 265 below.

1884	<i>sarāva</i>	<i>kurdi</i>	<i>śatadāruka</i>	<i>arimedaka</i>	<i>śārika</i>
1907	<i>sarāva</i>	<i>kurdiśata</i>	<i>dāruka</i>	<i>arimedaka</i>	<i>śārikāmukha</i>
1976	<i>sarāva</i>	<i>kurdiśata</i>	<i>dārukārika</i>	<i>medaka</i>	<i>śārikāmukha</i>
1999	<i>sarāva</i>	<i>kurdiśata</i>	<i>dārukāri</i>	<i>medaka</i>	<i>śārikāmukha</i>

Table 5: Variant word-division of creature names.

In dealing with these names, I have mostly been guided by dictionaries. Thus, Monier-Williams, Leumann, Cappeller, et al. (MW) have the lexemes *śarāvakurda*, *śatadārukā* and *arimedaka*, so that is how I have divided the compound.<sup>617</sup> This evidence is somewhat flimsy; it would be much better to have some parallels from Indo-European on one side, or MIA or NIA languages on the other.<sup>618</sup> But unfortunately, dictionary searches of these languages have so far not helped. The only other source of help is the scribe of MS Kathmandu NAK 5-333 (fl. ca. 1543), who inserted daṇḍas between the compound words. These correspond to the word-division of Monier-Williams, Leumann, Cappeller, et al. (MW), above.

<sup>617</sup> References to the *Suśrutasamhitā* in Monier-Williams, Leumann, Cappeller, et al. (MW) are taken from PW, which cited the *editio princeps* of S. M. Gupta (1835–36) (PW: 1, xi and Gildemeister 1847: 149–150).

<sup>618</sup> Could *kurda* be related to *kuṇa* “louse”? The lexeme *śarāva* puzzled even Mayrhofer (KEWA: 3, 307, EWA: 2, 617).

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>619</sup>

## Translation

- 1 And now we shall explain the formal procedure (*kalpa*) that is the required knowledge about mobile poisons.<sup>620</sup>
- 3 The full explanation about the sixteen carriers (*adhiṣṭhāna*) of the mobile poisons, that have been mentioned by me in brief, will be stated.<sup>621</sup>
- 4 In that context, they are:<sup>622</sup>

1. gaze	10. tail,
2. breath,	11. contact with saliva,
3. fangs,	12. nipping with the mouth,
4. nails,	13. farts, <sup>623</sup>
5. mouth,	14. anus <sup>624</sup>
6. urine,	15. bones,
7. feces,	16. bile,
8. menstrual blood,	17. bristles, and
9. semen,	18. corpses. <sup>625</sup>

<sup>619</sup> HML: IA, 291–292.

<sup>620</sup> In contrast to stationary, plant poisons. No reference is made to Dhanvantari (see Birch, Dominik Wujastyk, Klebanov, Parameswaran, et al. 2021).

<sup>621</sup> “Carrier” for base, foundation (*adhiṣṭhāna*) aims to capture the idea that the author will describe the anatomical parts in which poisons inhere in different creatures. Meulenbeld (HML: 1A, 291) paraphrased this difficult passage, giving important notes on most of the creatures mentioned.

<sup>622</sup> The content of this section is presented as tables, for clarity for the contemporary reader and mindful of the theoretical issues surrounding notational variation, including the “symbolic rewriting” and the modification of “expressive capacities” discussed by Sarukkai (2016: 321 ff). For further discussion, see Dominik Wujastyk 2021: 81–83.

<sup>623</sup> This interpretation, farts (*avaśardhita*), comes from Dalhaṇa on 5.3.4 (Su 1938: 567), but he read *viśardhita*.

<sup>624</sup> Dalhaṇa on 5.3.4 (Su 1938: 567) noted this reading, anus (*guda*), but did not include it in his text of the *Suśrutasamhitā*.

<sup>625</sup> This list has grown in transmission by two items.

5 In that context,<sup>626</sup>

Table 6: Passage 5, expressed in tabular format.

	<i>creatures</i>	<i>location of the poison</i>
5.1	divine snakes	in their breath and gaze
5.2	earthly snakes <sup>627</sup>	in their fangs
5.3	cats, dogs, monkeys, men ( <i>nara</i> ), <sup>628</sup> crocodiles, frogs, cook-fish insect, <sup>629</sup> monitor lizards, cone snails, ??, house geckos, <sup>630</sup> four-footed insects and others	in their nails, mouths and fangs
5.4	lice ( <i>kiṭipa</i> ), 'flat insects' ( <i>picciṭā</i> ), 'orange-dwellers' ( <i>kaṣāyavāśika</i> ), 'mustard snakes' ( <i>sarsapaka</i> ), 'angry beetles' ( <i>toṭaka</i> ), dung beetles ( <i>varcaḥkīṭa</i> ), and 'pot insects' ( <i>kaunḍinya</i> )	in their urine and faeces
5.5	rats	in their semen
5.6	scorpions, wasps, scorpion-fish, <sup>631</sup> crickets, and wing-scorpions	in their stings ( <i>śūla</i> )
5.7	spiders	in their saliva, nails, urine, feces, blood, semen and fangs

626 The sequence of the following texts is not the same in the Nepalese version as in the vulgate. The numbering below represents the Nepalese version; in the vulgate, 5.7 and 5.6 are reversed, and also 5.9 and 5.8.

627 Dalhaṇa on 5.3.5 (Su 1938: 567) cited the otherwise unknown authority Sāvitra on the topic of poisonous snakes (HIML: IA, 377, IB 497, n. 105).

628 Perhaps dittography from the previous word, monkey (*vānara*). But it is supported in both Nepalese witnesses, so it must go back to an earlier exemplar.

629 The scribe of MS Kathmandu KL 699 separated the words पाक and मत्त्य with a danda, indicating that they were separate terms (see 269).

630 The scribe of MS Kathmandu NAK 5-333 noted in the margin that some of his sources read गल्मोडिका, which is the name of a snake known also in the *Carakasamhitā* and elsewhere in literature (cf. note 309, p. ??).

631 Dalhaṇa on 5.3.5 (Su 1938: 568) remarked that some interpreted वरकिमत्त्य as two items, "stinger and fish," others as a single one, "stinger-fish."

	<i>creatures</i>	<i>location of the poison</i>
5.8	bees, hornets and leeches	in the bites of their mouths
5.9	speckle-heads, dish-creepers, hundred-woodys, enemy-liquors, and common mynas	in the bites of their mouths, their fangs, their stings ( <i>asi</i> ), piles, farts, anuses and feces
5.10	the bones of one killed by poison, and the bones of snakes, <i>fish-bone</i> , and scorpion-fishes	in their bones
5.11	mudfish, red-stripe, and vaki fish <sup>632</sup>	have poison in their bile
5.12	thin-beaks, crickets, wasps, centipedes, valabhikas, horns, and bees	have poison in their bristles;
5.13	the lifeless bodies of insects, and snakes	have poison in their corpses;
5.14	and the rest that have not been mentioned	should be counted amongst those that have poison in their mouths and fangs.

## Pollution of the environment

- 6 The enemies of the king pollute the waters, roads and foodstuffs in enemy territory. The experienced physician, who has learned how to purify things, should clean up those polluted things.
- 7 Polluted water is slimy and smells of tears.<sup>633</sup> It is covered with froth and covered with streaks. The frogs and fish die, the birds are crazed and, along with the wetland creatures, they wander about aimlessly.
- 8 Men, horses and elephants who swim in it experience vomiting, delusion, fever, swelling and sharp pains.<sup>634</sup> He should try to purify that polluted water, after curing their ailments.
- 9 And so, he should burn axlewood and garjan oil tree, as well as corky coral tree, and small-flowered crape myrtle and weaver's beam tree,

<sup>632</sup> One would expect pufferfish, known in Indian coastal waters, to be in this list.

<sup>633</sup> अ॒र् normally means “tears,” but rarely means “blood.”

<sup>634</sup> On the polysemy of elephant/snake (*nāga*), see Semeka-Pankratov 1979.

- and with golden shower tree and white cutch tree.<sup>635</sup> Then he should sprinkle that ash, cold, on the waters.
- 10–11 And in the same way, putting a handful of the ash in a pot, one may also purify water that one wants. If any one of the limbs of cows, horses, elephants, men or women, touch a place on the ground that enemies have spoiled with poison, or a ford or rock or a flat surface, then it swells up and burns and its hair and nails fall out on that place.<sup>636</sup>
- 12 In that situation, he should grind up country sarsaparilla together with all the aromatic items, with alcoholic drinks. And then he should sprinkle the paths that need to be used with waters mixed with mud.<sup>637</sup>  
**And if there exists another path, he should go by that.**<sup>638</sup>
- 13 When grasses and foods are polluted, people collapse, fall unconscious. And others vomit. They get loose stool or they die.<sup>639</sup> One should apply to them the therapy as described.
- 14–15 Alternatively, one should smear various musical instruments with antidotes that remove poison and then play them. What is called the most excellent paste for a musical instrument is certain minerals<sup>640</sup> together

635 Cf. with the recipe at *Suśrutasanhitā* 5.6.3 (*Su* 1938: 580) for a paste to put on drums etc., p. 259 below.

636 “Swells up” translates an unclear reading that was probably शूयति, which may be an irregular form of √श्, श्वा, श्वि (see Whitney 1885: 175–176).

637 Our “alcoholic drinks” translates सुरा. For a discussion of this term at our period see McHugh 2021: 37–39 *et passim*.

638 Dalhaṇa on 5.3.12 (*Su* 1938: 568) cited a similar reading for the fourth pāda, but with a negative particle, “and if there is no other way, one should go by that.”

639 In “they get loose stool,” the verb आच्छन्ति (√ऋ), transmitted in both Nepalese manuscripts, has an irregular initial strong vowel. Alternatively, and perhaps more likely, it is a combination of आ+√ऋ, conjugated unusually as a class 6 verb, but with an appropriate sense of “to fall into (misfortune).”

640 “Certain minerals” translates तारावितार, the unanimous reading of the Nepalese witnesses. But the meaning of this expression is not clear and may even refer to plants, like the other ingredients. The vulgate reads तारः सुतारः, which is also not very clear. However, Dalhaṇa on 5.3.14 (*Su* 1938: 568) identified these as “silver” and “mercury.” This is highly unlikely to be a correct understanding of the passage. Historically, mercury is not naturally present in the South Asian peninsula (Watt *Dict*: 5, 233) and the word पारद् that Dalhaṇa used is probably a loan-word from Persian (sub *paranda*, *parranda* Steingass 1930: 244b). Mercurial compounds are not reliably attested in South Asia until two or three centuries after the composition of the *Suśrutasanhitā* at the earliest. The currently available “śāstric” recension of the *Arthaśāstra* that is datable to 175–300 CE (Olivelle 2013: 29–31) does not mention mercury (*ibid*, 534). See further the study by Dagmar Wujastyk (2013: 17, *et passim*).

with gold and sarsaparilla, and a portion of nutgrass equal to that, together with the bile called “brown cow”.<sup>641</sup> By the sound of the musical instrument, even terrible poisons that may be present at that place are destroyed.

- 16 If there is smoke or wind that is affected by poison then birds are dazed and fall to the ground. People get coughs, colds, and head illnesses, and acute eye diseases.<sup>642</sup>
- 17 The smoke and air can be purified by putting into the air: lac, turmeric, Indian aconite, and myrobalan, with Himalayan mayapple, costus, cardamom,<sup>643</sup> as well as peas, and foxtail millet.

write foot-note: don't repeat  
ativiṣā; vulgate similar  
to H.

## The origin of poison

- 18 As it is told, the arrogant demon called Kaiṭabha created an obstacle for lotus-born Brahmā, at the very time that he was creating these creatures.<sup>644</sup>
- 19 Pitiless Fury took a body and burst out of the mouth of furious Brahmā's store of fiery energy.<sup>645</sup>
- 20 He burned that great, thundering, apocalyptic demon. Then, after bringing about the annihilation of that demon, his amazing fiery energy increased.
- 21 And so, there was a sinking down (*viṣāda*) of the Daityas. Observing that, it was named “poison (*viṣa*)” because of its ability to produce a “sinking down.”
- 22 After that, the Lord created beings and subsequently made that fury enter into creatures still and moving.

641 सुरक्षणोप and कुरुविन्द are both uncertain, see index. Dalhanā's opinion has been followed here, but it seems fair to say that all commentators were guessing.

642 The syntax of this verse is somewhat loose; the vulgate has regularized it, smoothing out the difficulties.

643

644 At this point, the text seems to make a new beginning to the topic of toxicology, as if starting a new chapter. It is notable that no reference is made here to the famous origin story of poison in the churning of the primal milk ocean; for discussion of the sources of this account, see Bedekar 1967. For reflections on this passage, connecting it with Rudra and the Śatapathabrahmaṇa, see Mānasa-taraṅgiṇī 2009.

645 “Fury” is here anthropomorphised.

## The working of poison

- 23–24 Water that falls from the sky to the earth has no obvious flavour. The savour of the different places it lands on enters into it. In the same way, whatever substance a poison reaches, it establishes itself there and by its nature it takes on that substance's savour.<sup>646</sup>
- 25 Generally speaking, in a poison, all the qualities are really sharp. For this reason, every poison is known to irritate all of the humours.
- 26 Irritated and afflicted by the poison, they leave their natural functions. Poison does not get digested, so it blocks the breaths.<sup>647</sup>
- 27 Breathing is obstructed because its pathway is blocked by phlegm. Even if life continues, a man remains without consciousness.
- 28 Similar to semen, the poison of all angry snakes pervades the whole body, and goes to the limbs like semen because of being stirred up.
- 29 The fang of snakes is like a hook. When it gets there, it sticks inside them. That is why the unagitated poison of a snake is not released.
- 30 Sprinkling with very cold water is traditional for all cases of poisoning, because poison is declared to be extremely hot and sharp.<sup>648</sup>
- 31 Poison in insects is slow and not very hot, having a lot of wind and phlegm. So in cases of insect poisoning, sweating is not forbidden.
- 32cd In cases of a strike or a bite, the poison may, of its own accord, stay there.
- 33–35ab †Having come upon a body,<sup>649</sup> in the case of corpses that have been pierced by a poisoned arrow and bitten by a snake, someone who eats the poisoned flesh of a recent corpse out of carelessness will suffer with illness according to the poison, or even die. And therefore, the flesh of those should not be eaten when they have just died.  
It is admissible after three quarters of an hour, but without the poisoned arrow and the snakebite.
- 35.1 [At this point an Upajāti verse is added in the margin of MS Kathmandu KL 699 but is not fully legible; the version of the text in MS Kathmandu

646 The scribal emendation in MS Kathmandu NAK 5-333 of नियच्छति to निगच्छति suggests that the scribe had more than one manuscript before him, one of them representing the reading of the vulgate recension.

647 Probably a reference to the five breaths. Ḑalhaṇa referred to winds (वात), but this does not seem correct since it is a reference to humours rather than breaths.

648 The verb पद् “is declared, read aloud” here could possibly suggest that the author is working within a written, not oral, tradition.

649 “Having come upon” translates प्रस्वाप्य, which is hard to interpret unless it is a rare form connected with the sense “to see.”

- NAK 5-333 is also incomplete and not fully comprehensible.]<sup>650</sup>
- 35.3 †When, in a wound, the poison that is connected with these qualities runs, ...Therefore, not everything that is damaged by poison and eaten causes death.<sup>651</sup>
- 35.1 [ślokas in the MSS that aren't in the vulgate. The first line doesn't scan. Witness K adds a part of the start of this in the bottom margin. This material is repeated at 3.39.2 in MS Kathmandu NAK 5-333]
- 35cd & 36cd One designates a person who has diarrhoea of feces looking like soot (*grhadhūma*) with wind,<sup>652</sup> and who vomits foam, as "someone who has drunk poison."
- 37 Therefore, fire burns a heart that is pervaded by poison. For, having pervaded of its own accord the location of consciousness, it abides.<sup>653</sup>

## Patients beyond help

- 38 Patients who should not be accepted include: those who have been bitten under a *peepul tree*, in a temple, in a cemetery, at an ant-hill, at dawn or dusk, at a crossroads, under Yama's asterism,<sup>654</sup> under the Great Bear and people who have been bitten in lethal spots.
- 39 The poison of cobras kills rapidly. They all gain twice the intensity in those who have indigestion, those who are afflicted by bile or wind, old people, children and the hungry.
- 39.1 In those whose who are mad or intoxicated, or who suffer from anxiety, or who are unable to tolerate its various strengths, it becomes sharp. †...

<sup>650</sup> *Mādhavanidāna*, 69.20–21 (MN<sub>1</sub>: 480) has verses that are directly parallel to this section: दर्वीकराणां विषम् आशुधाति सर्वाणि चोष्णे द्विगुणीभवन्ति ॥ अजीर्णपित्तातपपीडितेषु बालेषु वद्धेषु वृभृक्षितेषु ॥२०॥ क्षीणक्षते मोहिनि कुष्युके रुक्षे इबले गर्भवतीषु चापि ॥ शस्त्रक्षते यस्य न रक्तम् एति राज्या लतामश्च च न संभवन्ति ॥२१॥. This passage is the only occurrence in the Ayurvedic text corpus that relates to the Nepalese version of the *Suśrutasamhitā* at this point. This suggests that Mādhavakara (fl. ca. 700, Bengal) knew and used the Nepalese version.

<sup>651</sup> At this point, MS Kathmandu NAK 5-333 inserts a marginal Indravajrā verse about diseases that afflict immoral women.

<sup>652</sup> गृहघूम् is not a plant in this context, *pace MW*: 362. See the discussion in note 550, p. 191 above.

<sup>653</sup> Ḟalhaṇa said that someone who has died from drinking poison has a heart that cannot be burned because it is pervaded by poison (5.3.37 (*Su* 1938: 570)). But the sense of the Nepalese MSS is the opposite.

<sup>654</sup> यास्ये means "southerly" but Ḟalhaṇa on 5.3.38 (*Su* 1938: 570) interpreted it as "in Yama's direction" as "under the seventh asterism."

Clarify.

39.2

655

3.40cd–3.43ab One should reject someone overcome by poison who **does not bleed** when cut with a knife, where weals do not appear as a result of lashes,<sup>656</sup> or where there is no horripilation because of cold water, whose mouth is **crooked**, whose hair is falling out of his head. A man who is fatigued and those who stammer,<sup>657</sup> one who has a black and red swelling at the site of the bite, with lockjaw, should be avoided. The same goes for someone who has a solid plug emerge from their mouth and someone who has blood running from above and below. The physician should also avoid a person who has fangs that have not fallen out quickly.<sup>658</sup>

655 Material corresponds to SS.1.45.205ab, where it describes how alcohol produces intoxication because it is fine, hot and sharp and travels through the vessels disturbing the senses and the mind and intoxicating the potency.

656 Ḑalhana, on 5.3.40 ([Su 1938](#): 570), glossed लताभिस् “by means of whips,” as “when the body is struck by whips.”

657 nāsāvasāda & plural sakaṇṭhabhaṅgāḥ

658 The grammatical verb-form परिवर्जयीत “he should avoid,” opt., 3rd, sg., is unusual. Renou ([1940](#): 10 ff) documented such forms from the *Aitareyabrahmaṇa* onwards. Oberlies ([2003](#): ¶6.3.3 “Peculiar optative endings”, pp. 176–177) showed that the form is well-documented in manuscripts of the *Mahābhārata*, but has been edited out of the printed critical edition in almost all cases. Cf. also Kulikov [2006](#).

The concern about a patient who “has fangs that have not fallen out” is hard to understand. The word दंष्ट्रा does not mean human teeth (दन्त). We therefore prefer to understand this as describing a patient where the fangs of a venomous creature remain in the bite-wound. This requires construing the expression as a *bahuvrīhi* compound: दंष्ट्रा or दंष्ट्र + अनिपातः.

# Kalpasthāna 4: Snakes and Envenomation

## Introduction

The fourth chapter of the Kalpasthāna of the *Suśrutasamhitā* addresses the topic of snake bites and snake venom. Exceptionally for the Nepalese version of the *Suśrutasamhitā*, the discussion is framed as a question from Suśruta to the wise Dhanvantari. Suśruta's questions are about the number of snakes, how they are classified, the symptoms of their bites and the pulses or stages of toxic shock experienced by a victim of snakebite, and related topics. The taxonomy of snakes is presented in tabular form in Figures 5 and 6.<sup>659</sup>

The *Carakasamhitā* also addressed this topic of snake taxonomy, but only included the first three of the *Suśrutasamhitā*'s five types, namely Darvīkara, Maṇḍalī and Rājimān.<sup>660</sup> These three categories of snakes were framed within a humoral scheme, aggravating wind, bile and phlegm respectively, a scheme that was carried forward into symptoms and therapy.<sup>661</sup> The *Suśrutasamhitā* did not use this snake–humour parallelism. By contrast, the system of seven pulses or toxic shocks (*vega*) that was central to the *Suśrutasamhitā*'s understanding of envenomation is absent from the *Carakasamhitā*.<sup>662</sup>

<sup>659</sup> On the idea of notational variants in scientific translation, see Elshakry 2008; Sarukkai 2016; Dominik Wujastyk 2021: 81–83.

<sup>660</sup> 6.23.124 ff. (Ca 1941: 577).

<sup>661</sup> *Carakasamhitā* 6.23.165–176 (Ca 1941: 579). Note that the *Carakasamhitā* then described symptoms and therapies without reference to the three-humour scheme: 6.23.177–254 (Ca 1941: 579–582).

<sup>662</sup> One mention of the term in the *Carakasamhitā* refers to the peak of a tertian fever

## The Seven Stages of Toxic Shock

A prominent feature the *Suśrutasamhitā*'s interpretation of envenomation symptoms is the concept of seven successive stages or pulses (*vega*) of toxic shock after a bite. This is interestingly coordinated with the *Suśrutasamhitā*'s concept of the *kalās*, which are either seven skin-like membranes that come into existence during embryonic development or seven interstitial tissues that separate the various parts of the body.<sup>663</sup>

Contemporary clinical studies of snake envenomation and treatment do not show any awareness of such a seven-stage symptomatology as found in traditional Indian medicine.<sup>664</sup> Exceptionally, the studies by Barceloux and Özbulat, Açıkalın, Akday, et al., do identify and tabulate three stages of envenomation.<sup>665</sup> The symptoms of these three stages are mainly characterized by increasing degrees of edema. This differs from the *Suśrutasamhitā*'s detailed characterization of changes in skin colour etc.<sup>666</sup>

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(6.3.70 (Ca 1941: 404). In other contexts, it had the ordinary-language meaning of a natural “impulse” or “pressure” that should not be suppressed (1.25.40 et passim (Ca 1941: 131–132)).

663 The system of the कला is described at 4.4.4–20 (Su 1938: 355–357); see p. 127. Cf. *Mahākośa*: 1, 183–184, *Śabdasindhu*: 227–228, Kutumbiah 1962: 6, HML: 1, 247–248 and notes. This system of dermal and interstitial कला was not known to the *Carakasamhitā* as such. Rather, the *Carakasamhitā* mentioned six kinds of त्वच with different names and characteristics. These were classified not according to appearance, as in the *Suśrutasamhitā*, but mainly according to the diseases that they supported (4.7.4 (Ca 1941: 337)). This contradiction between the *Carakasamhitā* and the *Suśrutasamhitā* was discussed by the commentator Cakrapāṇidatta (*Idem*). The *Suśrutasamhitā*'s concept of seven membranes appears in later works such as the fourteenth-century *Śārigadharasamhitā* (1.5.60 (Śāstri 1931: 40)).

664 E.g., Ellenhorn 1997; Mehta and Sashindran 2002; Weinstein, Dart, Staples, and White 2009; V. V. Pillay 2013: 1747–1749; WHO 2019: 19; Hamza, Knudsen, Gnanathasan, et al. 2021; A. M. Deshpande, Sastry, and Bhise 2022.

665 Barceloux 2008: 1017, Table 176.3, and Özbulat, Açıkalın, Akday, et al. 2021: 7, and Table 1, broadly following Barceloux.

666 I am grateful to Prof. Jan Gerris (U. Ghent) and Prof. Jan Tytgat (KU Leuven) for assistance in finding relevant toxicological literature.

## Literature

A brief survey of this chapter's contents and a detailed assessment of the existing research on it to 2002 was provided by Meulenbeld.<sup>667</sup> There also exists a substantial herpetological literature from colonial India as well as more recent studies of snakes in the context of cultural and religious life.

Chevers (1870) gave a characteristically evidential and gripping nineteenth-century account of death by snakebite in the context of homicide. He discussed the specific species of snake most associated with envenomation and their common geographical distribution. He also provided numerous vivid case histories of envenomation as well as murder and execution by deliberate snakebite.<sup>668</sup>

The properly ophiological literature of the colonial period began in the late nineteenth century with the work of Joseph Fayrer, whose publication included striking colour paintings of snakes.<sup>669</sup> Fayrer provided a biological taxonomy of snakes as well as chapters on mortality statistics during the nineteenth century, treatment and effects of poison, and experimental data. Ewart (1878) included descriptions of the appearance and behaviour of poisonous snakes and sometimes their local names and reproduced Fayrer's illustrations.<sup>670</sup> Wall (1913: 75–124) provided a useful analysis of the medical effects of snake envenomation in India arranged by the varied symptomatology of different snakes. He also discussed the difference between the symptoms of toxicity and fright (69–75) and also the difficulties arising out of uncertainty about the effects of snake-bite (124–126). The *Suśrutasamhitā* too recognized the emotional and somatic effects of fright (see note 683 below). Wall (1921) provided a wealth of detail of the snakes of Sri Lanka, including line drawings.

Semeka-Pankratov (1979) traced semiotics of the term *nāga* through Vedic, Pali and Sanskrit literature. Doniger (2015) provided a good survey of snakes as protagonists in religious literature from the *Atharvaveda* through the epics, *Purāṇas* and Buddhist literature. Slouber (2016a: 31–33

<sup>667</sup> HIMAL: IA, 292–294. In addition to the translations mentioned by Meulenbeld (HIMAL: IB, 314–315), a translation of this chapter was included in P. V. Sharma 1999–2001: 3, 35–45. The classic work of Jolly (1951: ¶93) offered a short but accurate overview of Indian toxicology.

<sup>668</sup> Chevers 1870: 368–386.

<sup>669</sup> Fayrer 1874, first published in 1872.

<sup>670</sup> Calling his work a supplement to Fayrer (1874), but also being cited by Fayrer, Ewart evidently also collected local indigenous knowledge from his “snake-man” (p. 22).

*et passim*) discussed the *Suśrutasamhitā*'s *Kalpasthāna* as a precursor and influence on later Tantric traditions of snake-bite interpretation and therapy. In particular, the Tantric *Kriyākālaguṇottara* text that Slouber presented divided snakes into two basic categories, divine and mundane, as the *Suśrutasamhitā* does.<sup>671</sup> But unlike the *Suśrutasamhitā*, in the *Kriyākālaguṇottara* the chief taxonomic principle for both groups is the four *varṇas*.<sup>672</sup>

A discussion of this chapter specifically in the light of the Nepalese manuscripts was published by Harimoto.<sup>673</sup> After a close comparative reading of lists of poisonous snakes, Harimoto concluded that, “the Nepalese version is internally consistent while the [vulgate] editions are not.” Harimoto showed how the vulgate editions had been adjusted textually to smooth over inconsistencies, and gave insights into these editorial processes.<sup>674</sup>

## Translation

- 1 Now we shall explain the procedure (*kalpa*) that is required knowledge (*vijñānīya*) concerning the venom in those who have been bitten by snakes.<sup>675</sup>
- 3 Suśruta, grasping his feet, questions the wise Dhanvantari, the expert in all the sciences.
- 4 “My Lord, please speak about the number of snakes, and their divisions, the symptoms of someone who has been bitten, and the knowledge about the toxic reactions of poisoning”.<sup>676</sup>

<sup>671</sup> Slouber 2016a: 144–145.

<sup>672</sup> Hidas 2019: passim, in his work on the *Vajratuṇḍasamayakalparāja*, which may be considered part of the Gāruḍa cycle of literature, mentions snakes in several agricultural contexts relating to Nāgas and propitiations for inducing rainfall and occasionally in invocations for controlling snakes' poison.

<sup>673</sup> Kengo Harimoto 2011: 101–104.

<sup>674</sup> The two editions that Harimoto noted, *Su* 1938 and *Su* 1889, present identical texts.

<sup>675</sup> The *Sarvāṅgasundarī*, commenting on *Aṣṭāṅgahṛdayasamhitā* 1.16.17 (Ah 1939: 246), glossed कल्प as प्रयोग.

<sup>676</sup> The expression “toxic reactions” translates वैग, which in other contexts may mean “(natural) urge.” Here, it is rather the discrete stages or phases of physiological reaction to envenomation. Cf. the symptoms of cobra poisoning described by Wall (1913: 80).

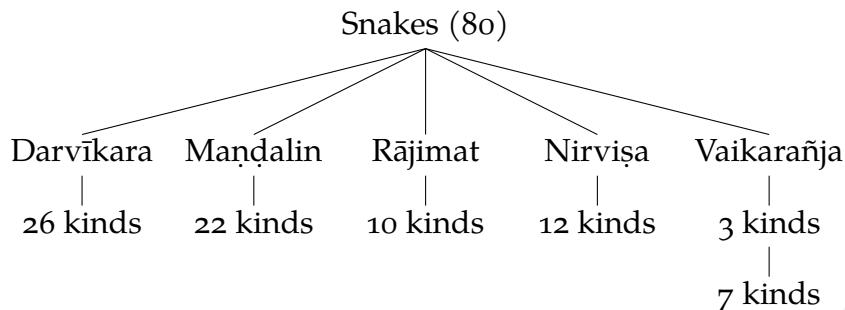


Figure 5: The taxonomy of snakes in the vulgate, 5.4.9–13ab ([Su 1938](#): 571).

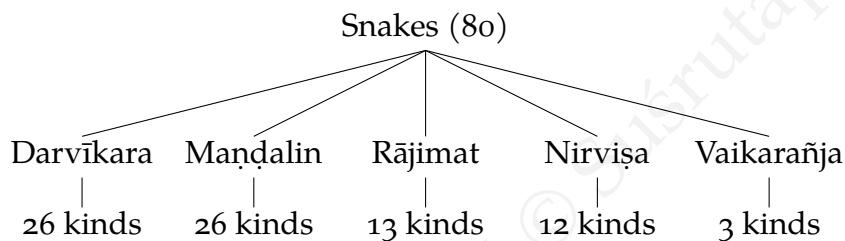


Figure 6: The taxonomy of snakes in the Nepalese version of the *Suśrutasamhitā*.

## The Taxonomy of Snakes

- 5 On hearing his query, that distinguished physician spoke.  
“The venerable snakes such as Vāsukī and Takṣaka are uncountable.
- 6–9ab “They are snake-lords who support the earth, as bright as the ritual fire, ceaselessly roaring, raining and scorching. They hold up the earth, with its oceans, mountains and continents. If they are angered, they can destroy the whole world with a breath and a look. Honour to them. They have no role here in medicine.  
“The ones that I shall enumerate in due order are those mundane ones with poison in their fangs who bite humans.<sup>677</sup>

9cd–10 “There are eighty kinds of snakes and they are divided in five ways:

<sup>677</sup> The next few verses are discussed in detail by Kengo Harimoto ([2011: 101–104](#)), who shows that in the taxonomy of snakes, the Nepalese version of the *Suśrutasamhitā* has greater internal coherence than the vulgate recension.

Or “There are 20 phanins and 6 mandalins. The same number are known. There are 13 Rājimats.” Or even, “there are 20 Phanins and six of them are Mandalins.” Are phanins really the same as darvikaras?

Darvīkaras, Maṇḍalins, Rājimats, and Nirviṣas. And Vaikarañjas that are traditionally of three kinds.<sup>678</sup>

- 11 “Of those, there are twenty and six hooded snakes, and the same number of Maṇḍalins are known. There are thirteen Rājimats.<sup>679</sup>
- 12 “There are said to be twelve Niriviṣas and, according to tradition, three Vaikarañjas.

## Behaviours

- 13–14ef “If they are trodden on, ill-natured or provoked or even just looking for food, those very angry snakes will bite. And that is said to happen in three ways: serpented (*sarpita*), torn (*darita*) and thirdly without venom (*nirviṣa*). Some experts on this want to add “hurt by the snake’s body”.<sup>680</sup>
- 15–16 “The physician can recognize the following as “ophidian (*sarpita*)”: Where a rearing snake makes one, two or more puncture-marks of its teeth, when they are deep and without much blood,<sup>681</sup> accompanied by a little ring of spots (*cuñcumālaka*),<sup>682</sup> lead to degeneration, and are close together and swollen.

<sup>678</sup> Kengo Harimoto (2011) translated these names as “hooded,” “spotted,” “striped,” “harmless,” and “hybrid.” Figure 5 shows the taxonomy described in the vulgate text; Figure 6 shows the different and more logical division of the Nepalese version of the *Suśrutasamhitā*.

<sup>679</sup> The phrasing of this śloka is awkward.

<sup>680</sup> This might refer to constriction. The phrase reads like a commentarial addition rather than the main text of the *Suśrutasamhitā*.

<sup>681</sup> The word उद्धृत् “aroused” was glossed by Ḏalhaṇa at 5.4.15 (Su 1938: 571) as उन्मोच्य, a word not found as such in standard dictionaries (MW; KEWA; Mahākōśa; Apte). Semantic considerations suggest that the word is not related to *√muṭ* “break” or *mūṭa/mūṭa* “woven basket.” Perhaps it is related to the Tamil மூடி (*mōṭi*) whose meanings include “arrogance, grandeur, display” (DED<sub>2</sub>: #5133) or to faintly-documented forms like *moṭyate* “is twisted” (CDIAL: #10186). Ḏalhaṇa’s उन्मोच्य may thus mean “twisting up” or “making an arrogant display.” Note that पट “puncture-mark” (more literally, “footprint”) is being used in the same sense as in 1.13.19 (Su 1938: 57) when describing the marks on the body where a knife scarifies the skin before leeching. See footnote 78.

<sup>682</sup> The usual dictionary lexeme is चञ्चु, not चुञ्चु as in the Nepalese witnesses. We translate “spots” following Ḏalhaṇa and Gayadāsa on 5.4.15 (Su 1938: 571), where they described a group of spots or swellings at the site of the bite. On the history of the word मालक, see Kieffer-Pülz 1996.

grammar

- 17 Where there are streaks with blood, whether it be blue or white, the physician should recognize that to be “torn (*darita*),” having a small amount of venom.
- 18 The physician can recognize the locations of the bites of a person in a normal state as being free from poison, when the location is not swollen, and there is little corrupted blood.
- 19 The wind of a timid person who has been touched by a snake can get irritated by fear. It causes swelling.<sup>683</sup> That is “hurt by a snake’s body.”
- 20 Locations bitten by sick or frightened snakes are known to have little poison. Similarly, a site bitten by very young or old snakes has little poison.
- 21 Poison does not progress in a place frequented by eagles,<sup>684</sup> gods, holy sages, **spirits**, and saints, or in places full of herbs that destroy poison.<sup>685</sup>

### [Characteristic Features of Snakes]

- 22 Darvīkara snakes are known to have hoods, to move rapidly, and to have rings, ploughs, umbrellas, crosses, and hooks on them.
- 23 Maṇḍalin snakes are known for being large and slow-moving. They are decorated with many kinds of circles. They are like a flaming fire because of their poisons.
- 24 Rājimat snakes are smooth and traditionally said to be, as it were, mottled with multicoloured streaks across and above.

683 Wall (1913: 69) remarked on the difficulty of separating toxicity symptoms from the psychosomatic effects of terror:

The gravity of symptoms due to fright does not appear to me to be sufficiently recognised, though there is no doubt in my mind that fatal cases from this cause are abundant, especially among the timid natives of this country.

Wall went on to give several case studies in which patients experienced syncope or even died as a result of bites from toxicologically harmless creatures.

684 Ḑalhaṇa on 5.4.21 (Su 1938: 571) identified the सुपर्ण as a गरुड. On the bird called सुपर्ण, Dave (1985: 72 ff, 514) too noted that it may be a synonym for Garuḍa, and in some contexts may refer to the Golden Eagle, Golden Oriole, Lammergeyer, etc. Dave (1985: 199 ff, 492) noted again that the Garuḍa is a mythical bird but may refer to the Himalayan Golden Eagle and other species of eagle. He pointed out that historically, The original physical basis for गरुड as the नागाशी (snake-eater) was most probably the Sea-Eagle who picks up sea-snakes from the sea or sand-beach and devours them on a nearby tree... (Dave 1985: 201).

Dave continued with interesting reference to Śrīharṣa’s *Nāgānanda*.

685 For “spirits” the Nepalese version has भूत while the vulgate reads यक्ष.

### [Classes of Snake]

- 25 Snakes that are shine like pearls and silver, and that are amber and that shine like gold, and smell sweet are traditionally thought of as being of the Brāhmaṇa caste.
- 26 Warrior snakes, however, are those that look glossy and get very angry. They have the mark of the sun, the moon, the earth, an umbrella and bitumen.
- 27 Merchant snakes may traditionally be black, shine like diamond or have a red colour or be grey like pigeons.
- 28 Any snakes that are coloured like a buffalo and a tiger, with rough skin and different colours are known as servants.<sup>686</sup>
- 31 All snakes that are variegated (Rājīmats) move about during the first watch of the night. The rest, on the other hand, the Maṇḍalins and the Darvīkaras, are diurnal.<sup>687</sup>
- 29 Wind is irritated by all hooded snakes; bile by Maṇḍalins and phlegm by those with many stripes.
- 30 Because of the two classes having greater, lesser or equal class, there is the characteristic of irritating two humours.  
And he will explain the opposing view that is to be known as a result of the non-union of a male and female.<sup>688</sup>

### Enumeration of Snakes

34.1 In that context, here are the Darvīkaras.

- |  |  |
|--|--|
| 1. The Black snake ( <i>kṛṣṇasarpa</i> );              | (śvetakapota); <sup>690</sup>          |
| 2. The Big Black ( <i>mahākṛṣṇa</i> );                 | 6. The Rain Cloud ( <i>valāhako</i> ); |
| 3. The Black Belly ( <i>kṛṣṇodara</i> );               | 7. The Great Snake                     |
| 4. The All Black ( <i>sarvakṛṣṇa</i> ), <sup>689</sup> | ( <i>mahāsarpa</i> );                  |
| 5. The White Pigeon                                    | 8. The Conch Keeper                    |

686 Presumably “different” from the earlier-mentioned castes.

The sequence of the following three verses is slightly different from the vulgate (5.4.29–31 (Su 1938: 572)).

687 The readings of the vulgate, that Rājīmats are active in the early night, the Maṇḍalins in the later night, and Darvīkaras in the day, seem clearer.

688 The sense of the last phrase here is quite different from the vulgate, which says only that “details” will be explained below.

689 Not in the vulgate.

690 The vulgate adds The Big Pigeon (*mahākapota*).

- |  |  |
|--|--|
| (śāṇkhapāla);<br>9. The Red Eye ( <i>lohitākṣa</i> );<br>10. The Gavedhuka ( <i>gavedhuka</i> );<br>11. The Snake Around<br>( <i>parisarpa</i> );<br>12. The Break Hood<br>( <i>khaṇḍaphaṇa</i> );<br>13. The Kūkuṭa ( <i>kūkuṭa</i> );<br>14. The Lotus ( <i>padma</i> );<br>15. The Great Lotus<br>( <i>mahāpadma</i> );<br>16. The Grass Flower ( <i>apuspa</i> );<br>17. The Curd Mouth<br>( <i>dadhimukha</i> );<br>18. The Lotus Mouth | (puṇḍarīkamukha);<br>19. The Brown Hut Mouth<br>( <i>babhrūkuṭīmukha</i> );<br>20. The Variegated ( <i>vicitra</i> );<br>21. The Flower Sprinkle Beauty<br>( <i>puṣpābhikīrṇnābha</i> );<br>22. The Mountain Snake<br>( <i>girisarpa</i> );<br>23. The Straight Snake<br>( <i>rjusarpa</i> );<br>24. The White Rip ( <i>śvetadara</i> );<br>25. The Big Head ( <i>mahāśīrṣa</i> );<br>and<br>26. The Hungry Sting ( <i>alagarda</i> ); |
|--|--|

34.2 Here are the Maṇḍalins

- |   |  |
|---|--|
| 1. The Mirror Ring<br>( <i>ādarśamaṇḍala</i> );<br>2. The White Ring<br>( <i>śvetamandala</i> );<br>3. The Red Ring ( <i>raktamandala</i> );<br>4. The Speckled ( <i>prṣata</i> );<br>5. The Gift of God ( <i>devadinna</i> );<br>6. The Pilindaka ( <i>pilindaka</i> );<br>7. The Big Cow Snout<br>( <i>vrddhagonasa</i> );<br>8. The Jackfruit ( <i>panasaka</i> );<br>9. The Big Jackfruit<br>( <i>mahāpanasaka</i> );<br>10. The Bamboo Leaf<br>( <i>veṇupatraka</i> );<br>11. The Kid ( <i>śiśuka</i> );<br>12. The Intoxicator ( <i>madanaka</i> ); | 13. The Morning Glory<br>( <i>pālindaka</i> );<br>14. The Stretch ( <i>tantuka</i> );<br>15. The Pale as a Flower<br>( <i>puṣpapāṇḍu</i> );<br>16. The Six Part ( <i>śadaṅga</i> );<br>17. The Flame ( <i>agnika</i> );<br>18. The Brown ( <i>babhru</i> );<br>19. The Ochre ( <i>kaṣāya</i> );<br>20. The Khaluṣa ( <i>khaluṣa</i> );<br>21. The Pigeon ( <i>pārāvata</i> );<br>22. The Hand Decoration<br>( <i>hastābharaṇaka</i> );<br>23. The Tatra ( <i>tatra</i> ); <sup>691</sup><br>24. The Mark ( <i>citraka</i> );<br>25. The Deer Foot ( <i>enīpada</i> ). <sup>692</sup> |
|---|--|

<sup>691</sup> This seems implausible, but otherwise the list of Maṇḍalins would be short.

<sup>692</sup> The list is short by one item. Perhaps the one of the snakes named in the vulgate, *citramaṇḍala*, *gonasa* or *piṇigala*, should be considered here.

34.3 Here are the Rājīmats.<sup>693</sup>

1. The Lotus (*pundarīka*);
2. The Stripe Speckle (*rājicitra*);
3. The Finger Stripe (*aṅgulirāji*);
4. The Two Finger Stripe (*dvyāṅgulirāji*);
5. The Drop Stripe (*bindurāji*);
6. The Mud (*kardama*);
7. The Grass Drier (*trṇaśoṣaka*);
8. The White Jaw (*svetahanu*);
9. The Grass Flower (*darbhapuṣpa*);<sup>694</sup>
10. The Red Eye (*lohitākṣa*);<sup>695</sup>
11. The Ringed (*cakraka*);
12. The Worm Eater (*kikkisāda*);

34.4 Here are the Nirviṣas.

1. The Rain Cloud (*valāhako*);<sup>696</sup>
2. The Snake Flag (*ahipatāka*);
3. The White Leaf (*śukapatra*);
4. The Goat Swallower (*ajagara*);
5. The Stimulator (*dīpyaka*);
6. The Ilikinī (*ilikinī*);
7. The Year-Snake (*varsāhīka*);
8. The Two-day (*dvyāhika*);
9. The Milk Flower (*kṣīrikāpuṣpa*);
10. The Flower All (*puṣpasakalī*);
11. The Chariot of Light (*jyotiṛatha*);
12. The Little Tree (*vṛksaka*);

## Breeding and Gender

34.5 The Vaikarañjas originate out of contrary unions amongst the three **colours**.<sup>697</sup> Thus:

1. The Mākuli (*mākuli*);
2. The Poṭa Throat (*poṭagala*);
3. The Oil Stripe (*snigdharāji*);

Amongst those, the Mākuli (*mākuli*); is born when a male Black Snake mates with a female Cow Snout (*gonasa*), or the reverse. The Poṭa Throat (*poṭagala*) is born when a male Rājila mates with a female Cow

<sup>693</sup> The following list is one item short. The vulgate text, however, has several names that do not appear in the Nepalese Rājimat list, for example Sarṣapaka and Godhūmaka.

<sup>694</sup> Also in the Darvīkara list.

<sup>695</sup> Also in the Darvīkara list.

<sup>696</sup> Also in the Darvīkara list.

<sup>697</sup> The word *varṇa* in this chapter normally means “colour” not “class.” (“Class is expressed by “jāti.”) While *kṛṣṇasarpa* is clearly a colour-type, it is less obvious that *gnasī* is a special colour, and *rājimat* is a group of snakes.

varṇa  
means “col-  
our” else-  
where?

Snout (*gonasa*) or the reverse. The Oily Stripe (*snigdharāji*) is born when a male Black Snake mates with a female Rājimat, or the reverse. Their poison is like that of their father, because it is the superior one out of the two; but others say it is like the mother. Thus eighty of these snakes have been described.

- 35 Amongst them, males have large eyes, tongues and heads.<sup>698</sup> Females have small eyes, tongues and heads. Neuters have both characteristics, and are slow to exert themselves or be angry.<sup>699</sup>
- 36 In that context we shall give instruction in a general way about the sign of having been bitten by any of the snakes.

For what reason?

Because poison acts quickly, like a fire with an oblation, a honed sword, or a thunderbolt.<sup>700</sup> And ignored for even a period of time, it can drag the patient away. There is not even an opportunity to follow the literature.<sup>701</sup>

And when the symptom of being bitten is stated, there will be three ways of treating it because there are three kinds of snake. Therefore we shall explain it in three ways. “For this is good for people who are ill, and it removes confusion and in this very case it prevents all symptoms”.<sup>702</sup>

## Symptoms of Snakebite

- 37 In this context, the poison of a Darvīkara causes the skin, nails, eyes, mouth, urine, feces, and the bite-mark to be black; there is dryness, the joints hurt and the head feels heavy; the waist, back and neck feel weak; there is yawning, the voice becomes faint, there is gurgling, paralysis, dry throat, cough, wheezing, and hiccups; the wind goes upwards, the

698 The vulgate includes the snake's mouth in this and the next list.

699 The reading मन्दचेष्टाकोधा is an awkward compound; possibly the original reading was मन्दचेष्टः + अकोधा and sandhi was applied twice.

700 Perhaps the image suggested by “a fire with an oblation” is that of the Pravargya, in which a large flame rises suddenly from the ritual fire.

701 The idea seems to be that there is no time to consult the verbose āyurvedic teachings. The “extensive meaning of the collection of statements (वाक्समूहार्थविस्तार)” is singled out as one of Āyurveda's virtues in 5.8.142 (Su 1938: 594). Alternatively, perhaps the patient is unable to understand what the doctor is saying to him.

702 In the next passage, the symptoms of snake poisoning are indeed explained under three headings.

patient convulses with sharp pain, black saliva dribbles out, foam appears, the tubess (*srotas*) are blocked and every kind of pain that is due to wind.<sup>703</sup>

The poison of a Maṇḍalin causes the skin, nails, eyes, teeth, mouth, urine, feces, bitemark to be yellow; there is a desire for cold, a temperature, giving off fumes,<sup>704</sup> a burning feeling, thirst, intoxication, fainting, fever, haemorrhaging (*śonitāgamana*), and the degeneration of the flesh and fat above and below. There is swelling, suppuration of the bite, metamorphopsia (*viparitadarśana*), anger caused by the suffering, and every kind of pain that is due to bile.<sup>705</sup>

The poison of a Rājimat causes the skin, nails, eyes, teeth, mouth, urine, feces, and bitemark to be pale; there is a cold fever, the hair stands on end, there is stiffness and swelling of the limbs including the site of the bite. There is a discharge of viscous phlegm, vomiting, itchy eyes, and a rattling sound. The breath is obstructed and there is every kind of pain due to phlegm.

- 38 In that context, “someone bitten by a male gazes upwards, by a female horizontally, and by a neuter, downwards.” One bitten by a pregnant snake has a pale face and becomes swollen (*ādhmāta*). One bitten by a recently-delivered snake is afflicted with abdominal pain and urinates with blood. One bitten by a hungry snake craves food. Those bitten by an old snake have delayed and slow reactions. And one bitten by a young snake is fast and keen. One bitten by a non-venomous snake has the characteristic mark of non-poisoning.<sup>706</sup> Some that are bitten by a

<sup>703</sup> Cf. the similar symptoms of snake venom poisoning by the so-called Brahmin warriors of Harmatelia, described by the classical author Diodorus Siculus (fl. ca. 30–60 BCE) (Eggermont 1975: 108).

<sup>704</sup> The term “giving of fumes (परिघूपयन्)” is not in MW: 596 as such, although परिघूपन, परिघूमन and परिघूमायन are cited and referred to the *Suśrutasaṃhitā*. “Giving off fumes (परिघूपन्)” is listed at *Suśrutasaṃhitā* 2.6.13 (Su 1938: 291) amongst the symptoms of urinary disease caused by phlegm. The editors note a variant reading परिघूमायन but do not tell us in which manuscript (Su 1938: 291, n. 3). Dalhaṇa on 2.6.13 (Su 1938: 292) glossed परिघूपन as “hot all over (समन्ततस्तापः)” and in our current passage as “hot over the whole body (सर्वाङ्गसन्तापः)” (Su 1938: 573). See also *Mahākośa*: 1, 429: धूमायन “अङ्गानां धूमोद्भवनमिव” citing the *Suśrutasaṃhitā*.

<sup>705</sup> Ghosh, León-Ruiz, S. Das, et al. (2023) describes visual disturbances due to snake envenomation.

<sup>706</sup> The grammar of अविषलङ्घम् is not quite right; it should be a masculine or plural bahuvrīhi.

blind snake become blind. A constrictor (*ajagara*) is deadly because it swallows, not because of poison.

### [Toxic reactions]

39 In that context, all snake toxins have seven toxic reactions.<sup>707</sup>

### [*Darvīkaras*]

Thus, at the first pulse of the *Darvīkaras* the poison corrupts the blood. That corrupted blood turns black. Because of that, blackness and a feeling of ants crawling about on the body develop.<sup>708</sup> In the second pulse, it corrupts the flesh. That causes extreme blackness and lumps.

In the third, it corrupts the fat. That causes a discharge at the bite, heaviness of the head and an eclipse of the vision.<sup>709</sup>

In the fourth, it penetrates the trunk of the body (*koṣṭha*). From there, it irritates the humors, particularly phlegm. That causes exhaustion and oozing phlegm, and dislocation of the joints.

In the fifth pulse, it penetrates the bones. That causes breaking of the joints, hiccups and burning.

In the sixth pulse, it penetrates the marrow. That causes humours in the seat of fire in the gut (*grahaṇī*), heaviness of the limbs, diarrhoea, pain in the heart and fainting.<sup>710</sup>

In the seventh, it penetrates the semen and greatly irritates the *vyāna* breath (*vyāna*), and causes the phlegm (*kapha*) to run imperceptibly out of the tubes (*srotas*). That causes the appearance of mucous (*śleṣman*), breaking of the hips, back and shoulders, impediment to all movements and shortness of breath.

<sup>707</sup> Cf. the same concept in the context of plants, at 205

<sup>708</sup> Strictly, we would expect a dual verb here, instead of the plural of the witnesses.

<sup>709</sup> Dalhaṇa on 5.4.39 (Su 1938: 574) glossed the last expression as “blockage of the vision (दृष्टवरोध).”

<sup>710</sup> The “seat of fire in the gut (*ग्रहणी*)” is an ayurvedic organ in the digestive tract that does not correspond to any specific organ known to contemporary anatomy. For discussion, see *Mahākośa*: v. 1, 304; Meulenbeld 1974b: 619; R. P. Das 2003: 544–545.

[*Mandalins*]

Thus, at the first pulse of the *Mandalins*, the poison corrupts the blood. Corrupted by that, it turns yellow. That causes a yellow appearance and a feeling of heat all over (*paridāha*).

In the second pulse, it corrupts the flesh. And that causes the limbs to be very yellow and an extreme feeling of heat all over (*paridāha*), and swelling at the bite.

In the third, it corrupts the fat. That causes a discharge at the black bite and sweating.

In the fourth, it penetrates as before and brings on fever.

In the fifth, it causes heat in all the limbs.

In the sixth and seventh, it is the same as before.

[*Rājīmats*]

Thus, in the first pulse of the *Rājīmats*, the poison corrupts the blood. Corrupted by that, it turns yellow. It causes a person to have hair standing on end and a pale appearance.

In the second pulse, it corrupts the flesh. That causes him to become pale and to become extremely benumbed (*jūḍya*).

In the third, it corrupts the fat. That causes moistness of the bite and runny eyes and nose.

In the fourth, it is the same as before. After penetrating, it brings on stiffness of the neck (*manyāstambha*) and heaviness of the head.

In the fifth, speech is slurred and there is a cold fever.

In the sixth and seventh, it is the same as before.

## Summary Verses

- 40 There are verses on this.

*It is well known that there are seven membranes (kalā) in between the bodily tissues (dhātu). Poison passing through these one by one produces the toxic reaction (vega).*<sup>711</sup>

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<sup>711</sup> See note 663 above.

- 41     *The interval taken by the deadly substance (kālakalpa), propelled ( $\sqrt{ū}h$ ) by air (samīraṇa), to cut the layers of skin is known as the “pulse interval (vegāntara)”.<sup>712</sup>*
- 42     *In the first pulse, an animal has a swollen body, is distressed and broods.<sup>713</sup>*  
*In the second, it dribbles somewhat,<sup>714</sup> the hair stands up on its body, and it has pain ( $\sqrt{pī}d$ ) in the heart.*
- 43     *The third stage brings headache and it breaks the ears and necks.<sup>715</sup>*  
*In the fourth, the bewildered creature trembles and gnashing its teeth, it gives up life.*
- 44-45    *Some experts say that elephants have three toxic reactions.<sup>716</sup>*  
*So, at the first toxic reaction, an bird becomes bewildered and is confused from that point on. At the second, the bird is distressed and, crying out, it dies.*  
*Some people claim that where birds are concerned, there is really just a single toxic reaction (vega) and that amongst animals like cats and mongooses, poison does not take much effect.<sup>717</sup>*

712 Dalhaṇa on 5.4.41 (Su 1938: 574) glossed कालकल्प as मृत्युसदृशं विषं “the poison resembles death.”

713 The verb  $\sqrt{\text{प्रध्य}}$  “meditate, be thoughtful, brood” is unexpected here and in the second class, an epic form. Dalhaṇa on 5.4.42 (Su 1938: 574) noted that some manuscripts did not include the text about animals from this point on. The fact that these verses are present in the Nepalese witnesses testifies to their antiquity.

714 The Nepalese witnesses use लालि-, not लाला-, for “saliva.”

715 The scribe of MS H emended the text to read कण्ठशीव with the vulgate. Intransitive use of pass. भञ्ज.

716 On अन्तःस्वेद as “elephant,” cf. Arthaśāstra 9.1.46 (Kangle 1965: v. 1, 219; Olivelle 2013: 351): हस्तिनो ह्यन्तःस्वेदाः कुषिणो भवन्ति ॥ ४६ ॥.

717 See on this subject: Brunton and Fayerer 1909: 39-40; S. A. Minton and M. R. Minton 1969: 88-89 (references taken from HIML: 1B, 399, n. 124).



# Kalpasthāna 5: Therapy for those Bitten by Snakes

## Introduction

### Literature

A brief survey of this chapter's contents and a detailed assessment of the existing research on it to 2002 was provided by Meulenbeld.<sup>718</sup>

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<sup>718</sup> [HIML](#): IA, 294–295. In addition to the translations mentioned by Meulenbeld ([HIML](#): IB, 314–315), a translation of this chapter was included in P. V. Sharma 1999–2001: 3, 35–45.

## Translation

*Passage numbers refer to the canonical numbering of the vulgate edition (Su 1938).*

- 1 Now we shall explain the formal procedure (*kalpa*) that is the therapy for someone bitten by a snake.<sup>719</sup>
- 3 For a person bitten on a limb by any snake, one should first of all make a strong binding, at four fingers measure above the bite.<sup>720</sup>
- 4 Poison does not move around into the body if it is prevented by bandages (*ariṣṭā*) or by any other soft items of cloth (*plota*), leather (*carmānta*) or bark.<sup>721</sup>
- 5 Where a bandage (*bandha*) is not suitable, one should **raise the bite up** and then cauterize it.<sup>722</sup> Suction, cutting and cauterizing are recommended in all cases.
- 6 Suction will be good after filling the mouth with **earth** (*pāṇśu*).<sup>723</sup> Alternatively, the snake should be bitten **by the person who knows** that they have just been bitten.<sup>724</sup>

719 On कल्प, see note 675.

720 Application of a tourniquet is deprecated by modern establishment medicine, which relies on antivenom medications (e.g., V. V. Pillay 2013: 150–151 et passim in the literature).

The vulgate introduces the word अरिष्टा at this point. This may be a borrowing from Ci.23.251cd (Ca 1941: 582).

721 It is hard to translate the word अरिष्टा otherwise than “bandage,” as referred to by ब्रैश्यात् in the previous verse, and apparently similar to items of cloth etc., and called a वन्ध in the next verse. But in general Sanskrit literature, including medical literature, the word (in masc. gender) means either “an alcoholic tonic” or “an omen of death,” (1.30.3 (Su 1938: 137)), or is a plant name. This raises a question mark over its unique meaning in the present context. The *Aṣṭāṅgahṛdayasaṃhitā* (Utt.36.42cd (Ah 1939: 910)) seems to be a gloss on अरिष्टा, saying “An expert in mantras may bind using a braid made of silk etc., empowered with mantras” (see also 5.5.8 (Su 1938: 575)). On problems that can arise from tying a bandage too tightly, see 5.5.56 (Su 1938: 577) below.

722 The vulgate reads उत्कृत्य “having excised” rather than translate उद्धृत्य “having raised up.”

723 The vulgate recommends cloth, not earth (5.5.6 (Su 1938: 574)).

724 The syntax is odd here, and the vulgate has removed the difficulties. Dalhana on 5.5.6 (Su 1938: 574) noted that one should hold the snake firmly and give a good bite to its head and tail (हस्ताभ्यामुपसंगृह्ण पुच्छे वक्रे च सर्पः सम्यग् दण्ड्यः). Our colleague Dr Madhu K. Paramesvaran reports that this procedure is known in Malayalam *viśavaidya* treatises

- 7 Now, one should in no way cauterize someone bitten by a Maṇḍalin. Because of the over-abundance of poison in the bile (*pittavīsa*), that bite will be lethal as a result of cauterization.<sup>725</sup>

## The Application of Mantras

- 8 An expert in mantras should tie on a bandage (*ariṣṭā*) too, with mantras. But they say that a bandage that is tied on with cords and so on causes the poison to be purified.<sup>726</sup>
- 9 Maṇtrās prescribed by gods and holy sages (*brahmaṛṣi*), that are imbued with truth and religious power (*tapas*) are inexorable and they rapidly destroy intractable poison.
- 10 Drugs cannot eliminate poison as quickly as the application of mantras imbued with religious power (*tapas*) and imbued with truth, holiness (*brahma*) and religious power.<sup>727</sup>
- 11 The mantras should be received by a person who is abstaining from women, meat and mead (*madhu*), who has a restricted diet, and who is pure and lying on a bed of halfa grass.
- 12 For the mantras to be successful, one should diligently worship the deity (*devatā*) with perfume, garlands, and oblations (*upahāra*), as well as sacrificial offerings (*bali*), and with mantra repetition (*japa*) and rituals.<sup>728</sup>

and is practiced in Kerala, though rarely: “this practice has been described as one of the first-response cares for snakebite in most of the Malayalam texts of Vishavaidya. I have never seen this happening in real life and my teachers used to consider it to be a method (albeit a bit outrageously dangerous) for self-reassurance by the patient.” (Paramesvaran 2023). Cf. the Viśavaidya text edited by Mahādeva Śāstrī (1958).

725 Verses 5.4.29, and 37 above note that the venom of Maṇḍalins particularly irritates the bile.

726 Ḷalhaṇa on 5.5.8 (Su 1938: 575) clarified that on the one hand the bandage must be accompanied with mantras, but on the other hand, it may also be used without mantras. The verse seems to put two points of view.

727 Ḷalhaṇa on 5.5.10 (Su 1938: 575) noted that mantras like “kurukullā” and “bher-ūṇḍā” are explained in other treatises and therefore not explained further in his commentary. These two mantras are the names of tantric Śaiva and Buddhist goddesses. For a study on this specific subject see Slouber (2016b). HIML: IIB, 151, n. 344 provides a bibliography to 2002 of studies on Kurukullā, who is mentioned in Māhuka’s *Haramekhalā*, and Meulenbeld 2008a: 30–34 includes discussion of Bher-ūṇḍā as a bird, with related terms.

728 Ḷalhaṇa on 5.5.12 (Su 1938: 575) noted that उपहार includes incense, while बलि refers

- 13 But mantras pronounced illicitly or that are deficient in accents (*svara*) and letters do not give success. So antitoxic (*agada*) procedures need to be employed.

## Blood Letting

- 14 A skilled physician should puncture a duct (*sirā*) which is located on the limb (*sākhāśrayā*), and comes from the bite and the general area. If the poison has spread, one on the forehead should be pierced.
- 15 The blood being drawn out draws away all the poison.<sup>729</sup> Therefore one should cause blood to flow, for that is his very best procedure.
- 16 After incising (*pracchāna*) the area around the bite, one should smear it with antidotes and sprinkle it with water infused with sandalwood and vetiver.<sup>730</sup>

## Internal Medications

- 17 One should make him drink various antidotes together with milk, honey and ghee. If they are unavailable, the earth of black ants can be good.<sup>731</sup>
- 18 Alternatively, he should consume orchid tree, siris and purple calotropis or white siris too. He should not drink sesame oil or horse gram, nor wine or Indian jujube.
- 19 But after drinking any other liquid at all, he should throw up after drinking it. For on the whole, poison is easily removed by means of vomiting.

to sacrifice with an animal (सपशुनैवच्य).

<sup>729</sup> The Nepalese version uses a present passive participle construction here, that is less common than the vulgate's locative absolute. The Nepalese version states that it is the blood coming out of the patient that carries away the venom; the vulgate text says merely that the venom emerges while the blood comes out.

<sup>730</sup> प्रच्छान् is the second of the two methods of blood letting described in the vulgate text of the *Suśrutasamhitā* at 1.14.25 (Su 1938: 64); this verse does not appear in the Nepalese version of the *Suśrutasamhitā*.

<sup>731</sup> This refers to earth taken from an anthill. In South Asia, there is a long tradition of considering such earth to be beneficial and even holy (e.g., Irwin 1982).

## Therapies at Each Pulse of Toxic Reaction

- 20 In the case of hooded snakes, when there is a toxic reaction (*vega*) first one should let blood. At the second, one should make him drink an antidote (*agada*) together with honey and ghee.<sup>732</sup>
- 21 At the third one should use errhines and collyrium (*añjana*) that destroy poison.<sup>733</sup> At the fourth, when he has vomited, the physician should make him drink a gruel (*yavāgū*) that destroys poison.
- 22 At the fifth and sixth toxic reactions one should make the person drink something that aids cooling, that is cleansing and sharp (*tīkṣṇa*), and a well-regarded gruel too.
- 23 But at the seventh, one should purge (*✓sodh*) his head with a sharp sternutatory.<sup>734</sup>

## In the case of Maṇḍalins

- 24 Amongst Maṇḍalins, the earliest toxic reaction (*vega*) should be treated in the same way as with Darvīkaras.<sup>735</sup>
- 25 At the second, one should make him drink ghee and honey and then make him vomit.<sup>736</sup>
- 26 At the third, one should give the purged patient healthy gruel. At the fourth and the fifth too, one should do the same as for the Darvīkara.

<sup>732</sup> This section reproduces some of the therapies from *Suśrutasamhitā* 5.2.40–43 (*Su* 1938: 566) on the stages of slow poisoning (*dūṣṭviṣa*) by plant poisons; see translation on p. 205 above.

<sup>733</sup> The rare word नस्तः: “from or into the nose” in नस्तःकर्म “errhine” is supported by both Nepalese manuscripts. The term is more common in the *Carakasamhitā*, occurring eleven times, e.g., at 1.20.13 (*Ca* 1941: 114), 2.1.36 (*Ca* 1941: 203), *et passim*.

The *Carakasamhitā* describes how collyrums, especially रसाञ्जन, cause phlegm to flow, thus clearing the eyes (1.5.14–19 (*Ca* 1941: 38–39)). This could be appropriate in expelling poisons.

<sup>734</sup> The vulgate adds a half-verse here recommending the application of a collyrium (*añjana*) to a cut made on the patient’s head.

<sup>735</sup> The vulgate again adds a half-verse here, recommending the “crow’s foot” incision on the patient’s head. On this procedure, described in *Carakasamhitā* 6.23.66–67 (*Ca* 1941: 574), see Dominik Wujastyk 2003b: 145. This text is not supported here, as it was not in the Nepalese text at *Suśrutasamhitā* 5.2.43 (*Su* 1938: 566) either. See footnote 606, p. 206 above. As stated there, it appears that this procedure was known in the tradition of the *Carakasamhitā*, but not in the earliest text of the *Suśrutasamhitā*.

<sup>736</sup> Again, the vulgate text differs substantively, adding another half-verse. But the general idea of the treatment is the similar.

- 27 At the sixth, wholesome things from the group of plants starting with **cottony jujube** should be drunk and a sweet antidote.<sup>737</sup> And at the seventh, a wholesome antidote that destroys poison in a sternutatory (*avapīḍa*).<sup>738</sup>

### In the case of Rājimats

- 28 Now, Amongst Rājimats, one should let blood at the first toxic shock.<sup>739</sup>
- 29 At the second, a patient who has vomited should be made to drink an antidote that destroys poison. At the third, fourth and fifth, the rule that applies to the Darvīkara is suitable.
- 30 At the sixth, use a very sharp collyrium (*añjana*), and at the seventh a sternutatory (*avapīḍa*). There is a prohibition on using blood-letting for pregnant women, children and the elderly.
- 31ab In those who are in pain because of poison, it is advised that the prescribed procedures be applied gently.

### 31ab In animals

- In goats and sheep, bleeding and collyriums are the same as for people.
- 32cd In cows and horses, that is twice as much; three times as much for buffalos and camels, four times for elephants and simply (*kevala*) for all birds.<sup>740</sup><sup>741</sup>

write note  
on par-  
isekān pra-  
dehāṁś

- 737 The “group of seventeen plants beginning with **cottony jujube**” (काकोल्यादि गण) is described at *Suśrutasaṁhitā* 1.38.35–36 (*Su* 1938: 167). These plants pacify the bile, blood and wind and increase phlegm, body-weight, semen and breastmilk.
- 738 The अवपीड is described at *Suśrutasaṁhitā* 4.40.44–45 (*Su* 1938: 556), where it is also recommended for victims of snakebite. It is a type of head-evacuant. Commenting on that passage, Dalhana cited “other treatises” as saying that अवपीड treatment was suitable for restoring the consciousness of those who have been poisoned. He also quoted a text by an authority called Videha, that says the same. Videha was an author known to Dṛḍhabala (according to Cakrapāṇidatta) and often cited in the *Madhukośa* on the topic of eye diseases (HIML: IA, 132 *et passim*). See also *Mahākośa*: 1, 62–63.
- 739 The vulgate text says that the blood-letting should be done with a **gourd**. It also has an extra half-verse here, prescribing an antitoxin to be drunk together with honey and ghee.
- 740 Dalhana on 5.5.32 (*Su* 1938: 576) explained “simply for all birds” as meaning that birds should receive just drugs, and not blood-letting or collyriums. See p. 233 for the toxic reactions in birds and other animals.

## Subsequent Therapies

- 34 One should consider carefully with one's intellect the location, constitution (*prakṛti*), suitability (*sātmya*), the season, the poison, and the strength or weakness of the toxic reaction and then proceed with therapy.<sup>742</sup>
- 47–48ab One should eliminate this poison completely. It is extremely hard to overcome. For even a small amount remaining can strongly bring about a toxic reaction.<sup>743</sup>
- 48cd–49 Or it may lead to dejection, pallor, fever, cough and headaches, dessication, swelling, catarrh, poor vision, disinterest in food (*aruci*) or **rigidity** (*jādyatā*).<sup>744</sup> And in such cases one should apply the cure **as appropriate**.<sup>745</sup>
- 50–51ab One should also treat the secondary ailments (*upadrava*) of a poisoned patient each as appropriate.

741 The vulgate includes several verses after this sentence that give a recipe and also a list of specific items like place and constitution that should be given careful consideration. Dalhaṇa on 5.5.33 (Su 1938: 576) cited the opinions of Gayadāsa and Jejjīṭa on this recipe but stated that he preferred to follow the contrasting opinions of Vṛddhavāgbhaṭa (1.25.24cd–25ab (As 1980: 184)) and Suśruta (4.31.29cd–30ab (Su 1938: 511)) on this topic, as well as several citations “another work” (तत्रान्तर) that is unidentified.

742 The vulgate here has twelve verses not found in the Nepalese version. These verses explicitly switch subject away from assessments according to toxic reactions and to the treatment of both mobile and immobile poisons, starting from physical symptoms such as swelling and discolouration as well as humoral theory. At the point where the vulgate summarizes the extra verses, saying that cases should be treated “according to their humors” (यथादोषं), the Nepalese witnesses have “as is appropriate” (यथायोगं, 5.5.49cd (Su 1938: 577)). This suggests that the text has been edited to fit the insertion of the verses referring to humoral therapy. These verses also include therapies such as the crow’s foot treatment (see footnotes 606 and 735, pp. 206, 239 above) and the beating of drums that have been smeared with antidotes, as discussed in *Suśrutasamhitā* 5.6 (Su 1938: 580–582) (see p. 259 below).

743 The word अवतिष्ठ “remaining” is hard to parse. It cannot be a णमुल्ल formation (Pāṇini 3.4.22 ff), because of the root's reduplication, and should not be a present participle because it is not neuter. However, lack of gender concord is not unknown in Epic Sanskrit; several of the examples cited by Oberlies (2003: § 10.2.1) even involve present participles without gender concord. Cf. Edgerton 1953: 1, § 6.12 for examples in BHS.

744 Dalhaṇa on 5.5.49ab (Su 1938: 577) reported a reading from Jejjīṭa of स्तैमित्य “immobility” instead of प्रतिश्याय “catarrh.”

745 The vulgate introduces दोष theory here, which is absent in the Nepalese version.

Now, after the bandage (*ariṣṭā*) has been removed and after the place marked by it has been quickly incised (*pracchāna*) one may see poison that has leaked out there, and a toxic reaction may strongly result.

### Treatment of secondary ailments

- 52.1 Once the poison has disappeared one can conquer irritated wind using items that restrain the wind.<sup>746</sup>
- 53 One can conquer bile using substances that remove bile-fever (*pittajvara*), with decoctions, oleation and purges, combined with substances that remove poison, with the exception of sesame oil (*taila*), wine, horse gram, and mangosteen.<sup>747</sup>
- 54 One can conquer phlegm with the group that starts with golden shower tree, together with honey.<sup>748</sup>

### Formal verses

- 56 If the the bandage (*ariṣṭā*) is bound tightly, or if it is incised (*pracchita*) with sharp ointment or with the remnants of the poison, then, when the limb swells up, the flesh weeps, smells a great deal and is is putrid (*sīrṇa*), it is designated “poison-stink (*visapūti*).”<sup>749</sup>
- 57–58ab One may be certain that a person has been struck by something poisoned (*digdha*) if their wound immediately starts to suppurate has black blood that flows and is inflamed, as well as having black, weeping and exceptionally foul-smelling flesh coming out of the wound and also someone who has thirst, fainting (*mūrcchā*), fever and a temperature.<sup>750</sup>

<sup>746</sup> This half-verse is is not present in the vulgate, but has broadly the same sense as 5.5.52cd (Su 1938: 577), that is not present in the Nepalese version.

<sup>747</sup> The vulgate reads “fish” in place of “wine.”

<sup>748</sup> The आर्गवधगण is listed at *Suśrutasamhitā* 1.38.6 (Su 1938: 164). These herbs are there explicitly said to pacify phlegm and to remove poison, etc. (1.38.7 (Su 1938: 164)).

<sup>749</sup> *Suśrutasamhitā* 5.5.16 (Su 1938: 575) (p. 238 above) suggests smearing an incised area with antidotes.

<sup>750</sup> The Nepalese witnesses describe someone who has been struck or hurt (क्षत, आहत), while the vulgate describes someone who is pierced (विद्ध). Dalhana on 5.5.58ab (Su 1938: 576) interpreted the latter wording as being struck by a poison-smeared arrow.

- 58.1–60 One who is known to have these exact symptoms may have poison in their wound that is † given by mistake.† And they may have a wound that has been hit by something poisoned (*digdha*) and is full of poison. And others are sick because of a wound that stinks because of poison. The wise person debrides the excess flesh of such people and then, after removing the blood by means of leeches and after removing the humours from above and below, he should irrigate with cold bark decoctions from milky trees. And he should apply items that destroy poison such as cloths containing ointments together with cold liquids mixed with ghee.
- 61ab When the bone is **injured** by poisons, the very same rule should be followed as for bile poison.

### Antitoxin drugs

- 61cd–63ab The following items are powdered, mixed with honey and stored in a horn: **turpeth**, **weaver's beam tree**, **liquorice**, the two kinds of **tumeric**, **Indian madder** and **Himalayan mayapple**,<sup>751</sup> and all kinds of salt.<sup>752</sup> This antidote, taken with drinks, collyrium (*añjana*), oil rubs (*abhyañjana*), errhines and drugs, destroys poison. With its relentless potency (*virya*) and as a destroyer of the toxic reaction (*vega*) to poison, it is called "mahāgada (*The Great Antidote*) and has great power.
- 63cd–65ab Very fine **embelia**, **velvet-leaf**, the three **myrobalans**, **wild celery**, and **devil's dung**, as well as **Himalayan mayapple** and the three **pungent drugs**, the whole group of salts, together with **leadwort** and honey should be placed in a cow's horn and covered with something made of cow's horn. It should be set aside for two weeks. This antidote is called "Unbeaten" because it conquers both stationary and mobile poisons.
- 65cd–68ab One should make a fine powder of the following items and place them in a horn, together with honey: **climbing diamond flower**, **deodar**, **grey orchid**, **black creeper**, **kutki**, **Himalayan yew**, **rosa grass**, **wild Himalayan cherry**, **Alexandrian laurel**, ??, **natron**, **sedge**, **cardamom**, **blue Indian symphorema**, **powdered ruffle lichen**, **costus**, **crape jasmine**, **fox-tail millet**, **lodh tree**, **Indian bdellium-tree**, **red ochre**, **rock salt**, long

<sup>751</sup> There is no मञ्जिषा group, but there is a plant वक.

<sup>752</sup> There is a लवणवर्ग, (1.46.313–321 (Su 1938: 236–237)).

pepper, and dried ginger. This antidote (*agada*) is identified as “Garuḍa (*tārkṣya*).” It can even destroy the poison of the snake prince Takṣaka (*takṣaka*).

- 69cd–72ab One should make powder of the following items and place it in a horn: spikenard, peas, the three myrobalans, horseradish tree, Indian madder, liquorice, wild Himalayan cherry, embelia, ??, Indian sarsaparilla, cardamom, cinnamon, costus, Himalayan mayapple, sandalwood, verbena, bitter gourd, white siris, velvet-leaf, colocynth, hare foot uraria, black creeper, Asoka tree, mulberry, toothed-leaf limonia, and the flower that is the blossom (*prasīna*) born from the fruit of the marking-nut.<sup>753</sup> The bile derived from boars, monitor lizards, peacocks, and porcupines is to be added, with honey, and the products of civet, chital deer and mongoose.<sup>754</sup> This properly-prepared antidote is called “Bull.” Someone who has it in the house is called “Bull Amongst Men.” There will be no snakes there, nor even insects: they lose their potency and their toxins too.
- 72cd–73ab Drums and tabors smeared with this rapidly destroy poison when they are sounded. Smeared flags being looked upon easily and quickly overcome poison.
- 73ab–75ab One should make a powder of the following items and place the collection in a cow’s horn, mixed with turmeric, and mingled with honey and ghee. As before, there is a cover: lac, the two peass, spikenard, foxtail millet, Indian madder, liquorice and gummy gardenia. **It should then be used with collyrium (*añjana*), drinks and errhines.** This antidote is called “Resuscitator (*sañjīvana*)” because it brings to life the dead whose breath is almost gone.
- 75cd–76ab The best antidote for the poisons of Darvīkaras and Rājilas is Indian cherry,<sup>755</sup> bayberry, citron, white clitoria, winged-stem canscora, white siris, and sugar, taken with amaranth.<sup>756</sup>
- 76cd–78ab The best antidote for the poison of Maṇḍalins is grapes, *Withania*, In-

753 Ḏalhaṇa on 5.5.70 (*Su 1938*: 579) glossed प्रसूत more specifically as तुलसीपुष्प “the Tulasi flower.”

754 All three animals produce musk. Ḏalhaṇa on 5.5.71 (*Su 1938*: 579) remarked that some people thought शिखी was a cock, not a peacock. He also here glossed पृष्ठ as चित्तल.

755 Ḏalhaṇa on 5.5.75 (*Su 1938*: 579) noted the common name बहुवार for शेषमातकी.

756 राजिल appears to be a synonym for राजिमत, a “striped” snake. Ḏalhaṇa on 5.5.76ab (*Su 1938*: 579) once again gives interesting local synonyms for these plant names.

dian frankincense, ground white clitoria, combined in equal amounts and given with two parts of the leaves of holy basil, and those from wood-apple, Bengal quince and pomegranate, as well as one measure from those of white Indian symphorema sage-leaved alangium seed as well as red ochre.<sup>757</sup>

- 84ab–86 The following group is known as the One Essence (*ekarasa*):<sup>758</sup> beauty-berry, hibiscus, weevil wort, and mango, as well as maloo creeper, Indian pennywort, three-leaved caper, spurge, hogweed, smooth angelica, croton tree, and Indian snakeroot as well; black earth (*bhūmi*),<sup>759</sup> and bluebell barleria. Whether used separately or in pairs, it removes poison.<sup>760</sup>

757 After this passage, the vulgate has five and a half verses that do not appear in the Nepalese version.

758 The vulgate reads एकसर, “one run.” Dalhaṇa on 5.5.86 (Su 1938: 580) also read एकसर and glossed it as the proper name of a गण.

759 A hapax in this meaning *Mahākośa*: 1, 582. So glossed by Dalhaṇa on 5.5.86 (Su 1938: 580): भूमि: कृष्णमृतिका॥;

760 R. P. Das (1983: 55–56) discussed this passage, suggesting that भूमीकुरवक may be a plant-name.



# Kalpasthāna 6: Rats and Rabies

## Introduction

A notable macro-difference between the vulgate and the Nepalese versions of the *Suśrutasan̄hitā* is that this chapter and the next are reversed in the vulgate. In the Nepalese version, this is chapter six and the chapter on antitoxic drumming is chapter seven.<sup>761</sup> Jejjāta too read the chapters this way round, as reported by Dalhaṇa.<sup>762</sup>

## Mouse or Rat?

In 2004, Umberto Eco published a characteristically subtle and enlightening book about translation entitled *Mouse or Rat?*.<sup>763</sup> The title alluded to Eco's discussion of the example of translating words for mice and rats across several European languages that do not always distinguish these animals from each other, or confuse them in other ways. In Sanskrit too, *mūṣikā*, the subject and title of this chapter, does not distinguish between mouse and rat. The same is true for MIA and NIA derivatives.<sup>764</sup> It is hard to know quite how to translate the term since "rodent" is too broad a term. In what follows, I have chosen "rat" for *mūṣikā* in order to produce a working translation of a text about an animal that is viewed as potentially toxic and threatening. "Mouse" does not have quite these connotations for a contemporary English speaker.<sup>765</sup>

761 See p. 179 above.

762 Dalhaṇa on 5.6.32 (*Su* 1938: 582): जेज्जटस्तु मूषिककल्पानन्तरं दुन्दुभिस्वनीयं कल्पं पठति.

763 Eco 2004.

764 CDIAL: #10258.

765 Kunjalal Bhishagratna made the same choice (Kunjalal Bhishagratna 1907–16: 2, 728–736).

The rodents that may be described as mice or rats in contemporary South Asia and that are especially associated with the spread of disease include the house or black rat (*Rattus rattus*, L.), the brown rat (*R. norvegicus*, Berkenhout), the house mouse (*Mus musculus*, L.) and bandicoots (*Bandicota*).<sup>766</sup> Also present in SA are the Indian desert gerbille (*Meriones hurrianae*, Jerdon), the Indian gerbille (*Tatera indica*, Hardwicke), the spiny field mouse (*Mus platythrix*, Bennett), the Indian field mouse (*M. booduga*, Gray), the Metad (*Millardia meltada*, Gray), the Indian bush rat (*Golunda ellioti*, Gray), the longtailed tree mouse (*Vandeleuria oleracea*, Bennett), Royle's vole (*Aticola roylei*, Gray), the Indian mole-rat (*Bandicota bengalensis*, Gray & Hardwicke),<sup>767</sup> the bandicoot rat (*B. indica*, Bechstein), the shorttailed bandicoot (*Nesokia indica*, Gray & Hardwicke), the whitetailed wood rat (*Madromys blanfordi*, Thomas), the bay bamboo rat (*Cannomys badius*, Hodgson), and other similar rodents.<sup>768</sup> However, plausibly matching these creatures to the Sanskrit names listed in this chapter is hard to impossible.<sup>769</sup> Almost no works engage directly with the representation or identity of rodents in pre-modern India.<sup>770</sup>

## Rabies

Passages 43 ff. (p. 256) describe rabies fairly unambiguously, including the symptoms of hydrophobia.<sup>771</sup> As Meulenbeld noted, the idea that the bite-victim displays the behaviours of the creature that bit them is not unique to South Asia.<sup>772</sup>

A sympathetic description was given in the seventeenth century by Emperor Jahangir, in his *Memoirs* (*Tuzuk-e-Jahangiri*), of the death of two of his elephants resulting from the bites of a mad dog.<sup>773</sup>

<sup>766</sup> BIA: 194.

<sup>767</sup> "Recent studies...show that the mole-rat forms 98% of the total rodent population of Calcutta," BIA: 206.

<sup>768</sup> BIA: ill. plates 45, 46 *et passim*. See also Menon 2014: *passim*.

<sup>769</sup> Mouse-words that we do not see in this chapter include the *kirika*, *giri*, *girikā* group (EWA: 1, 353, 488, 566).

<sup>770</sup> One of the few is van der Geer 2008: ch. 3.

<sup>771</sup> For a short historical bibliography on rabies, see HIML: IB, 400, note 163.

<sup>772</sup> HIML: IB, 400, note 164.

<sup>773</sup> Alvi and Rahman 1968: 132–134; Thackston 1999: 145–146.

## Literature

A brief survey of this chapter's contents and reference to the limited existing research on it to 2002 was provided by Meulenbeld.<sup>774</sup>

Chevers provided a characteristically vivid nineteenth-century discussion of injuries inflicted by wild animals, including details of those killed by wolves, tigers, dogs, jackals and other animals, and in his classic survey of the diseases of India, he discussed rabies specifically.<sup>775</sup> The experiments with cannabis anesthesia conducted by William O'Shaughenessy in Calcutta earlier in the nineteenth century were largely aimed at palliative care for rabies patients, an incurable, lethal disease.<sup>776</sup>

A rich description of Indian rodents is available by Prater, including several useful illustrations.<sup>777</sup> Unfortunately, Prater rarely provided Indian-language names for the animals he described.

In Sanskrit literature, the *Arthaśāstra* referred to the problem of rats more than once. For example, to rid a country of the threat of rats,

When there is a danger from rats, cats and mongooses should be released. If these are captured or killed, the fine is 12 Paṇas, as also for not keeping dogs confined, except in the case of foresters. He should strew grains smeared with the milk of the Snuhi-plant or mixed with secret compounds. Or, he should institute a rat tax; or thaumaturgic ascetics should perform a pacificatory rite. On the days of the moon's change ..., moreover, he should have rites of rat worship carried out.<sup>778</sup>

<sup>774</sup> HIMAL: IA, 295–296. In addition to the translations mentioned by Meulenbeld (HIMAL: IB, 314–315), a translation of this chapter was included in P. V. Sharma 1999–2001: 3, 67–77. Sekhar Namburi (2023) omitted mention of this type of poisoning, although he discussed rabies, a subsection of this chapter.

<sup>775</sup> Chevers 1870: 359–368; 1886: 426–440.

<sup>776</sup> Dominik Wujastyk 2002: 50–55.

<sup>777</sup> BIA: ch. 13, esp. 205–215.

<sup>778</sup> *Arthaśāstra* 4.3.20–26, tr. Olivelle 2013: 230.

## Translation

- 1 Now I shall explain the procedure (*kalpa*) relating to rats (*mūṣikā*).<sup>779</sup>
- 3 Learn concisely about aforementioned eighteen kinds of rats that have poison in their semen, according to their names, characteristics and the herbal treatments.<sup>780</sup>

### The Types of Rat

- 4–6 The eighteen rats are traditionally called,<sup>781</sup>
  1. Fondling rat,
  2. Sonny rat,
  3. Black rat,
  4. Gajpipul rat,
  5. Little rat,
  6. House shrew
  7. Arala rat,<sup>782</sup>
  8. Red-toothed shrew,
  9. Bad-marked rat,
  10. Invincible rat,
  11. Fidgety rat,
  12. Brown rat,
  13. the one called Mole-rat and
  14. Tawny rat,
  15. the large black rat,
  16. White rat, together with the
  17. the large Brown rat,
  18. and the Pigeon rat-like rat.<sup>783</sup>
- 7 If a part of the body has their sperm fall on it or if they touch it with their nails or teeth, etc., that have been touched by sperm, then the blood is corrupted.<sup>784</sup>

<sup>779</sup> The word मूषिका does not distinguish between rats and mice. See Introduction above.

<sup>780</sup> Rats with poisonous semen were mentioned in 5.3.5 (Su 1938: 567) (see p. 212 above).

<sup>781</sup> Dalhaṇa on 5.6.4 (Su 1938: 582) gave no comment on any of these names. The identifications are mostly guesswork and sometimes whimsical. The glossary gives lexical discussion of individual names.

<sup>782</sup> The word अरल् is a hapax legomenon and has not previously been identified as a lexeme because it did not appear in earlier editions of the *Suśrutasamhitā*. It is a loan-word from Dravidian (see glossary).

<sup>783</sup> The Nepalese list has चस्ति (Gajpipul rat) for the vulgate's हंसिर. The terms आरत्, मूषिका and उन्दुर् are here used as generic names of rat/mouse rodents.

<sup>784</sup> On this, Dalhaṇa on 5.7.7 (Su 1938: 582) quoted an authority called Ālambāyan who elaborated on this subject (see HML: IA, 658 for references to this author of a lost treatise on toxicology). Dalhaṇa also cited Ālambāyan elsewhere on the topics of insects and spiders (HML: IB, 722, note 5). See also the *Aṣṭāṅgasarīgraha*'s assertion that Ālambāyan was responsible for the doctrine of toxic pulses (*vēga*), p. 197 above. Ālambāyan, who was already known as "the famous soul of compassion" in the



Figure 7: “‘Little ears’ (*karnika*) look like the seed pod in the middle of a lotus — Ḏalhaṇa on 5.7.8 (Su 1938: 582).” Credit: Pexels, CC license.

- 8–10ab It happens that there are lumps (*granthi*), swellings, small ear-like growths (*karnika*) and rings, accumulations of severe **blisters** (*pitaka*), spreading rashes (*visarpa*) and dark, rough patches of skin (*kiṭibha*).<sup>785</sup> There are severe conditions such as pain in the joints, pain,

*Mahābhārata* (13.18.4), was also known in Buddhist literature. Book 22, tale 543 of the Jātakas includes mention of an Ālambāyana who claimed to be a doctor and specialist in snakebite poisons: *nāham dijādhipo homi, na diṭṭho garulo mayā, āśīviseṇa vitto ti vejjo manī brāhmaṇam vidū ti* 793 (Fausbøll 1877–96: 6, 181, tr. Cowell, R. C. Chalmers, W. H. D. Rouse, et al. 1895–1907: 6, 95). In the same tale, there is a herbal “Ālambāyana mantra” given to an ascetic by a Garuḍa who has just caught and eaten a Nāga, thus invoking the Garuḍa-snake-poison motif (Cowell, R. C. Chalmers, W. H. D. Rouse, et al. 1895–1907: 6, 93–94). The Jātakas were translated into Chinese in the third century CE.

See further discussion by Slouber (2016a: 33–34), who calls the mantra “Alampāyana,” adopting the reading of the Burmese MS Bd against the Fausbøll’s critical reading “Ālambāyana” (see Fausbøll 1877–96: 2 & 3, Preliminary remarks 3 and 7).

- 785 “Little ears” was strikingly described by Ḏalhaṇa on 5.7.8 (Su 1938: 582) as looking like the seed pod in the middle of a lotus (कमलमध्यवीजकाशाकृतिः), a graphic image (see also Ḏalhaṇa on 5.8.136 (Su 1938: 594)). See Figure 7. Perhaps similar to hyper-granulation. The Nepalese version has पिटक “blisters” for the vulgate’s पीडक “boils” (itself perhaps a typo for पिडक). किटिम “dark rash” was described by Ḏalhaṇa on 1.11.7 (Su 1938: 46) as a kind of कुष्ठ, which is variously a skin disease of pallor, leucoderma, or leprosy (Emmerick 1984). But it was described in the *Carakasaṃhitā* as being dark and as rough as a callous to the touch (6.7.21cd–22ab (Ca 1941: 451))

fever, fainting, weakness, loss of appetite, exhaustion, nausea and horripilation.<sup>786</sup>

This is a concise description of the appearance of someone who has been bitten. Now listen to a longer version.

## Detailed Symptoms

- 10cd–11ab The **Fondling rat** causes a flow of saliva, vomiting and hiccups. For that, one should lick a paste of **prickly amaranth** with honey.
- 11cd–12 The **Sonny rat** causes the limbs to droop and creates a pale **beauty**,<sup>787</sup> and the body is heaped with lumps like the young of a rat.<sup>788</sup> One should lick **siris**, **odal oil plant** and **malabathrum** with honey.<sup>789</sup>
- 13 The **Black rat** causes one to vomit blood, especially when the weather is bad. One should drink **siris** and **malabathrum**, with **costus** and **cardamom**, with the **flame-of-the-forest** ashes.<sup>790</sup>
- 14 The **Gajipipul rat** causes a person have a revulsion for food, to yawn, and makes their body-hair **leproous**.<sup>791</sup> They should drink items like **golden shower tree** and be quickly made to vomit.
- 15 The **Little rat** causes headache, swelling, hiccups and nausea. One

(*Mahākośa*: 1, 208).

786 पर्वमेद “pain in the joints” was glossed by Dalhaṇa on 5.7.9 (*Su 1938*: 582) as “spots on the joints” (सन्धे: स्फोटः). This seems unlikely, since symptoms on the surface of the body were described in the previous verse, and also because of the obvious etymological meaning of the compound.

787 The expression -वल्यु “beauty” in the Nepalese MSS, for the vulgate’s simpler -वर्णी “complexion,” is unusual.

788 The grammar here is very loose. शिशुर् cannot stand outside the compound, which should read मूषिकशिशुरसंस्थितैः. The vulgate text has the simpler and grammatical आखु-शावकसन्निमैः “resembling the offspring of a rat.”

789 Dalhaṇa on 5.7.11-12 (*Su 1938*: 582) here cited a passage by an unknown author called Nāgārjuna, about the visible symptoms of a bite by this kind of rat (cf. P. V. Sharma 1982: 45–46, *HIML*: IB, 497, note 100) as well as variant readings by Gaya-dāsa and Jejjīṭa on the exact formulation of the lickable medication.

790 Dalhaṇa on 5.7.13 (*Su 1938*: 583) explained “with the ashes of **flame-of-the-forest**” as “water with the ashes of **flame-of-the-forest**.”

791 The qualifier कुष्टता (रोम्णां) is odd; the vulgate’s हर्षण “horripilation” reads more easily. कुष्ट has a lesser-known meaning “prominent part, mouth or opening” which might perhaps be considered here, though it is hard to see how.

- should have thorough emesis using decoctions of *luffa*, and he should drink the juice of sage-leaved alangium.
- 16cd–ab The *House shrew* causes constipation, paralysis of the neck, and gasping (*vijṛmbhikā*).<sup>792</sup> In this case, one should administer a caustic made of *barley ash* and *velvet bean* as well as the two *hairy-fruited eggplants*.<sup>793</sup>
- 18cd–19 The *Arala rat* causes stiffness of the neck and pain in the area of the bite. In that case, one should lick The Great Antidote (*mahāgada*), that is of great potency (*vīrya*), together with honey.<sup>794</sup>
- 19cd–20ab The *Red-toothed shrew* causes sleep and especially emaciation. In that case, one should lick the sap and seeds of *siris* with honey.<sup>795</sup>
- 20cd–21ab The *Bad-marked rat* causes pains, swelling and lines up to the area of the bite. In that case, one should lick the two kinds of *bluebell barleria*, together with *Indian symphorema* and honey.
- 21cd–22ab The *Invincible rat* causes nauseous fainting, heart-seizure (*hrd-graha*) and blackness of the limbs. In that case, one should lick *Indian madder* mixed with the milky latex of *oleander spurge* and honey.
- 22cd–23ab The *Fidgety rat* causes vomiting and fainting together with thirst. One should drink *the three myrobalans* with wood-ash, spikenard

<sup>792</sup> विजृम्भिका is one of the eighty wind diseases listed in the *Kāśyapasamhitā* and glossed by Hemarājaśarman as “yawning” (Hindī जँभाई, 1.27.19–28 (Hemarājaśarman 1938: 41–42)). However, in the *Carakasamhitā* it is a term for one of the disorders of an improperly treated post-partum umbilical cord (glossed by Ḑalhaṇa as मुहमुहवृद्धिमती “growing larger moment by moment,” 4.8.45 (Ca 1941: 348–349)) and translated by P. Sharma (1994: 1, 480) as “umbilical hernia.” Cf. *Mahākośa*: 1, 756.

<sup>793</sup> Note that half-verses 16cd and 16ab are reversed compared to the vulgate edition. This makes the caustic a remedy for the bite of the *House shrew*, while the earlier *luffa* remedy is for the *Little rat*, which makes better sense.

The vulgate has text at this point, 17 and 18ab, that are not present in the Nepalese version. They are about further symptoms and treatment of stiffness of the neck, anosmia, etc., presumably arising from the bite of the *House shrew*. Ḑalhaṇa on 16cd–17 (Su 1938: 583) recorded different readings from Gayadāsa’s commentary here (see edition notes); it seems these verses became slightly confused at an early period. We would expect symptoms of the bite of the *Arala rat* at this point in the text, and the Great Antidote treatment in the next line would be its therapy.

<sup>794</sup> “The great antidote” recipe is described at *Suśrutasamhitā* 5.6.63 (p. 243 above).

<sup>795</sup> The difficult expression शिरीषस्य सारमाषकान् probably accounts for the easier version of the vulgate, with its dvandva सारफलत्वचः. Taking सारमाषकान् as a dvandva, we can read माषक् as in the compound शिरीषमाषक “siris seeds.”

and honey.

- 23cd–24ab The Brown rat causes a wound, hives (*kotha*), fever, and an outbreak of lumps (*granthi*).<sup>796</sup> In this case, white clitoria or white hogweed should be licked with honey.
- 24cd–25ab The Mole-rat is said to cause lumps, fever, and an intense feeling of heat (*dāha*). In that case, one should drink ghee cooked with an decoction (*kvātha*) of indigo and hogweed.

### The last five, from the Tawny rat on

- 25cd–26 The Tawny rat causes the wind to be angry, creating illnesses that originate in wind. The Large Black (rat) causes bile, the White rat phlegm, the Large Brown rat causes blood, and the Pigeon rat causes all four.<sup>797</sup>
- 27 In the bites of these ones there are lumps, rings and small ear-like growths (*karnīka*).<sup>798</sup> There are accumulations of blisters (*piṭaka*) on the body, and severely painful swellings.
- 28–31 A half litre (*prastha*) each of curds, milk and ghee are measured out.<sup>799</sup> Make a broth of pongame oiltree, golden shower tree, the three pungent drugs, hairy-fruited eggplant, beggarweed, and beggarweed,<sup>800</sup> and once again make that broth into one fourth part. One should add turpeth, viburnum, heart-leaved moonseed, Himalayan mayapple, Indian snakeroot, Indian frankincense,<sup>801</sup>

796 कोठ was a skin ailment variously described by authorities as a redness that appeared and disappeared rapidly, that was itchy, that was caused by an excess of salty items, etc. (see *Mahākośa*: 1, 239, HML: IIB, 76, n. 47). It may have referred to conditions such as urticaria, allergy, ringworm or vitiligo. The English word “hives” has a history going back to ca. 1500, referring to various eruptions in the skin that may feel hot (OED: s.v. “hives (n.”)).

797 Note the switch to humoral theory with these last five rats in the list, and the assumption of blood as a fourth humour .

798 On कर्णिका, see footnote 785.

799 The measure of a प्रस्थ is approximate and different authors have various estimates.

800 अंशुमती and स्थिरा are both normally identified as beggarweed, but when a pair are mentioned the second is probably painted uraria.

801 For the vulgate’s reading समृतिका “with earth,” Dalhana on 5.7.29 (Su 1938: 583) specified “black earth” and noted that some people read अहिमृतिका “snake earth” meaning earth taken from anthills, while Jejjata read अगवृत्तिका, meaning शळकी, “Indian frankincense” (see also GVDB: 392). Jejjata’s reading is essentially that of the

**wood-apple, pomegranate, and cinnamon.** Mix all that together and cook it over a gentle flame. This gets rid of the poison of the five rats from **Tawny rat** on.

Alternatively, prepare in the juices of **hedge caper** and **black night-shade**.

- 32 Also, you should pierce the affected ducts (*sirā*) and apply purifications. As an alternative, one may apply this rule in all cases of rat poisoning.
- 33–34ab One should cauterize the bite, then bleed it and, having made small cuts (*pracchita*), smear it with a paste of **siris**, **turmeric**, **Himalayan mayapple**, **saffron**, and **heart-leaved moonseed**.<sup>802</sup> Emesis is with a decoction (*kvātha*) of indigo with **parakeet** and **sage-leaved alangium**.<sup>803</sup>
- 37–38 When doing a purge, **turpeth**, **red physic nut**, and **the three myrobalans** are recommended; when purging the head, either the juice of **siris** or its fruits. Juice of cow-dung with a lot of **the three pungent drugs** is good in collyrium.<sup>804</sup> an electuary of the juice of **wood-apple** and cow-dung, with the two kinds of honey, is recommended.<sup>805</sup>
- 40 The person should drink ghee cooked in roots of **prickly amaranth**, or either cooked with the roots of **bread flower** or the **five products of the wood-apple**.<sup>806</sup>
- 41 The poison that comes out of rats is most irritant during cloudy weather.<sup>807</sup> And in that case too, the procedure that should be carried out is the one for removing slow-acting poison (*dūṣīviṣa*).
- 42 **The physician should cut (*pra/cha*) the small ear-like growths (*karnika*) that are hard and slightly painful. And in every single**

Nepalese MSS, with a म/व alternant, if Trikamji Ācārya's edition is correct on this.

802 The vulgate substitutes कुष्ठ for वक्ता.

803 The vulgate has two and a half more verses at this point, expanding the recipe considerably and adding the appropriate verb, "he should vomit."

804 The Nepalese MSS appear to read "juice that is cow-dung" (गोमयः स्वरसो) but the vulgate has the grammatically easier, "juice of cow-dung" (गोमयस्वरसो).

805 Verse 5.7.39 (Su 1938: 584) of the vulgate is not present in the Nepalese version.

806 Dalhaṇa on 5.7.40 (Su 1938: 584) glossed the last item as, "a decoction of the pulp of the fruit, roots, flowers, bark and leaves of the wood-apple."

807 The Nepalese witnesses read निर्हतम् "removed, taken out," in contrast to the vulgate's अनिर्हतम् "not removed." The vulgate refers to rat-poison remaining in a patient, while the Nepalese version is talking more generically about poison that comes from rats.

case of poison he should perform the procedure as for a wound.<sup>808</sup>

## The Bites of Wild Animals

- 43–44 When a creature such as a dog, a jackal, wolf, tiger or hyena has the poison, the corrupted phlegm which resides in the conduits of consciousness takes away consciousness.<sup>809</sup> Then, its tail, jaw and shoulders droop down, it drools, it is deaf to unclear sounds and blind and it charges against one another.<sup>810</sup>
- 45–46ab And there is numbness in the limb of one who has been bitten by such a creature, and the blood runs black.<sup>811</sup>  
And it is in the main marked by the signs of someone who has been pierced by a poisoned arrow.<sup>812</sup>
- 46cd The person, repeatedly imitating the movement and cries of the creature that bit him, loses the power of movement and is destroyed.
- 47–48ab If the bitten person sees, in water or in a mirror, the one who was bitten by the creature with fangs, it is an indicator of impending

808 On प्रच्छयेत् “cut off, scarify” cf. the same verb at 4.9.10 (*Su 1938*: 443), 6.14.10 (*Su 1938*: 621), and derivatives प्रच्छन्, प्रच्छान्, प्रच्छित्, etc., cited at *Mahākośa*: 1, 523. The wording of the vulgate text of this verse is quite different, and it introduced the idea of treatment according to the humour.

809 The Nepalese version does not mention wind, unlike the vulgate, but the sentence structure is harder than the vulgate.

810 The grammatical number of “it charges against one another” is odd in Sanskrit too.

811 This translation of the text is tentative and does not account for स्युः. The sentence is not clear in the witnesses or later derived versions such as *Aṣṭāṅgahṛdayasaṃhitā* 6.38.10 (*Ah 1939*: 921). Taking सुस्तः as “numbness” is not comfortable, though the vulgate seems to have taken this sense, reading सुस्ता (that *Dalhaṇa* glosses as बाधीर्यम्).

The vulgate version is a full śloka, rather than the Nepalese half-śloka, and translates as, “But there is numbness at the bite of the one bitten by such a mad, fanged, poisonous creature, and black blood overflows” (5.7.45 (*Su 1938*: 584)).

The main interpreters state that it is the limb or the location of the bite that becomes numb, not that the person loses consciousness. It is tempting to think that a more original text might have been referring to the victim losing consciousness. Srikantha Murthy (1991: 3, 375) took this view (against the commentator Aruṇadatta): “... the person gets into stupor ....”

812 अभिलक्षित “marked by” is not a common word and is perhaps a hapax legomenon. The vulgate has the simpler expression उपलक्षित.

death.

- 48cd–49ab If someone who has not been bitten nevertheless trembles at the sight, touch or sound, that should be known as hydrophobia (*jalatrāsa*), and that too is a sign of impending death.
- 50cd–52ab When one is bitten, one should make that bite flow and then it should be cauterized (*paridāhita*) with ghee. One should anoint it with antidotes and one should also make the patient drink aged ghee. One should also quickly give them an evacuative mixed with the latex of **purple calotropis**. One should also give them **white clitoria** and **hogweed**, together with **datura**.<sup>813</sup>
- 5.7.60–60.1 He should be made to bathe on the bank of a river or at a cross-roads, accompanied with mantras, with pots full of seeds, jewels and medicinal herbs, filled with cold water.
- 5.7.61–62ab O Yakṣa, Ruler of Mad Dogs, Lord of the Pack of Dogs, make this dog affliction free from poison, quickly, Svāhā!
- 5.7.62cd One should provide an intense evacuation (*samśodhana*) for the person who has been bathed.
- 5.7.63 That poison flares up again in a person who has not been evacuated, even though the wound may have healed.
- 5.7.63.1 Whether asleep or awake, a healthy person who is frightened does not succeed. And a mortal who is afraid of water as well as one who gets inflamed when bitten.<sup>814</sup>

Thus the Kalpa 6.

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<sup>813</sup> At this point, the vulgate has seven and a half verses (5.7.52cd–59) that are not present in the Nepalese version. They describe a recipe that causes or aggravates the same symptoms as the bite of the animal. The interesting theory is presented that the patient will only survive if the poison is assisted in expressing its inflammatory symptoms fully (कुप्तेत्वयं विषं यस्य न स जीवति मानवः । तस्मात्प्रकोपयेदाशु स्वयं यावत्प्रकुप्त्वा ॥ (5.7.58cd–59ab (Su 1938: 585)).

<sup>814</sup> The sense of this verse, which does not appear in the vulgate, is uncertain.



# Kalpasthāna 7: Beating Drums

## Introduction

This chapter is numbered 7 in the Nepalese version, but 6 in the vulgate.

## Literature

A brief survey of this chapter's contents and a detailed assessment of the existing research on it to 2002 was provided by Meulenbeld.<sup>815</sup>

## Translation

- 1 Now I shall explain the procedure (*kalpa*) on the topic of sounding the kettle drum (*dundubhi*).<sup>816</sup>

### Recipe for the Caustic Antidote

- 3 One should take the ash of the following items, mix it with cows' urine and an caustic (*ksāra*) compound, take an extract and cook it thoroughly: **axlewood**, **garjan oil tree**, **sandan**, **neem**, **weaver's beam tree**, **corky coral tree**,<sup>817</sup> **cluster fig**, **mountain gardenia**, **arjun**, **white dammer**

<sup>815</sup> HIMAL: IA, 295. In addition to the translations mentioned by Meulenbeld (HIMAL: IB, 314–315), a translation of this chapter was included in P. V. Sharma 1999–2001: 3, 61–66.

<sup>816</sup> This title suggests that the chapter may once have begun with the words “the drums are to be sounded” or at least that this is the subject of the chapter (Pāṇini 4.3.87). On the translation “kettle drum” see Hopkins 1889: 318; Rossi 2014.

<sup>817</sup> The ingredients to this point are similar to the water-detoxifier described in *Suśrutasaṃhitā* 5.3.9 (Su 1938: 568), p. 214 above.

tree, white siris (?), Indian cherry, sage-leaved alangium, Tellicherry bark, shami tree, wood-apple, maloo creeper, purple calotropis, Indian elm, oleander spurge, tree of heaven, liquorice, horseradish tree, teak, prickly-leaved elephant's foot, Himalayan birch,<sup>818</sup> viburnum, marsh barbel, woody-fruit jujube, and white-bark acacia.

One should add to this the powder of the following items, together with an equal quantity of metals: long pepper, long pepper root, prickly amaranth, cinnamon, smooth angelica, Indian madder, pongame oiltree, gajpipul, embelia, soot, Indian symphorema, soma,<sup>819</sup> chir pine, saffron, halfa grass, mango, Indian mustard, three-leaved caper, Indian laurel, itchytree, castor-oil tree, Indian willow, purging nut, blackboard tree, Indian trumpet tree, cherry, croton tree,<sup>820</sup> Indian aconite, deodar, black pepper, costus, and sweet flag.<sup>821</sup> Once it has been brought to the boil with the alkali, one should take it down and place it in a iron pot.<sup>822</sup>

<sup>818</sup> Note the unanimous Nepalese MS reading भूज, the Middle Indo-Aryan form of Sanskrit भूर्ज (CDIAL: #9570).

<sup>819</sup> The literature on the identification of Soma is large and continuing (Dominik Wujastyk 2003b: 76–78, 125–131; Clark 2017). To the cited literature, the useful historical discussion by T. B. Singh and Chunekar (GVDB: 449–455) gave special attention to the āyurvedic literature. Its presence in this recipe may add special value or power to the resulting compound.

<sup>820</sup> Ḏalhaṇa on 5.6.3 (Su 1938: 580) glossed नागदन्ती as a type of इन्द्रवारुणी (colocynth), but he noted that Jejāṭa had thought it was दन्ती (red physic nut).

<sup>821</sup> Ḏalhaṇa on 5.6.3 (Su 1938: 580) noted that Gayadāsa omitted several of the above ingredients, keeping thirty.

<sup>822</sup> Ḏalhaṇa on 5.6.3 (Su 1938: 580) explained that the above substances, from pepper onwards, should be placed in liquid alkali and then cooked until they are neither too runny nor too viscous (a phrase he copied from 1.11.11 (Su 1938: 47)). The preparation of पाक is particularly common in the *Suśrutasamhitā* and the *Aṣṭāṅgahṛdayasamhitā*. Cf. the very similar ingredients and procedure in the chapter on alkali preparations, *Suśrutasamhitā* 1.11.11 (Su 1938: 46–47), p. 35 above.

## Application of the Caustic Antidote

- 4 One should smear this onto a drum as well as onto flags and carpets.<sup>823</sup>  
One is released from all poisons as a result of seeing and hearing  
these.<sup>824</sup>
- 5–6 This is called “The Caustic Antidote (*kṣārāgada*)”.<sup>825</sup> It should be given  
in cases of small urinary stones (*śarkarā*), urinary stones (*aśmarī*),<sup>826</sup>  
hemorrhoids, wind-swelling (*vātagulma*), cough, abdominal gripes  
(*śūla*) and swollen belly (*udara*). It should be given for indigestion,  
humours of the abdomen (*grahaṇīdoṣa*),<sup>827</sup> and severe aversion to food  
(*bhaktadveṣa*),<sup>828</sup> in swelling, mouth ulcer (*sarvasara*),<sup>829</sup> and persistent  
asthma (*śvāsa*).

## The Snakes’ Controlling Hook

- 7 This is to be employed in all cases where someone is suffering as a result  
of any poison. Thus, it is the antidote that is the Snakes’ Controlling

823 The vulgate has तोरण “gateways” instead of आस्तरण “carpets.” On the meaning of the latter term, see Bailey 1970: 31, 33 *et passim* and the remarks of Rotman (2008: 1, 390–391, note 171). I am grateful to Michael Willis who has drawn my attention to similar practices described in Tibetan Buddhist literature, some of which may preserve material from before the fifth century CE (Gongkatsang and Willis 2018).

824 The vulgate adds “and touching” 5.6.4 (Su 1938: 580). Note the ditransitive (द्विकर्मक) -मुच्यते; cf. *Meghadūta*, *uttarameṣha* 33 (Kale 1947: 91, 120).

825 Cf. 4.23.95–104 (Ca 1941: 575–576).

826 अश्मरी and शर्करा are described in *Suśrutasamhitā* 2.3 (Su 1938: 276–280), the latter being smaller and more easily expelled (2.3.13cd–14 (Su 1938: 279); cf. *Mahākoṣa*: 1, 67–68, 808–809). The commentators Cakrapāṇidatta and Ḟalhaṇa discussed the lack of a firm distinction between these categories.

827 On the organ called ग्रहणी, see the useful summary by Ramachandra Rao and Sudarshan (1985–2005: 2, 20–21, 96 *et passim*).

828 A sign of impending death according to *Suśrutasamhitā* 1.32.4 (Su 1938: 142).

829 See *Mahākoṣa*: 1, 888 and *Suśrutasamhitā* 2.16.65–66 (Su 1938: 336) and 4.23.3 (Su 1938).

Hook (*sarpāṅkuśa*) even for the snakes led by Takṣaka.<sup>830,831</sup>

### Recipe for the Immortal Ghee

- 12–13 Grind **prickly chaff-flower** seeds and the beans of **siris**, the two **white clitorias** and **black nightshade** with cows' urine.<sup>832</sup> A ghee mixed with these is the most effective means of soothing poison. It is famous under the name "Immortal (Amṛta)." It can revive even the dead.
- 14–23 Collect together the following requisites: sandalwood, agarwood, costus, crape jasmine, wild spider flower, climbing diamond flower, spikenard, chir pine, deodar, white sandalwood, plants like asthma plant and Gulf sandmat, verbena, indigo, Indian sarsaparilla, woody turmeric, wild Himalayan cherry, liquorice, **thorny** (*sanakha*) spikenard, Alexandrian laurel, cardamom, cherry, red ochre, rosha grass, scented pavonia, resin of white dammer tree, spikenard, Indian dill, peas, scramberry, cardamom, foxtail millet, sedge, sesame flowers, powdered ruffle lichen, malabathrum, black sarsaparilla, the three pungent drugs, camphor, white teak, kutki, purple fleabane, Indian aconite, gummy gardenia, colocynth, vetiver and lemon grass (?), three-leaved caper, coriander, sweet hoof, cinnamon, smooth

830 तक्षक is an ancient name for a Nāga, mentioned in the *Kauśikasūtra* (28.1 *et passim*, Bloomfield 1890:78). Takṣaka is mentioned briefly in the *Rāmāyaṇa* (Pollock 1991: 292, n. 13) and more in later works. See further, Slouber 2016a: 22, 26, 37, *et passim*. The *Kriyākālottaratatantra*, edited by Slouber, contains a similar sentence (7.26cd, p. 232): "Even someone bitten by Takṣaka will be rapidly cured of poison."

831 There follow four verses in the vulgate, 8–11, that are not present in the Nepalese version. These list ingredients that form a ghee called The Salutary (*kalyāṇaka*). This ghee recipe with the same name is also present in the *Uttaratatantra* at 6.39.229–232 (Su 1938: 689), where it is a treatment for mostly similar ailments: chronic fever, asthma, cough, swelling, madness and a toxic potion (*gara*) (defined at 5.8.24cd–25ab (Su 1938: 587) as something manufactured, कृत्रिम). However, in the Nepalese version at 6.39.232, the vulgate statement of this name "एतत्कल्याणकं नाम सर्पिमाङ्गल्यमुत्तमम्" is not present. Thus, in the Nepalese version, The Salutary (*kalyāṇaka*) is not named. The same named ghee also appears in the *Carakasamhitā* at 6.9.35–42ab (Ca 1941: 471), where it is presented as a treatment for madness (*unmāda*) as well as many other ailments including those mentioned above in the *Suśrutasaṃhitā* (excluding swelling); it is possible that this is a case where a text from the *Carakasamhitā* was added to the *Suśrutasaṃhitā* after the Nepalese version.

832 On the BHS form पीषयेत्, see Edgerton 1953: 2, 346, Edgerton 1953: 1, §28.4, p. 220.

angelica,<sup>833</sup> scutch grass,<sup>834</sup> chebulic myrobalan , the two types of clitoria, the two types of turmeric, Himalayan yew, lac, and the salts,<sup>835</sup> white water-lily, blue water-lily, sacred lotus flowers, pale Java tea and the flowers of champak, Asoka tree, royal jasmine, long-stamen *Wendlandia* (?),<sup>836</sup> weaver's beam tree, silk-cotton tree, Indian cherry, siris, toothed-leaf limonia, Arabian jasmine, Indian symphorema, axlewood, garjan oil tree, and sandan.

Collect these ingredients and then have a fine powder made out of them and place that in a horn together with cow's bile, honey and ghee.

- 24 This foremost antidote can rescue a man, with hunched shoulders and **rolling** eyes, from within the jaws of death.
- 25 This antidote can even destroy the irresistible, fire-like poison of Vāsuki, the lord of all the snakes, who is angry, and infinitely ardent.<sup>837</sup>

## The Great Perfume

- 26 Out of all the royal antidotes, this one, called The Great Perfume (*Mahāsugandha*), assembled out of eighty-five components, should always be in the king's hand.
- 27 A king anointed **with this** will become beloved of all the people. He becomes resplendent even when surrounded by his enemies.
- 28 For those afflicted by poison, the expert should apply a therapy that avoids heat. The exception is insect poison, because coldness makes

833 The plant is usually called चोरक, literally "thief." The Nepalese text here uses the unusual expression तस्करसाह "called the same as 'thief'."

834 The preceding three plants are in a half-verse that appears in the Nepalese version of the *Suśrutasamhitā* but not in the vulgate. It is notable that चोरक (syn. तस्कर) is distributed across Afghanistan, Himalaya and western Tibet. ग्रन्थिला (more commonly ग्रन्थिल, n.) is mentioned in the version of this *Mahāsugandha* recipe in the *Aṣṭāṅgasāṅgraha*, Utt.47.69 (As 1980: 899) (but not in the *Aṣṭāṅgahṛdayasamhitā*), suggesting that the *Aṣṭāṅgasāṅgraha* at this point had access to sources similar to the Nepalese witnesses.

835 Dalhaṇa specified "the five salts" (Dalhaṇa on 5.6.19 (Su 1938: 581)).

836 The Nepalese witnesses unanimously read तिल्क not the vulgate's तिल्वक. Both plants have fragrant flowers.

837 This Nepalese MSS unanimously read सर्वनागगति "the progress of all the snakes" for the vulgate's विषं नागपति "the poison of the king of snakes." We emend to सर्वनागपति "the lord of all the snakes."

- that grow.<sup>838</sup>
- 31 Someone suffering from poison should avoid sleeping during the day, sexual intercourse, exercise, anger, the heat of the sun, wine (*surā*), sesame and horse gram.<sup>839</sup>
- 32 A physician can recognize that a person is free of poison if their humours are calm, if their tissues (*dhātu*) are in a normal state, if they have an appetite, if their urine and feces are regular (*sama*), and if the movement of their senses and mind is calm.<sup>840</sup>

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<sup>838</sup> Verses 29 and 30 of the vulgate, giving dietary advice, are not present in the Nepalese version.

<sup>839</sup> Dalhaṇa on 5.6.31 (Su 1938: 581) took the “and” in this sentence to mean the inclusion of a list of additional avoidances, from long pepper to river dolphins and tortoises.

<sup>840</sup> This verse is much clearer in the Nepalese version. The vulgate seems to have acquired corrupted readings before the time of Dalhana.

# Kalpasthāna 8: Poisonous insects

## Introduction

This is the last chapter of the *Kalpasthāna*. Since the chapter-colophons of the Nepalese manuscripts of the whole *Suśrutasamhitā* commonly end with the statement, “here ends the *Suśrutasamhitā* together with the *Uttaratana*,” we can presume that an older version of the *Suśrutasamhitā*, sans *Uttaratana*, ended with the present chapter. Added to this, the beginning of the next section of the work, the *Uttaratana*, reads,

It being declared in the preceding 120 chapters, from here on, in  
the latter section, I shall explain the meanings in detail, fully.<sup>841</sup>  
Now, I shall explain the treatise called “the latter” where dis-  
eases in their diversity are fully revealed.

It is often the case with evolving works that new chapters are added at the start or, especially, at the end of a work. This has been true since the *Rgveda*. The *Kalpasthāna* has a different character from the rest of the *Suśrutasamhitā*, for example eschewing theoretical considerations in many situations. It may therefore itself have once been an addition to an even earlier medical work consisting of four main divisions.

## Insect names

It is more than usually difficult to equate the Sanskrit names of insects with contemporary creatures. In fact, it is mostly impossible. This is partly, at least, because historical entomology is non-existent as a discipline. Furthermore, entomology as a science in South Asia is dramatically

<sup>841</sup> Note that this is not the reading of the vulgate, which says that the *Uttaratana* will explain everything that was *not* completely explained before.

undeveloped when compared, for example, with botany.<sup>842</sup> There are few general surveys of insects in India and virtually none that record historical names or literary references. In the twelfth century, Dalhaṇa made the following remark about the commentators who lived before his time:

These different types of insects are not described by commentators like Suvīra, Nandin, Varāha, Jejjīṭa and Gayadāsa, so they have to be identified by people from different localities.<sup>843</sup>

Thus, even pre-modern Sanskrit authors were not expert regarding the identities of the insects discussed in the *Suśrutasaṃhitā*.<sup>844</sup>

In general the names listed in passages 5–14 are the least recognizable. Most seem never to appear elsewhere in Sanskrit literature or even elsewhere in the *Suśrutasaṃhitā*. The names mentioned from passages 25 onwards are mostly recognizable and do appear elsewhere Sanskrit literature.<sup>845</sup> This chapter therefore gives the appearance of having two distinct parts. First, there is a taxonomy arranged according to humoral characteristics, containing otherwise unknown insect names. Second follows a concatenated treatise with more recognizable ordinary-language nomenclature coupled with creature-by-creature nosology and therapy.

## Literature

A brief survey of this chapter's contents and a detailed assessment of the existing research on it to 2002 was provided by Meulenbeld.<sup>846</sup>

The early history of entomology in India was fragmented until the study of Maxwell-Lefroy (1909) who provided a comprehensive and well illustrated reference compendium. Dover (1922) gave an overview of the early years of the field, though he admitted that, “I have not the linguistic attainments to discuss the mention of various insects in ancient Sanskrit

<sup>842</sup> Desmond (1992) devoted a book of 368 pages to the early history of Indian botany; Dover (1922: 338–345) described the history of Indian entomology in seven pages.

<sup>843</sup> Dalhaṇa on 5.8.4 (*Su* 1938: 586): एते कीटकभेदा नानादशीयलोकादवगन्तव्याः, यतः सुवीरनन्दवराहजेजटगयदासादिभिः टीकाकारैर्न व्याख्याताः. (Varāha is called Vārāha by Dalhaṇa on 2.13.3 (*Su* 1938: 318).) Cf. Meulenbeld ([HIML](#): IA, 387–388) on Suvīra and *mutatis mutandis* on the other commentators

<sup>844</sup> MW includes 191 insect names, almost none of which are identified.

<sup>845</sup> E.g., T. R. Mitra 2005.

<sup>846</sup> [HIML](#): IA, 296–299.

works." Entomological studies focussed on south India include those of Baingrigge Fletcher (1914) and Ramakrishna Ayyar (1963). Meulenbeld (HIML: IB, 402) provided short bibliographies on Indian scorpions (note 214) and on spiders (note 222). Some insects were included by Ball (1888) in his study of the Indian flora and fauna known to classical Greek authors. Kaur and L. Singh (2018) provided a unique but very brief historical sketch of some arthropod references in Sanskrit literature.

## Translation

1 And now I shall explain the procedure (*kalpa*) about insects.

### Taxonomy of insects

- 3 Insects originate from snakes' semen, feces, urine, the rot of corpses, and eggs.<sup>847</sup> Their characters are traditionally divided into three: wind, fire, and water.
- 4 Yet others hold the opinion that they are connected with the characters of all of the humours. And those insects are also very fierce and all of them are divided into four groups.<sup>848</sup>

### The wind group

- |         |  |  |
|---------|--|--|
| 5–6     | <ul style="list-style-type: none"> <li>1. Tick-navel,</li> <li>2. Beaked,</li> <li>3. Horned, and</li> <li>4. Hundred-kulimbhakas,</li> <li>5. Cricket,</li> <li>6. Fire centipede,</li> <li>7. Little-voice,</li> <li>8. Vicitingas, and</li> <li>9. Lentil insects.</li> </ul> | <ul style="list-style-type: none"> <li>10. Revolver, and</li> <li>11. Sheep-insect,</li> <li>12. Myna-face, and</li> <li>13. Legume-insect,</li> <li>14. Hundred-creeper,</li> <li>15. Stripy,</li> <li>16. Spotted,</li> <li>17. Speckle-head.<sup>849</sup></li> </ul> |
| 7cd–8ab | These eighteen insects, being of airy character, irritate the wind. The diseases of people bitten by one of these are caused by wind.  |  |

### The fire group

8cd–11ab

<sup>847</sup> P. V. Sharma (1999–2001: 3, 78) omitted “snakes’” making it sound as if insects are just born of any semen, etc.

<sup>848</sup> The insects named in the following lists are all unidentifiable at the present time. The English translations are based mostly on the etymologies of the Sanskrit names. Future ethno-linguistic studies of insect-names in South Asia may solve some cases.

<sup>849</sup> The list is deficient in the Nepalese version. The vulgate text has another half-verse here listing two more names, शतबाहु “hundred-arm” and रक्तराजि “red-stripe.” It does not include the Nepalese version’s अल्पवाच “little voice.”

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. Pitcher-like,</li> <li>2. Hornet,</li> <li>3. Celestial, and</li> <li>4. Warding off,</li> <li>5. Wing-scorpion,</li> <li>6. Noseless,</li> <li>7. Devout,</li> <li>8. Droplet,</li> <li>9. Bee,</li> <li>10. Outsider.</li> <li>11. Picciṭās,</li> <li>12. Pot-turd,</li> <li>13. Maggot,</li> <li>14. Enemy-liquor,</li> </ol> | <ol style="list-style-type: none"> <li>15. Lotus-insect,</li> <li>16. Drummer,</li> <li>17. Mosquito,</li> <li>18. Centipede,</li> <li>19. Five-venom,</li> <li>20. Cook-fish insect,</li> <li>21. Black-beak,</li> <li>22. She-ass insect.</li> </ol> |
|--|--|
- These are the insects, as well as the
- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>23. Worm-dish,</li> </ol> | <ol style="list-style-type: none"> <li>24. Slimy.</li> </ol> |
|--|--|

11cd–12ab These are the twenty-four insects that have the character of fire. The diseases of people bitten by one of these are caused by bile.

### The phlegm group

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. Wasp,</li> <li>2. Five-white,</li> <li>3. Five-black,</li> <li>4. Kokila-insect,</li> <li>5. Šairyaka-insect,</li> <li>6. Pravalāka,</li> <li>7. Bhaṭābha,</li> </ol> | <ol style="list-style-type: none"> <li>8. Kitībha,</li> <li>9. Aṭakī,</li> <li>10. Needle-mouth,</li> <li>11. Black monitor lizard,</li> <li>12. Kuṣṭa-insect,</li> <li>13. Red-dweller,</li> </ol> |
|---|---|

These are the thirteen watery (*saumya*) insects that irritate the phlegm. The diseases of people bitten by one of these are caused by phlegm.

### The three-humours group

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. Tuṅgīnāśa,</li> <li>2. Valabhika,</li> <li>3. Tolaka,</li> <li>4. Nāhana,</li> <li>5. Koṇṭāgīrī,</li> <li>6. Krimikara,</li> </ol> | <ol style="list-style-type: none"> <li>7. Maṇḍalapuṣpaka,</li> <li>8. Tuṇḍavakra,</li> <li>9. Sarṣapaka,</li> <li>10. Spoṭaka,</li> <li>11. Šambuka, and the terrible</li> <li>12. Fiery insects.</li> </ol> |
|--|--|

- 17ab These are the twelve that are born of the three humours.

### Symptoms

- 17cd For someone bitten by one of these, the information about the stages of toxic shock (*vega*) is the same as with snakes.<sup>850</sup>
- 20–21ab, 21.add-1 The following are found in the area of a bite, or in a body overflowing (*ākula*) with poison: an eruption of blisters, swelling, lumps and circles, ringworm (*dardru*),<sup>851</sup> small ear-like growths (*kariṇikā*), spreading rashes (*visarpa*), and dark, rough patches of skin (*kiṭibha*).<sup>852</sup>

### Taxonomy according to symptoms and prognosis

- 25cd From here onwards he will explain each individual class of insects separately.<sup>853</sup>

#### Hornets

- 26 These four hornets (*kaṇabha*) that cause sharp pain are described in general terms according to the symptoms of the person bitten, and according to whether they are treatable or non-treatable:<sup>854</sup>
- Triple-sting (*trikanṭaka*),<sup>855</sup>

<sup>850</sup> Two verses appear at this point in the vulgate that are not in the Nepalese version. They introduce a categorization of insect poisons into severe versus mild, a scheme that the Nepalese version does not reference.

<sup>851</sup> More usually दद्धु, a skin disease like कुष्ठ, i.e., leprosy or vitiligo, caused by an excess of bile and phlegm (*Mahākośa*: 390), although the form दद्धि is mentioned in the *Uṇādisūtra* commentary by Śvetavanavāsin (fl. tenth to fifteenth century), “दद्धि: कुष्ठ-भेदः” (I.88). Translated here as “ringworm” because that is prominent amongst the NIA usages of the lexeme and derivatives (CDIAL: 1, #6142).

<sup>852</sup> These symptoms are the same as those listed at 5.7.8 (*Su 1938*: 582) as being caused by rat poisoning, and similar to the list at 1.11.7 (*Su 1938*: 46). See footnote 785, p. 251. Again, the vulgate has three and a half added verses. They describe how to recognize severe poisoning and mild poisoning, developing the idea of graded degrees mentioned in note 850 above.

<sup>853</sup> On वक्ष्यते “he will explain” see note to the edition.

<sup>854</sup> The translation “hornet” is adopted in light of the Tamil *kaṭampai* and cognates described by DED<sub>2</sub>:#1117.

<sup>855</sup> Cf. Tamil *tēt-kotṭāṇ* “a green insect whose touch produces the same sensation as a scorpion-sting” (DED<sub>2</sub>:#2064).

- Hopper (*kunī*),<sup>856</sup>
  - Lion (*hastikakṣya*), and
  - Undefeated (*aparājita*).
- 27 Someone stung (*daṣṭa*) by one of these experiences heaviness of the limbs and pain in the body, a flow of saliva and a severe rupture of the legs.<sup>857</sup>

*Iguanas*

28, verses 1, 2 There are traditionally five *iguanas*:

- Counter-sun (*pratisūrya*),
- Yellow-shine (*piṅgabhāṣa*),
- Multicolour (*bahuvarṇa*),
- Bighead (*mahāśiras*),
- Peerless (*nirupama*).

The information about the toxic pulses that affect someone bitten by one of these is the same as for snakes. There are pains of various kinds and extremely sore lumps.<sup>858</sup>

*Geckos*

29 verses 1, 2 These are the six *house geckos*:<sup>859</sup>

- White (*śvetā*),

856 The translation “hopper” gestures, with no real basis, to the Tamil word *kunī* and cognates, meaning “dance, jump, leap” (DED<sub>2</sub>:#1863). For कुनी, the vulgate has the equally unknown term करिणी, which slightly resembles Dravidian *kūṛa*, *kūṛān* “moth, cockroach” (DED<sub>2</sub>:#1926).

857 The Nepalese and vulgate texts diverge noticeably at this point. This passage, 27, is in verse in the Nepalese version, but in prose in the vulgate. At this point, the Nepalese text continues with further passages in verse, while the vulgate has a series of prose passages (5.8.28–37) and verse passages that are similar but not identical to the Nepalese version (39–41). In several cases, the Nepalese version’s verses are in irregular forms of *śloka* (*vipulā*), which may have prompted a redactor to recast the text as prose.

858 The Nepalese reading of this passage was known to Ḏalhaṇa, who quoted it almost exactly as the reading “of some” (Su 1938: 587). It differs significantly from the vulgate. Ḏalhaṇa also quoted the description of the iguana (गोधेरक) from तत्त्वान्तर “another book,” i.e., the *Carakasaṃhitā* (6.23.134 (Ca 1941: 577) with minor differences).

859 See n. 309, p. 108.

- Black (*kṛṣṇā*),
- Black-striped (*kṛṣṇarājī*),
- Crimson and Crimson-ringed (*raktā*),
- All-white (*sarvaśvetā*),
- Mustard (*sarṣapikā*).

### *Centipedes*

30, verses 1, 2 There are traditionally eight centipedes:

- Harsh (*paruṣā*),
- the two kinds of Black-pattern (*kṛṣṇacitra*),
- Brown (*kapilā*),
- Yellow (*pītikā*),
- Crimson (*raktā*),
- White (*śvetavarnā*),
- Fire coloured (*agnivarnā*).

Someone stung (*daṣṭa*) by one of these experiences sharp pains and tearing swelling at the sting. Spots appear at the sting and there is dreadful fainting.<sup>860</sup>

### *Frogs*

31, verses 1, 2 There are eight frogs that are well known to be defined as insects (*kīṭa*):

- White frog,
- Black-coloured,
- Arrow-coloured,
- Matt,
- Cavity,
- Greenish,
- Frown,
- Little point.

Someone bitten by one of these gets itchy, greenish, faint and vomits.<sup>861</sup>

860 The Nepalese and vulgate texts continue to diverge in form and content.

861 Dalhaṇa on 5.8.31 (Su 1938: 588) quoted a passage from “another book” (not the *Carakasaṅghitā*) that described the भृकुटी frog as follows: “When it rains, during the rainy season, a great snake may discharge semen. Then, when autumn comes, the

*Leeches*

31 add There are declared to be six leeches, with their characteristics and treatments:<sup>862</sup>

- Snake-sore,
- Sore-maker, and the
- Round-bristleRound-bristle.<sup>863</sup>

*All-supports*

32 verse There are said to be three **Wasps**. They bring burning, fever and pain.<sup>864</sup>  
As soon as one is bitten by one of them, there is swelling, and itching at the site of the bite.<sup>865</sup>

34 verses 1, 2 There is a discharge of foam, diarrhoea, and the appearance of dreadful hives (*a*).<sup>866</sup>

*Ants*

These are said to be the six kinds of ant:

- Massage-ant,
- Thick-head,
- Brahman woman ant,

water has froth (*maṇḍu*). In that frothy water, frogs (*maṇḍūka*) are born, which is why they are called that. Experts say that a frog walks like a cow (*gogati*) so it is called a *koṭika*. It's bite kills; there is no countermeasure against it."

862 Puzzlingly, only three types are actually named. This verse occurs in the Nepalese MSS (K and H for this part of the text), but not in the vulgate.

863 The English translations are whimsical, based on the possibly-related word कोथ meaning variously, "afflicted with pain" or "putrefaction, corruption."

864 Breaking the pattern of these descriptions, the names of this animal are not listed here in the Nepalese version.

865 The next passage in the vulgate sequence, 5.8.33 (*Su 1938*: 588), describes an animal called *Ahiṇḍukā*. This passage does not occur in the Nepalese manuscripts, and Ḑalhaṇa's comment on this passage shows that he knew of a transmission of the text that omitted this material: "Some people do not read the symptoms of being bitten by *Ahiṇḍukās*, *Kaṇḍūmakas*, and *Śūkavṛntas*, because they are included as a type of **Wasp** (*Viśvambhara*). But others include each separate symptom of being bitten by *Ahiṇḍukas* and the others, because they need to be treated separately." The Nepalese version of the *Suśrutasamhitā* fits Ḑalhaṇa's description.

866 On the translation "hives" see note 796, and also *Suśrutasamhitā* 5.8.86 below.

- Finger-ant,
- Colourless, and
- Brown.<sup>867</sup>

If one is bitten by one of them there is pain, burning and particularly itchy swelling.<sup>868</sup>

These ones are enamoured of eyes and bite the eyes in particular.

### *Mosquitoes*

36 verses 1–3 Five kinds of mosquito are famous:

- District,
- Mountainous,
- Black,
- Oceanic,
- and the mosquito called Elephant.

If one is stung by one of these, there is swelling in the area of the sting together with anger. There is pain; blood with much red colour (*rāga*), accompanied by itching, flows out.<sup>869</sup>

### **Therapy**

38 In each of the individual groups, the following cannot be treated successfully:<sup>870</sup>

- Iguana,
- Stench,
- White gecko,
- Fire-centipede,
- Frown, and

867 Note the marginal insertions in both MSS K and H, the latter attributed to ग्रन्थान्तरे “in another book.” The scribe of H was aware of variant readings in other manuscripts.

868 Or “pain and burning as well as itching and swelling” if these are grammatically relaxed as. The end of this verse is different in witnesses K and H. The earliest recoverable text is disturbed here. There follows a verse, दाहचोषै... that is in H alone that corresponds to some extent to the vulgate’s 5.8.35 on *bees*.

869 This passage in both Nepalese witnesses not in the vulgate. The three preceding passages in the Nepalese version are somewhat corrupted and appear to treat of *bees* and *mosquitos*.

870 The reference is to the groups introduced at p. 270.

- Little point.
- 42 One should tend to those who have been stung by vicious insects (*kīṭa*) in the same way as for snakes. For the remaining three kinds, the therapy is three-fold.<sup>871</sup>
- 43ab One should employ sweating and multiple therapies, except for a patient who has fainted.
- 44ab And one should use the procedure for destroying poisons and one should apply evacuants.<sup>872</sup>

## Taxonomy of scorpions

- 56ef Scorpions are said to be of three types: having slow, medium or great toxin.
- 57cd Those born of the filth of snakes are sharp. By their poisons, they kill the person who has been stung by the poisoned tip.<sup>873</sup>
- 58 Medium ones are in the filth of cows, etc. The best are traditionally thought to be in the filth of dung.<sup>874</sup> It is declared that there are twenty-seven in number.<sup>875</sup>
- 59, 60cd, 61ab All of the following are considered slow-poison types:
- Black scorpion,
  - Brown scorpion,
  - Variegated scorpion,
  - Hairy scorpion,
  - Scorpion the colour of cow's urine,

<sup>871</sup> The meaning of this sentence is not obvious. Dalhana on 5.8.42 (Su 1938: 588) interpreted “three-fold” as referring to the therapies used for the three humours, and “of the three kinds” as referring to the divisions of the origin of the semen of the three classes of snake, Darvīkara, Maṇḍalin and Rājila. This refers to the idea presented at the start of this chapter that it is the semen of snakes that is one of the origins of insects (*kīṭa*) and that they are divided into three kinds according to their humoral characters.

<sup>872</sup> At this point, the vulgate has about thirteen verses that are not present in the Nepalese version. These verses describe medications against poisoning.

<sup>873</sup> Reading हृते as a rare ātmanepada third person plural.

<sup>874</sup> This sentence in the Nepalese version is hard to construe. The vulgate text enumerates the three levels of scorpion, saying there are twelve mild (born of cow dung), three moderate (born of wood or bricks) and fifteen virulent ones (born of snake filth, etc.).

<sup>875</sup> In contrast to the vulgate’s total of thirty.



Figure 8: Husain, Shaykh, Shaykh Ali and Shaykh Hatim, "Asavari Ragini: Cropped Image of Scorpions" (Husain, Ali, and Hatim 1591). Courtesy of the Smithsonian Institution.

- Spotted scorpion,
- Dark blue scorpion,
- White scorpion,
- Indian red scorpion,
- Hairy-head scorpion, and
- Fierce-purple scorpion.

If bitten by one of these, there is pain and trembling. The limbs are paralyzed and dark blood flows out.

- 61ab When pierced in the limbs, there is pain and it goes upwards. There is **sweat at the site of the bite**, and sharp swelling of the face.
- 61cd Those of medium virulence have a belly that is red yellow and brown, and they have a smoky colour.
- 63ab When the sting is from one of medium venom, the tongue (*jihvā*) swells up, the sense of taste (*rasana*) is damaged and there is intense fainting.
- 63cd, 64cd, 65ab The following scorpions of various colours and forms are known to be terrible. They are deadly. White, variegated, dappled, blood-coloured, black, dark, white-and-blue-bellied, red, tawny, and with a single joint



Figure 9: The Oil-Presser. MS British Library Add.Or.1707, no. 16. "Album of Kashmiri Trades." Datable to 1850–1860.

as before, and those with two joints, also as before.

- 66 If stung by one of these, the pulses (*vega*) associated with poison start to happen, with the appearance of spots, fever and burning, and trembling. Black blood flows copiously from the pores. After that, the person is rapidly caused to relinquish his breaths.

### Therapies for scorpion-sting

*Medium poison*

- 67ab One has to provide medical care for those stung with fierce or middling poison in the same manner as for someone bitten by a snake.

*Slow poison*

- 70 But for those stung by a slow poison one should irrigate the bite with wheel-oil.<sup>876</sup> Alternatively, the oil of **beggarweed** can be used, gently

<sup>876</sup> Dalhaṇa on 5.8.70 (Su 1938: 591) explained "wheel oil" as sesame oil produced from pressing on a wheel, in contrast to that pressed with an instrument by hand. The term

warmed.

- 67cd–68ab The bite should be fomented, scarified and one should rub it with powders made from **turmeric**, **rock salt**, and the fruit and flowers of **the three pungent drugs**, and **siris**.
- 68cd–69ab In an ointment, the leaf-tips of **holy basil**, mashed with **citron**, **mango-steen** and cow's urine are said to be beneficial, as is warm cow dung.<sup>877</sup>
- 9cd, 71cd, 72cd, 71ab, 73ab One should use the following, together with plasters that counteract poisons: ghee with honey in a drink, or milk with a lot of sugar; alternatively, healthy jaggery-water steeped with **the four *jāta* drugs**. Also, one should use sweating and poultices and use sesame oil, salt, and the tail-feathers of a peacock or a cock. This fumigation (*dhūpa*) rapidly destroys scorpion poison.
- 73cd–74 Alternatively, the flowers of **safflower**, **turmeric**, and **Indian barberry**,<sup>878</sup> should be mixed with ghee and made into a fumigant to be applied in the anal area. It can rapidly destroy poison that comes from an insect (*kīṭa*) or from a scorpion.

## Spiders

- 75 The poison of spiders is the most terrible and the one that is hardest to understand. It is also the most difficult for a slow-witted doctor to treat.
- 76 If there is any doubt about whether it is poisonous or not, treat it with unobstructive medication that destroys poison.<sup>879</sup>

is discussed at *Suśrutasamhitā* 1.44.47–48 (Su 1938: 193), where Ḑalhaṇa elaborated on the superiority of wheel-oil over hand-machine oil: “The expression ‘wheel-oil’ means sesame oil that has been pressed on a wheel. This is meant to rule out pressing using manual instruments. Items like sesame that are pressed on a wheel are not roasted. Therefore, they are of the highest quality. The qualities of oiliness and heaviness are lost when sesame that has been roasted and dried is pressed by machine.” See Fig. 9. (Ḍalhaṇa gave a different interpretation of the production of wheel-oil at 4.2.72 and 4.3.12 (Su 1938: 413, 415).)

Some authorities interpret चक्रतैळ as referring to the oil of **sickle senna** (*cakramarda*) (normally part of a therapy for ringworm (*dadru*)) and that might fit the present context better.

<sup>877</sup> On the wider history of the association of **holy basil** with scorpions, see Simoons (1998: 40 et passim), who cites Watt (*WattDict*: 5, 442).

<sup>878</sup> रजनी and निष्या (syn. निशा), as mentioned in this passage, separately both mean turmeric. But when mentioned together, the second is understood to mean **Indian barberry** (GVDB: 227).

<sup>879</sup> Ḑalhaṇa on 5.8.76 (Su 1938: 591) interpreted “unobstructive medication” as referring

- 77 The proper use of anti-toxins (*agada*) is for a person injured (*duṣṭa*) by poison. An anti-toxin applied to a person who has no poison itself turns into a toxin (*gada*).
- 78 For that reason, every effort must be made to achieve certain knowledge about the poison. Being ignorant of the true nature of the poison might lead the physician to harm the man.
- 79 A tree does not reveal its fully developed type by means merely of its newly formed buds. In exactly the same way, spiders' poison is extremely difficult to spot in the body when it has just started to spread.

### Seven stages of spider poisoning

- 80 On the first day, there is slight itching and moving hives (*koṭha*), and a faint colouring.<sup>880</sup>  
 On the second day, there is swelling of the extremities, a hollowing of the mid-region and a very obvious colouring.  
 By the third day, one sees the bite here.  
 On the fourth day, the poison becomes irritated.  
 On the day after that, it causes the person to have disorders that arise from the aggravation of the poison.
- 82 On the sixth day, spreading, it powerfully spreads over all the locations of the lethal spots.<sup>881</sup>  
 On the seventh, it takes possession of the whole body. It kills that mortal person who has become extremely swollen.
- 83 Spiders have sharp, fierce, dreadful, poison. They can kill a man in seven nights. And different ones that have medium-strength poison can kill in a longer period than this.
- 84 Those that have the weakest-strength poison can kill in just a fortnight. So a physician should make every effort at this point, because of the force of the harm from the poison after the bite has happened.<sup>882</sup>

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to food and drink that do not obstruct the body tissues (*dhātu*), rather than with an actual antitoxin (*agada*) that would block the body tissues.

880 Dalhaṇa on 5.8.80 (Su 1938: 591) noted that Gayadāsa read प्रवल् for प्रचल् “moving,” understanding it as “on the first day there is itching of only slight strength” with increasing degrees of strength on later days.

881 “Sensitive spots” (*marmā*) are points where life is close to the surface of the body and damage may be lethal (Dominik Wujastyk 2003b: 201–202, 236–244). They are described in *Suśrutasaṅhitā* 3.6 (Su 1938: 369–376).

882 Dalhaṇa here cited a verse from the ancient toxicology authority Ālambāyana, whom

85 Spiders emit poison in seven ways:

- saliva,
- nails,
- urine,
- fangs,
- menstrual fluid,
- feces and
- semen.<sup>883</sup>

It has strong, medium or weak potency.

- 86 They say that if it is caused by saliva, there are hives (*kotha*) with itching and firmness and a small base, with mild pain.<sup>884</sup> When the sting comes from the tip of the nails, there is dryness (*cosa*), itching, granulations (*pulāyikā*), and the appearance of smoke.<sup>885</sup>
- 87 But if the bite caused by urine, it is black in the middle and has a red surrounding, then know it to be split apart.  
If it is caused by fangs, it is fierce, rough, discoloured, and you should know that the bite is firm and circular.
- 88ab You can recognize one arising from menstrual fluid, feces or semen by the blister (*sphoṭa*) that is pale like a fully ripened **emblic myrobalan** or **toothbrush tree**.<sup>886</sup>

### The origin of spiders

88cd–89 This much has been declared to you. Now I shall narrate the **authoritative** origin of spiders,<sup>887</sup> and in a general way the incurable and curable

we mentioned on pages 197 and 250 (Su 1938: 591): लूतास्तीक्ष्णविषा हन्युः सप्ताष्टनवभिर्दिनैः । एकादशाहात्परतो विषं यासां तु मध्यमम् ॥ “Spiders that have the sharpest poison can kill after seven eight, or nine days. Those that have medium strength, after eleven or more”

883 Dalhaṇa on 5.8.85 (Su 1938: 592) confirmed the sense “semen” for इन्द्रिय in this passage.

884 Or “with a goitre and firmness,” in the reading of MS Kathmandu KL 699.

885 पुलायिका “granulations” is not found in dictionaries. I have guessed that it is connected with पुलाक “rice grain.” Cf. the cognates of \**pūliya* “rotten” in CDIAL: 1, #8350. Sharma read पुलालिका with the vulgate and translated it as “horripilation” (P. V. Sharma 1999–2001: 3, 94) following Dalhaṇa’s gloss रोमात्रः Su 1938: 592.

886 See Figure 10.

887 The vulgate’s reading पुराणम् “ancient” is no doubt easier than प्रमाणम् “authority,” but there is no support for it in the Nepalese manuscripts.



Figure 10: Berries of the *emblic myrobalan* (*āmalaka*) and *toothbrush tree* (*pīlu*). Photos courtesy of Dinesh Valke (CC-BY-SA).

patient who has been bitten as well as the therapy and the **distinctions to be made.**<sup>888</sup>

- 90–91, 92ab, 92ef Once upon a time there was a good king called Viśvāmitra, “Friend to All.” He went to the ashram and somehow made Vaśiṣṭha, the best of sages, angry.<sup>889</sup> Drops of sweat from that angry sage’s forehead, as brilliant as the sun because of his countenance, reached the grass that had been cut and gathered by the sage for his cows.<sup>890</sup> They started to damage the king’s government and labours.<sup>891</sup>
- 93 Since the sage’s drops of sweat reached the cut (*lūna*) grass, spiders (*lūtā*) came into being. And they were sixteen in number.

888 The vulgate reads यथाविशेषम् “according to their specifics,” qualifying the therapies. The Nepalese version’s विशेषणम् च “distinguishing, qualifying,” seems to be a separate topic for explanation.

889 On the legendary rivalry between these two figures, see Sathaye 2015: Introduction, et passim.

890 नियतुः; 3rd, pl., pf., √यत्, “reached, arrived,” is simplified in the vulgate to अपतन् “they fell.”

The vulgate adds half a verse here giving a subject to the next verb, वर्त्तन्ते: “From those were born these various, terrible creatures with great poison” 5.8.12cd (Su 1938: 592).

891 Dal.haṇa cited a different origin myth, which itself began “others say....”

### Taxonomy of spiders

- 94 Spiders are traditionally said to be of two kinds: those that are hard to treat and those that cannot be treated. Amongst those, there are eight that are hard to treat and exactly the same number that should be avoided.<sup>892</sup>
- 95 They are traditionally said to be: Three-ring, White spider, Brown spider, Yellow spider, Sting-poison, Urine-poison, Red spider, and the eighth is the Cough-spider.
- 96 When bitten by one of these, there is headache and especially itching at the site of the bite, and in particular maladies related to phlegm and wind.
- 97 They are traditionally said to be: Goldie, Grain-coloured, Webby spider, Deer-foot, Black-face, Fire-face, Crow-egg, and the eighth is the Garland-virtue.
- 98 If one is bitten by one of these, there is a sore at the site of the bite and a flow of blood,<sup>893</sup> fever, a temperature (*dāha*) and diarrhoea and the illnesses caused by the three humours.
- 99 There are also various kinds of boils and large rings, and large, soft, red and dark swellings that move about.

### Specific symptoms and treatments

- 100 This is the generic characterization of the bites of all kinds of spider. I shall now describe their specific characterization, together with the therapy.

#### *The Three-ring spider*

- 101 The bite of a Three-ring makes the blood bleed thick and dark. There is deafness, clouded vision, and a burning sensation in the eyes.
- 102 In such a case, the root of purple calotropis, turmeric, Indian snakeroot and painted uraria are recommended in an errhine treatment and for the massage of the feet and in a collyrium.

892 “Avoided” in the sense that treatment should not be attempted.

Mānasa-tarāṅgiṇī (2019) makes some spider identifications, but their basis is not stated.

893 Elsewhere, Ḍalhaṇa on 6.42.13 (Su 1938:718) glossed क्षतज् “wound-born, blood,” as आर्तवरक् “seasonal blood.”

*The White spider*

- 103 At the site of a bite of a **White spider**, a white, itchy spot appears that comes with heat, fainting and fever, and causes a spreading, weeping rash and pain.
- 104 In such a case, a **sandalwood**, **grey orchid**, **cardamom**, **peas**, **tall reed**, **Indian willow**, **costus**, **lemongrass**, **Himalayan mayapple**, and **spikenard** are a healthy antidote.<sup>894</sup>

*The Brown spider*

- 105 At the site of a bite of a **Brown spider**, there is a firm, coppery spot, the head feels heavy, and **the person's eyes feel hot**.<sup>895</sup>
- 106 The following remove the poison: **sacred lotus**, **wild Himalayan cherry**, **costus**, **cardamom**, **pongome oiltree**, **arjun tree**, **cinnamon**, **beggarweed**, **kumkum tree**, **prickly chaff-flower**, **durva grass**, and **water hyssop**.

*The Yellow spider*

- 107 At the site of a bite of a **Yellow spider**, a hard, yellow spot develops, because of the yellow, accompanied by vomiting and fever,<sup>896</sup> sharp pain and the eyes may become red.
- 108 In such a case, the following are required: **arjun tree**, **vetiver**, **munj sweetcane**, **cogongrass**, **Indian willow**, **halfa grass**, **wild sugarcane**, **bamboo**, **white siris**, **siris**, **arjun tree**, and **cinnamon**.<sup>897</sup>

894 Ḑalhaṇa on 5.8.105 (*Su 1938*: 592) glossed several of these drugs and noted that others had different opinions. In particular, he thought that वञ्जुल was **white siris** (*jalavetasa*) rather than **Indian willow** (*vāñjula*). But he also noted that Jejjīṭa thought it was कम्बुका, an unidentified plant that Ḑalhaṇa thought should be interpreted as **white siris** (*kiṇihī*).

895 The vulgate reads तिमिरं भ्रम एव च, “a defect of vision and giddiness” (P. V. Sharma 1999–2001: 3, 97).

896 Reading छांदिज्वरः as a m. sg. dvandva. Cf. p. 76.

897 The repetition of ककुभ “arjun tree” suggests an error in the Nepalese transmission.

*The Sting-poison spider*

- 109 At the site of a bite associated with the **Sting-poison**, which is like a red circle, there are spots like **Indian mustard seeds**. It burns, the palate feels dry and there is a temperature.
- 110 In such a case, the antidote is **foxtail millet**, **coleus**, **costus**, **lemongrass**, and **Indian dill**, with the shoots of **sacred fig** and **banyan**.

*The Urine-poison spider*

- 111 The bite of a smelly **Urine-poison** spreads out, with black blood accompanied by coughing and wheezing, vomiting and fainting, fever and a burning feeling.
- 112 Famously, the poison can be destroyed by the following: **realgar**, **liquorice**, **costus**, **wild Himalayan cherry**, **sandalwood**, and **lemongrass**.

*The Red spider*

- 113 The bite of the **Red spider** has pale, hot, weeping (*kleda*) spots. It can be identified because it is dry (*coṣa*) and red, with red edges.
- 114 In such a case, the treatment should be done with **coleus**, **sandalwood**, **vetiver**, **wild Himalayan cherry**, **arjun**, **Indian cherry**, and the bark of **hog plum**.

*The Cough-spider*

- 115 The bite of the **Cough-spider** makes cold, slimy blood flow. There is also wheezing and coughing. The treatment is as stated for the **Red spider**.<sup>898</sup>
- 120 The wise person should employ the bark of **Indian cherry** in the case of poisoning by any of them, and **horseradish tree** and **sacred fig** in all ailments.<sup>899</sup>

898 At this point, the vulgate has four verses that are not present in the Nepalese version. They describe the symptoms and treatment of the bites of two further spiders, the **Goldie** and the **Fire-face**. Ḏalhaṇa on 5.8.119 (Su 1938: 593) reported that the commentator Gayadāsa thought the bites of the **Goldie** group (p. 282) were all incurable so he only described them but described no treatment.

899 Ḏalhaṇa on 5.8.120 (Su 1938: 593) understood the compound अक्षीवपिण्डम् as a *tat-puruṣa*, not a *dvandva*. I.e., “a **sacred fig** (*pippala*) that comes from an *akṣīva*,” and

### Spider poisons hard to treat

- 121 According to tradition, there are said to be eight spiders whose poison is incurable. Learn from me the symptoms of the potencies of these overpowering poisons.
- 122 The bite of the **Goldie** is dark, frothy, and smells like fish. The coughing and wheezing, fever, thirst and fainting in this case are terrible.<sup>900</sup>
- 123 When there is a bite by the **Grain-coloured**, blood runs out, dark and odorous. Heat, fainting, diarrhoea and a headache develop.
- 124 The bite of the **Webby spider** is terrible: it is striped and splits open. It causes paralysis, wheezing, increased gloominess (*tamas*) and dryness of the palate.<sup>901</sup>
- 125 The bite of the **Deer-foot** has great heat and has the form of a black sesame seed. There is thirst, fainting, fever and vomiting, accompanied by wheezing and cough.
- 125 add 1 The bite of the **Black-face** has black edges, a depressed middle and very dry (*coṣā*). There is pallor, fainting, vomiting and burning, accompanied by wheezing and cough.<sup>902</sup>
- 125 add 2 The bite of the **Fire-face** is recognized as being burnt, with spots and with pain. There is dryness, itching and horripilation, and suffering from heat and fever.
- 126 When someone is bitten by the **Crow-egg**, the bite is pale red and very painful. There is suffering from hiccuping, coughing, thirst, fainting, sleepiness, and pain in the heart.
- 127 The bite of the **Garland-virtue** is red, smells like smoke, and is extremely painful. It splits open multiple times and is accompanied by burning, fainting, and fever.

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he glosses the latter word as *mahānimba* or *śobhāñjana*.

Ḍalhaṇa also here quoted a passage from the lost work of Ālambāyana (see pp. 197, p. 250): लूताविषेषु सर्वेषु पाननस्याङ्गनादिना । प्रयोज्यः पिप्पलोऽक्षीवजातः शेलुत्वचोऽथवा “in all cases of spider-poison **sacred fig** that comes from **horseradish tree**, or else the bark of **Indian cherry**, should be used as drinks, errhines or ointments.”

900 Ḍalhaṇa on 122 (*Su* 1938: 593) glossed ध्याम “dark” as “being the colour of burnt brick.”

901 Ḍalhaṇa on 5.8.124 (*Su* 1938: 593) interpreted तमोवृद्धि as, “seeing darkness again and again.”

902 The following two verses are absent in the vulgate transmission, but deal correctly with the next two spiders listed above, p. 282, as having incurable bites.

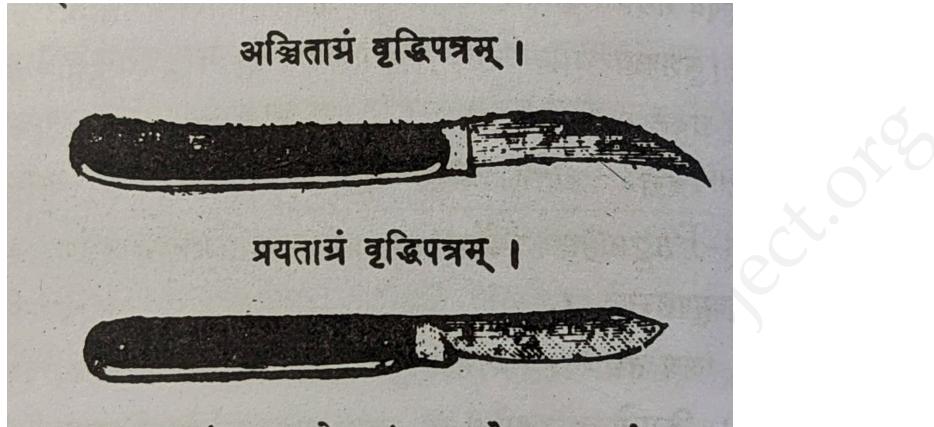


Figure 11: The big-leaf scalpels, as illustrated in Su 1938: 36.

### Curable and incurable

- 128 Even for those cases that are incurable, the physician should apply therapy, especially the elevation of the humours, with the exception of excision.<sup>903</sup>
- 129 As soon as someone is bitten by a treatable spider, the wise physician should excise the bite with a big-leaf scalpel (*vrddhipatra*).<sup>904</sup>
- 129 add 1 To avoid spreading, one should cauterize with a very hot jambu-lip (*jamboṣṭha*).<sup>905</sup>
- 131ab, 133ab After that, one should smear on an antidote made of a mixture of honey and **rock salt**, with a decoction (*kaṣāya*) of bark from trees with milky

903 The vulgate adds a compassionate phrase here, “after explaining [the incurability] to the patient.” The vulgate also rules out cauterization.

Dalhaṇa on 5.8.128 (Su 1938: 593) noted a variant reading असाध्यानाम् अपि चिकित्सितं that corresponds almost exactly to the Nepalese version.

904 On this scalpel, see Mukhopādhyāya 1913: 1, 232–235, illustrated at 2, 121–122, and Dominik Wujastyk 2003b: 83–84. Two forms of this scalpel were described by Dalhaṇa on 1.8.3 (Su 1938: 36–37) and are illustrated in that same edition: see Figure 11.

905 This half-verse does not appear in the vulgate, but it was known to Dalhaṇa as a variant reading (Dalhaṇa on 5.8.129 (Su 1938: 593)).  
The “jambu-lip” is surgical instrument used for the cauterization of fistula according to 4.8.32 (Su 1938: 440). Dalhaṇa described it, loc. cit., as जम्बूफलसहशमुखाग्रा कृष्णपाषाण-रचिता वर्तिः । “a wick made out of black stone that has a tip similar to the jambu fruit.” See Mukhopādhyāya 1913: 1, 159–160, illustrated at 2, 74 (no. 4).

- sap and with **safflower**, honey, and **rock salt**.<sup>906</sup>
- 137 Furthermore, after setting aside food that increases poison, it is good to eat the following together: **yeast**, **Indian bdellium-tree**, **gypsum**, and **rock dove droppings**.<sup>907</sup>
- 138 A painless, hard growth (*karnikā*) caused by any kind of poison should be scarified and then treated with purifying substances mixed with honey.
- 138 add The observant physician should treat hot, ripe ones with food.<sup>908</sup>
- 139 The symptoms of the bites of 167 insects have been stated in a classified manner, followed by their therapies.

## Concluding remarks

- 140 One hundred and twenty chapters have been stated in a classified manner. In the *Uttara* I shall explain the topics that have been referred to here but not explained.<sup>909</sup>

## Contents of the *Suśrutasaṃhitā*

- 140 add 1 The *Ślokasthāna* describes, in concise sūtra form, the discipline, the origin of the discipline, and the strengths and weaknesses of the treatments for diseases.
- 140 add 2 The *Nidānasthāna* states the characteristics of external illnesses with the faults pertaining to humours and diet as well as the description of their stages.<sup>910</sup>

906 The vulgate has one and a half verses, 131cd and 132, that intervene between the two parts of this passage. And following this passage, the vulgate adds several more verses, 133cd–136, mostly describing generic treatments for spider-bite.

907 The vulgate corresponding to this verse has quite different phrasing but similar sense.

908 This line, only found in the Nepalese witnesses, contrasts with the previous one. Scarification and diet are two therapeutic approaches to be applied according to whether the spider-bite is hard or soft and inflamed.

909 There now follow six verses that are present in the Nepalese version, but not in the vulgate.

910 अवर्त्ता “stages” here probably refers to degrees of affliction, although this is not a distinct section of the *Nidānasthāna*.

- 140 add 3 In the *Śārīra*, I have described the origin of the body amongst the body tissues (*dhātu*), senses and lethal spots, and the origin of all the ducts (*sirā*) etc.
- 140 add 4 In this discipline, the *Cikitsita* is traditionally said to be the successful treatment of diseases that are evident because of the symptoms and that have been taught according to their locations.
- 140 add 5 The *Kalpasthāna* is said to be about the beneficial treatment in cases of stationary and moving poisoning as well as the successful treatment in all these cases.

### End of the Kalpasthāna

- 140 add 6 My dear, I have proclaimed this extensive work of a thousand verses, divided into in 120 chapters, that came forth from the mouth of The Creator.
- 141–142 The Vedas are eternal, unchanging and good for people, and they have outcomes both seen and unseen. The extent of their words has broad meaning and people respect them. Because of this, O Suśruta, there is nothing more virtuous than medicine.
- 143 After upholding this pure and universally approved doctrine of the sage with Indra's power, who was born of an immortal, someone who has the stated conduct and behaviour rejoices in this life and the next.<sup>911</sup>
- 143 add 1 He understands the logic of the remaining treatises too and the world is his family.
- 143 add 2 An expert in foreign bodies (*śalya*) defines anything that causes distress as a foreign body (*śalya*) since it pierces the limbs.<sup>912</sup>
- 143 add 3 Therefore, his progress, especially, cannot be opposed, just as the progress of a strong king cannot be stopped when he is in his own land.<sup>913</sup>
- 143 add 4 The *Uttaratana* is stated for the purpose of treating fever and other ailments.<sup>914</sup> It states the description, etiology and manifestationss (*vyañjana*) of complications.<sup>915</sup>

<sup>911</sup> The vulgate version of the *Suśrutasamhitā*'s *Kalpasthāna* ends here.

<sup>912</sup> This verse has nested relative pronouns and lacks a main verb. Perhaps the text lost a half-verse in transmission?

<sup>913</sup> Or, "his progress cannot be opposed by any particular."

<sup>914</sup> The chapter on fever is number 39 in the vulgate text, but number 60 in the Nepalese version.

<sup>915</sup> The syntax of this sentence is slightly opaque.

143 add 5 And there is a verse on this:

Someone who reads this work of one hundred and twenty chapters recorded in five sections, together with the latter part (*uttara*), is worthy of a king and revered by physicians. He is a doctor who has taken the steps to apply therapy.

143 add 6 Protection of food, stationary and moving poisons, the toxicology of snakebite patients, the treatment of snakebite patients, rats, the drum, and the treatment of insects as the eighth.<sup>916</sup>

In the treatise on foreign bodies belonging to the followers of Suśruta,  
the *Kalpasthāna* is ended.

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<sup>916</sup> This is a table of contents of the *Kalpasthāna*.



## **6. The Uttaratantra**



# Introduction to the *Uttaratana*

The *Uttaratana* of the *Suśrutasamhitā* consists of sixty-six chapters. This amounts to more than a third of the size of the whole *Suśrutasamhitā*. The vulgate version of the work divides the *Uttaratana* into five major divisions:

1. *Śālakyatana*, on diseases of the eyes, ears, nose and head. This division includes the description of couching for cataract.<sup>917</sup>
2. *Kumāratana*, on avoiding the threat of demonic attacks on children and one final chapter on disorders of the female genital tract.
3. *Kāyacikitsātana*, on the treatment of twenty diseases, starting with fever and continuing with diarrhoea through to urinary disorders.
4. *Bhūtatana*, on possession by supernatural beings, on epilepsy, and on insanity.
5. *Tantrabhūṣaṇādhyāya*, on the permutations of the savours,<sup>918</sup> on living well, on logical rules of interpretation for medicine, and on the combinatorics of the four humours.<sup>919</sup>

In the Nepalese version of the *Suśrutasamhitā*, however, the chapters are distributed slightly differently across sections (see Fig. 7, 8). In the following, the chapter numbers are those of the vulgate text.

- In the Nepalese *Uttaratana*, 6.13 and 6.14 are combined and both called 6.13. This causes the following chapter numbers in the Nepalese version to be reduced by 1.
- After vulgate 6.23, the Nepalese version skips the 6.24 and moves straight to 6.25. Chapter 6.24 appears later, after 6.53.

<sup>917</sup> See Leffler, Klebanov, Samara, and Grzybowski 2020 for a recent study.

<sup>918</sup> See Dominik Wujastyk 2000.

<sup>919</sup> Blood is included as a humour (*doṣa*) in this chapter.

Nepalese	vulgate
Śālakyatantra	Śālakyatantra
Kumārabhṛtya	Kumārabhṛtya
Kāyacikitsā (+ Daśaka)	Kāyacikitsātantra Bhūtatantra Tantrabhūṣaṇādhyaḥyāya

Table 7: The division of sections of the *Uttaratantra* in the Nepalese version and in the vulgate (Su 1938).

- At the start of the *Kāyacikitsā* section of the *Uttaratantra*, the Nepalese version begins with 6.39, on fever, instead of the vulgate's 6.38.
- By contrast, the vulgate version of the *Kāyacikitsā* starts with 6.38, on ailments of the female reproductive tract. This appears as the last chapter of the Nepalese of the *Kāyacikitsā*, after 6.59 (after two chapters on urinary problems).
- The *Bhūtavidyā* and *Tantrabhūṣaṇādhyaḥyāya* divisions of the vulgate are not differentiated in witness K. All the chapters to the end of the *Uttaratantra* are called the *Kāyacikitsā*.
- But in witness H, 6.60–6.63 are called *Bhūtavidyā*. Then, 6.64 is called *Kāyacikitsā* again, and the last two chapters of the *Uttaratantra* are not assigned to any subdivision.
- The last ten chapters of the Nepalese text are included in its *Kāyacikitsā*, as mentioned. However, the last verse of the Nepalese version, just preceding the scribal colophon, reads as follows:

They have again declared this group of ten in the *Kāyacikitsā*: urine diseases, urine blockages, the vagina and the supernatural beings, epilepsy, insanity, the divisions of the savours, the rules for the preservation of the healthy person, the rules of interpretation (*tantrayukti*), the divisions of the humours.<sup>920</sup>

So the internal evidence of the Nepalese version, transmitted by K,

920 मूर्तदोषो मूत्राघातो योन्यमानुषमेव च।  
अपस्मारोन्मादकञ्चैव रसभेदस्तथैव च।  
स्वस्थरक्षाविधाणच्च तच्चयुक्तिश्च दोषभित्।  
इत्यभिर्दशकं प्रोक्तं पुनः कायचिकित्सते॥

Nepalese	Vulgate
<i>Śālakyatantra</i>	
1–12	1–12
13	13–14
14–22	15–23
	24 → Nepalese 51
23–24	25–26
<i>Kumārabhṛtya</i>	
25–35	27–37
	38 → Nepalese 58
<i>Kāyacikitsā</i>	
36–50	39–53
51	24
52–57	54–59
58	38
59–65	60–66

Table 8: Concordance of Nepalese and vulgate chapter numbers, according to witness K.

omits reference to the vulgates last two subdivisions. Instead, it declares that the last ten chapters form a group, a decade of chapters.

## Literature

Meulenbeld offered an annotated overview of the *Uttaratanaṭra* and a bibliography of earlier scholarship to 2002.<sup>921</sup> He treated the individual chapters separately and did not provide reflections on the *Uttaratanaṭra* as a unit with five subdivisions.

Meulenbeld also discussed the related issue of whether there might once have been an *Uttaratanaṭra* attached to the *Carakasaṃhitā*, a

<sup>921</sup> HIML: IA, 300–332.

\**Carakottaratana*.<sup>922</sup> While it seems unlikely that there was ever such a text, there is one verse that deserves attention, namely *Carakasamhitā* 8.12.50 (Ca 1941:737). This is almost the last verse of the whole work and it states that certain general topics about how to achieve the right interpretation of medicine through hermeneutic rules (*tantrayukti*) will be treated at greater length in the sequel, or “Uttara,” with a view to providing true knowledge of the truth of the system (*tantra*) from the point of view of merits and flaws.<sup>923</sup> This passage is printed in parentheses in the vulgate edition, indicating that the editor was unsure about its validity as part of the text. This is probably because the commentator Cakrapāṇidatta said that this passage was considered spurious by the earlier tradition, because the whole *Uttaratana* of the *Carakasamhitā* was spurious.<sup>924</sup> Nevertheless, the passage appeared in the manuscripts available to the editor, so he printed the passage. It seems at least arguable that this passage in the *Carakasamhitā* is actually referring to the *Uttaratana* of the *Suśrutasamhitā*, which carries out exactly that program in its chapter about the hermeneutic rules (*tantrayukti*) for interpreting medical statements. If this is the case, it is evidence that Drḍhabala (300–500 CE), the author of this part of the *Carakasamhitā*, was aware of the *Uttaratana* of the *Suśrutasamhitā*.

<sup>922</sup> [HIML](#): IA, 99–100.

<sup>923</sup> तस्मादेता: प्रवक्ष्यन्ते विस्तरेणोत्तरे पुनः । तत्त्वज्ञानार्थमस्यैव तच्चस्य गुणदोषतः ॥, *Carakasamhitā* 8.12.50 (Ca 1941:737).

<sup>924</sup> तं चानर्षं वृद्धा वदन्ति, अग्निवेशतन्त्रे उत्तरतच्चस्यैवानार्षत्वात् ॥, *ibid*, 8.12.50 (Ca 1941:737).

## **Part 6.1 Uttaratantra, Śālakyatantra**



# Uttaratantra 17: Preventing Diseases of the Pupil

## Introduction

The therapies in this chapter make frequent use of collyrium (*añjana*). This substance and its uses and variants are described in *Carakasaṁhitā* 1.5.14–19 (Ca 1941: 38–39). In the *Suśrutasaṁhitā*, they are included in the “group starting with *añjana*” (*añjanādigāṇa*), that is listed at 1.38.41–42 (Su 1938: 167). They are described as valuable for counteracting blood-bile (*raktapitta*), poison and overheating (*dāha*).

## Literature

Meulenbeld provided an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>925</sup>

The history of couching in India has been discussed since the nineteenth century,<sup>926</sup>

## Translation

- 1 Now I shall explain the counteraction (*pratisedha*) of diseases located in the pupil (*dṛṣṭi*).

<sup>925</sup> HML: IA, 305–306.

<sup>926</sup> Scott 1817; Breton 1826; Jack 1884; Hendley 1895; Elliot 1918; Parśvanātha Śāstrī 1940; V. Deshpande 1999; 2000; Dominik Wujastyk 2003b; Fan 2005; Leffler, Klebanov, Samara, and Grzybowski 2020; Hirschberg and Leffler 2024.

- 2 There are three curable (*sādhya*), three incurable (*asādhya*), and six mitigable (*yāpya*) diseases located in peoples eyes. Among these, three are curable (*sādhya*). Amongst these three, the remedy (*pratikāra*) has been stated for the one called "seeing smoke (*dhūmadarśin*)".<sup>927</sup>
- 3–5ab When the eye is inflamed (*vidagdha*) by bile and when it is inflamed by phlegm, one should apply the method for removing bile and phlegm, using nasal medicines (*nasya*), irrigation (*seka*), application of collyrium (*añjana*), liniment (*ālepa*), and medicines cooked in a crucible (*puṭapāka*), together with an eyewash (*tarpaṇa*),<sup>928</sup> but not cutting with a blade (*śastrakṣata*).<sup>929</sup>  
 One should drink ghee (*sarpis*) prepared with the three fruits (*triphalā*) and in the first [case where the problem is bile], and prepared with turpeth (*traivṛta*) in the latter [case, of phlegm].  
 And ghee with **viburnum extract** is wholesome in both cases, or else aged ghee on its own.
- 5cd–7ab In a collyrium (*añjana*), these four compounds (*yoga*) are beneficial in both cases:
- red ochre, rock salt, long pepper and the black soot (*maśī*) from cow's teeth;
  - cow's flesh (*gomāṁsa*), black pepper, **siris** and **realgar**;
  - stalk (*vr̥nta*) from a **wood-apple** with honey (*madhu*);<sup>930</sup>
  - or the the fruits of the velvet bean.
- 8 The physician should make a collyrium (*añjana*) with ground up **metal** (*kupyaka*),<sup>931</sup> **Asoka tree**, **sal tree**, **mango**, **foxtail millet**, **lotus**, **blue water-lily**, together with **peas**, **emblic myrobalan**, **myrobalans**, **long pepper**. It should be combined with **ghee** and **honey**.

<sup>927</sup> This disease and its cure are described earlier (SS.6.7.39 and SS.6.10.16 (*Su 1938*: 609 and 614) respectively). The latter part of this verse is hard to construe and the text here may have been altered at an early period.

<sup>928</sup> These therapies are described in SS.6.18 (*Su 1938*: 633–640).

<sup>929</sup> Dalhaṇa interpreted this as blood-letting (*sirāvēdha*), which is discussed in SS.1.14 (*Su 1938*).

<sup>930</sup> Wood apple (*कपित्थ*) in this verse is ablative singular or accusative plural, neither of which construe obviously.

<sup>931</sup> A metal other than gold or silver, according to V. Jośī and N. H. Jośī (*Mahākośa*: 1, 217) (on कुप्य). The Nepalese witnesses have the rare कुप्यक rather than the vulgate's कुञ्जक, which makes no real sense. Perhaps lead, which is used in making contemporary collyrium.

where is  
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with a knife  
related to  
remov-  
ing bile or  
phlegm.

maśī  
burned  
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Find refs.

- 9–10 Also, when bile and phlegm have developed, the physician should apply **peas** with the expressed juice (*svarasa*) of the flowers from **mango** and **jambul** trees.  
Then this collyrium (*añjana*), matured (*vipakva*) with ghee and **honey**, should then be applied.
- 10–11ab Filaments (*kiñjalka*) of **lotus** and **blue water-lily**, with **red ochre**, and the juice of cow-dung (*gośakṛt*) are a collyrium (*añjana*) in the form of a pill (*guḍikā*). This is good for both day and night blindness.
- 11cd–12ab Elixir-salve (*rasāñjana*), **honey**, ghee, **scramberry**, together with gold and ochre, with the juice of cow-dung (*gośakṛt*) are for an eye afflicted with bile.
- 12cd–13 Alternatively, wise physician should first grind together elixir-salve (*śīta*) and stibnite (*sauvīraka*), infused (*bhāvita*) with the blood of birds and animals (*rasa*).<sup>932</sup> Then he mixes it with the bile of a tortoise or with extract of rohu carp (*rauhīta*). It should always be used with powdered collyrium (*añjana*) to quell the bile.
- 14 Thus, a collyrium (*añjana*) of **white teak** flowers, **liquorice**, **Indian barberry**, **lodh tree** and elixir salve (*rasāñjana*) is always good as a collyrium in this case.
- 15 Alternatively, for those who cannot see during the day, this pill (*guḍikā*), with sandalwood, is recommended: salt (*nadīja*), conch shell and the three spices, collyrium (*añjana*), realgar (*manahśilā*), the two turmerics (*rajana*)<sup>933</sup> and liver extract (*yakṛdrasa*).<sup>934</sup>
- 16 One should grind up kohl (*srotoja*),<sup>935</sup> and ?? and long pepper and also hareṇu (*hareṇu*). Such wicks with goats urine are good in a collyrium (*añjana*) for night blindness (*kṣaṇadāndhya*).
- 17–18ab Alternatively, in such a case, grind together Indian sarsaparilla (*kālānusāriva*)<sup>936</sup> long pepper, dried ginger (*nāgara*) and honey, the

<sup>932</sup> This was Ḑalhaṇa's preferred interpretation of *rasa* "juice" in this context. He also noted that some take elixir-salve (*śīta*) to be camphor.

<sup>933</sup> Turmeric (*Curcuma longa Linn.*) and tree turmeric (*Berberis aristata DC*). The term *rajana* is unusual; the normal term is *rajāṇī*. *Rajana* occurs in *Suśrutanighaṇṭu* 158 in the sense of *Ferula asafoetida*, Linn.

<sup>934</sup> This verse appears as no. 27 in the vulgate.

<sup>935</sup> Glossed by Ḑalhaṇa as a kind of collyrium (*añjana*). Cf. Nadkarni 1954: 2.M13 and P. V. Sharma 1982: 197–198

<sup>936</sup> There are two forms of *sārīvā* mentioned widely in Āyurvedic literature, the white and the black. Ideas on the identity of the black form are particularly fluid. See Sivarajan and Balachandran (ADPS: 434–438) for a clear discussion.

leaf of the scramberry (*tālīśapatra*), the two turmerics (*rajana*), a conch shell and liver extract (*yakṛdrasa*). Then shade-dried wicks take away illness (*ruj*).

- 18cd–19ab Wicks made of red arsenic (*manahśilā*), chebulic myrobalan (*abhayā*), the three spices (*vyoṣa*). Indian sarsaparilla (*sāriva*), cuttlefish bone (*samudraphena*), combined with goat's milk are good.
- 19cd–21ab One should cook a honey collyrium (*kṣaudrāñjana*) either in the juices of cow's urine (*gomūtra*), and bile, spirits (*madirā*), liver (*yakṛt*), and emblic (*dhātri*) or else in the juice of the liver (*yakṛt*) of something different, or else with the extract of the three fruits (*triphalā*). One of these should be mixed with cow urine, ghee and cuttle fish (*arṇavamala*)<sup>937</sup> with long pepper, honey and box myrtle (*katphala*). It is placed in sea salt and stored in a bamboo tube.
- 21cd–22 One should cook the liver of a sheep, the ghee of a goat, with long pepper and Sindh salt, honey and the juice of emblics. Then one should store it properly in a catechu box. Prepared thus, the honey collyrium (*añjana*) is good.
- 23 Alternatively, a collyrium (*añjana*) that is *hareṇu* (*hareṇu*) mixed with long pepper (*māgadhi*), the bone and the marrow of a goat, cardamom (*elā*) and liver, together with liver extract, is good for eyes afflicted by phlegm.<sup>938</sup>
- 24 Over a fire, one should cook the liver (*yakṛt*) of a monitor lizard (*godhā*) prepared with entrails (*antra*) and stuffed with long pepper (*māgadhi*). As is well known, liver (*yakṛt*) which is used (*niṣevita*) with collyrium (*añjana*) certainly destroys night blindness.
- 25 After preparing both a spleen (*plīhan*) and a liver on a spit, one should

<sup>937</sup> At SS 6.12.31, Dalhaṇa glossed *arṇavamala* as cuttlefish bone (*samudraphena*). It may be worth considering whether the unusual term *arṇavamala* “ocean-filth” might refer to ambergris.

<sup>938</sup> On the identities of *elā* and *hareṇu*, Watt (Watt<sub>Comm</sub>: 511 ff) described the former as “true” or “lesser” or “Malabar” cardamom, *Elettaria cardamomum*, Maton & White. In contrast, the “greater” cardamom is *Amomum subulatum* (that Watt discussed on p. 65) that is commonly used as an inferior substitute for *E. cardamomum*. T. B. Singh and Chunekar (GVDB: 467 f) provided an interesting discussion of *hareṇu*, noting that the term refers to two substances, first the *satīna* pulse (*Pisum sativum*, Linn.), and second an unknown fruit such as perhaps a *Vitex*. They noted, “None of the text commentators have attempted to disclose the nature of its source plant,” although Dalhaṇa described it as aromatic and identical to *reṇukā* (SS.ci.2.75).

- eat them both with ghee and oil.<sup>939</sup>
- 25cd–26ab As is well known, there are six diseases that can be alleviated (*yāpya*); in those cases (*tatra*) one should release the blood by bloodletting. And for the sake of wellbeing one should also purge using aged ghee combined (*upahita*) with purgative aids (*aṅga*).
- 26cd–27 When an eye-disease is caused by wind (*pavanodbhava*) they say that castor oil (*pañcāngulataila*) mixed with milk is good.<sup>940</sup> In the case of diseases of blood (*śonita*) and bile (*pitta*), one should drink ghee with the three fruits; it is particularly cleansing.<sup>941</sup> In the case of phlegm, a purgative by means of turpeth (*trivṛt*) is recommended. In the case of all three humours, sandal (*sugandhi*) in oil is prepared with it (turpeth).<sup>942</sup>
- 28 In cases of partial blindness (*timira*), aged ghee is recommended. It is good if it is kept in an iron vessel.
- 28cd–29ab One should know that ghee with the three mylobalans is always good, and it is made with what is called periploca of the woods (*meṣaviśāṇa*). A man who is suffering from partial blindness should lick the finely-ground three fruits mixed with ghee off his hand (*sapāṇa*).<sup>943</sup>
- 29cd Alternatively, someone afflicted by phlegm should apply them (the three fruits) mixed with oil and steeped (*pragāḍha*) in honey.
- 30 The very best oil, well-cooked with a decoction of cow-dung, is good in cases of partial blindness, taken as an errhine. In cases caused by bile, ghee by itself is good, as is oil when it arises from wind and blood.
- 31 And in the case of wind one should apply turpeth (*trivṛt*) based on strong mallow (*atibalā*), and country mallow (*balā*) in an errhine

939 We read the locative as if an instrumental; if the locative were intended then it would be the spit that would be coated with oil and ghee.

940 Ḏalhaṇa said that the unexpressed topic of this recipe is partial blindness (*timira*).

941 Blood-bile (*śonita-pitta*, *rakta-pitta*) is a widely-recognized disease in ayurveda, but the compound here is definitely dual, which rules out that interpretation. One would expect blood-bile because the previous verse

942 The expression “the fragrant one in oil (*tailasugandhi*)” is puzzling. The word *sugandhi* has different referents in the *Nighaṇṭu* literature but is not common as a noun in the extant literature. “Sandal” is just one of its possible meanings.

943 “Off his hand” translates the adverbial *sapāṇam*, an unusual word. Ḏalhaṇa reproduced a reading close to the Nepalese recension but says that Jejjāṭa rejects it and so he also does (Su 1938: 627).

(*nasya*).<sup>944</sup>

Ghee which has been extracted from milk cooked with the meat of aquatic creatures and those from marshlands should be prescribed.

- 32 †An enclosed roasting (*puṭākhya*) with Sindh salt and the product of the meat of a carnivore (*kravyabhuji*) and a deer (*eṇa*), is combined with honey and ghee.<sup>945</sup>  
 Fat (*vasā*) from a horse, a vulture, a snake, and a cock (*tāmracūḍa*), combined with *mahua* is always good in a collyrium (*añjana*).†<sup>946</sup>
- 33 Having prepared (*niṣevita*) a collyrium (*añjana*) made of kohl (*srotas*), gradually combine it with juices (*rasa*), milk and ghee.<sup>947</sup>  
 For thirty days, this collyrium (*añjana*) is put in the mouth of a black snake that is covered with kuśa grass (*kuśa*).
- 34 Next, a collyrium (*añjana*) that is milk containing long pepper (*māgadhi*), lye (*ksāraka*) and ?? that has been repeatedly prepared with the mouth of a black snake, is good in the case of bloodshot blindness (*rāgin timira*).<sup>948</sup>
- 35 They say that ghee may be produced from that and combined with

944 “Based on” translates -āśrita “depending on” which does not construe easily here. The vulgate has śṛta “cooked” which makes easier sense but is not supported by the Nepalese MSS.

945 Dalhaṇa noted (*Su 1938*: 628a) that *puṭāhwaya* (see verse 35 below) is a synonym for *puṭapāka*, and that the process is described in the *Kriyākalpa* chapter, i.e., SS.6.18.33–38 (*Su 1938*: 635). On the *puṭa* process in the *Suśrutasamhitā*, which is earlier and different than that of *rasaśāstra* literature, see the discussion by Dagmar Wujastyk (2019: 83):

The term ‘enclosed roasting’ (*puṭapāka*) does occur in the *Suśrutasamhitā* in the context of eye treatments, but designates a method of obtaining juice from substances by wrapping them in leaves pasted with earth and cooking the bolus on charcoal to finally extract a juice.

946 This verse contain irresolvable difficulties. There are no significant variants in the Nepalese MS transmission, but the text is ungrammatical. The vulgate reads substantially differently but we have nevertheless made some emendations in line with it and read the verse as two sentences.

947 On खोतस् “kohl” see footnote 935. Dalhaṇa on 6.17.36ab (*Su 1938*: 628) explicitly specified that the juices are meat soups of various animals that are “pleasing to the eye” (चक्षुष्यमृगपक्षिमांसरसः).

948 Dalhaṇa described this blindness as a type of *kāca* disease caused by wind (*Su 1938*: 628). The expression “bloodshot blindness” is an attempt to capture the idea of a blind eye that is dyed or coloured (not colour-blindness). This verse is quite different from the vulgate and also syntactically challenging.

- sweet herbs is good as an errhine for eye-diseases caused by bile. And here, an eyewash (*tarpana*) is good that is a combination that is the flesh of wild animals taken hot (*puṭāhvaya*).<sup>949</sup>
- 36 And realgar (*manahśilā*) mixed with elixir salve (*rasāñjana*) and honey is a liquid collyrium (*dravāñjana*) which is, in this case, combined with *mahua*.<sup>950</sup>  
Alternatively, experts on this say that finely ground blue vitriol (*tuttha*) extracted from a gold mine is the “same collyrium (*samāñjana*)”.<sup>951</sup>
- 37 Conch mixed with equal parts of sheep’s horn and stibnite (*añjana*) removes the impurity of the glassy opacity (*kāca*) because of the application of collyrium (*añjana*).<sup>952</sup>  
The extracts (*rasa*) produced from a flame of the forest (*palāśa*), Rohīta tree (*rohīta*),<sup>953</sup> *mahua*, ground with the supernatant layer (*agra*) of the spirits (*madira*) is applied.
- 38 Alternatively, one should cook an errhine with cuscus grass (*uśīra*), lodh tree (*lodhra*), the three fruits (*triphalā*), beauty berry (*priyangu*) to pacify eye diseases caused by phlegm.<sup>954</sup>  
One should apply smoke of the bark of embelia (*vidaṅga*), velvet leaf (*pāthā*), white siris (*kinihī*), and desert date (*iṅgudī*); and cuscus grass (*uśīra*) alone.
- 39 A ghee that is cooked (*bhāvita*) from a decoction of a non-flowering tree (*vanaspati*)<sup>955</sup> as well as turmeric (*haridrā*) and spikenard (*nalada*) is good in a eyewash (*tarpana*).  
Alternatively, one may have an enclosed roasting (*putapāka*) done with

949 The expression taken hot (*puṭāhvaya*) is a guess.

950 The expression liquid collyrium (*dravāñjana*) is only known from Ḑalhana’s comments on 6.17.11ab (Su 1938: 626). The recipe in the present collyrium is different from that discussed by Ḑalhaṇa.

951 On *tuttha*, which may also be identified with zinc oxide or as crushed sea-urchin shells, see Falk (1991: 112 ff.); zinc oxide is a component of skin-balms but is not recommended for application in the eyes themselves. The expression “same collyrium (*samāñjana*)” is a hapax legomenon glossed inexplicably by Ḑalhaṇa as “a collyrium with an equal amount of fermented barley” (*tulyasauvīrāñjana*) (Su 1938: 628).

952 The ablative “from collyrium” is hard to construe, but Ḑalhaṇa used this term and phrase in his commentary on 6.17.41ab (Su 1938: 629).

953 Probably *Soymida febrifuga* A. Juss.

954 Ḑalhaṇa invoked a general rule (*paribhāṣā*) to indicate that this mixture should be cooked with sesame oil.

955 These are fig trees. The *Sauśrutānighaṇṭu* (252) specifies the Uḍumbara. Cf. the classification in CS.1.1.71–72, 1.8, *et passim*.

- arid-land animals (*jāṅgala*)<sup>956</sup> and a plentiful amount of long pepper (*māgadha*), Sindh salt and honey.
- 40 A treatment (*kriyā*) with realgar (*manahśilā*), the three spices, conch, honey, along with Sindh salt, green vitriol (*kāśīsa*) and elixir salve (*rasāñjana*).<sup>957</sup>  
They say that an elixir salve (*rasāñjana*) combined with myrobalans, treacle and dried ginger is good.<sup>958</sup>
- 41 Alternatively, a collyrium (*añjana*) that has been prepared many times in the eight types of urine<sup>959</sup> is put into water with the three fruits. Having stored it in the mouth of a nocturnal creature (*niśācara*)<sup>960</sup> one should place it in a conch (*salilotthita*) for two months.<sup>961</sup>
- 42 One should apply that collyrium (*añjana*) together with the flowers of *mahua* and horseradish tree (*śigru*) when [the disease] is caused by all [the humours].  
But alternatively, all treatments apply when blood is the cause. The procedure that removes bile is good when there is blue dot cataract (*mlāyin*).<sup>962</sup>
- 43 For one who has a humour, the physician should consider the rule in all humoral cases and then smear the ointment on the face.<sup>963</sup>  
The treatment that is good for removing watery eye (*syanda*) should be properly applied in all these humoral cases, according to the individual.<sup>964</sup>
- 44 The physician should not employ substances in errhines etc., when the

956 On this term, see SS.1.35.42 (Su 1938:157) and the discussion by Zimmermann (1999: 25–31).

957 Dalhaṇa glossed treatment (*kriyā*) specifically as inspissation (*rasakriyā*) (Su 1938: 629).

958 We emend हिते to हितम्, against the MSS.

959 See *Suśrutasamhitā mūtravarga*

960 Dalhana glossed nocturnal creature (*niśācara*) as “vulture,” although elsewhere in the *Suśrutasamhitā* it is more commonly interpreted as a spirit or demon. In the present context, following verses 33 and 34, it is probably a snake.

961 We interpret “water-born (*salilotthita*)” as “conch” in line with *jalodbhava*, but the term is uncertain.

962 The vulgate follows Dalhaṇa in glossing *mlāyin* as *parimlāya*. The description of this condition at SS.6.7.27–28 appears to refer to “blue dot” or “cerulean” cataract. √*mlai* derivatives can mean “dark” or “black.”), which is normally a different ailment.

963 The vulgate edition omits part of this verse (ab) combining earlier and later passages.

964 The term watery eye (*syanda*) refers to the specific disease *abhisyanda*. See SS.6.6.5, 1.46.51, etc.

find ref.

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these refs.

- humours intensify, and also when disease spreads. And further, in the *Kalpa*, there is a good deal more said about collyriums, and that should be considered and then applied.<sup>965</sup>
- 45 Someone who uses matured ghee, the three fruits, **wild asparagus**, as well as **mung beans**, emblic and barley has nothing to fear from cases of severe blindness (*timira*).
- 46 Blindness is dispelled by milk prepared with wild asparagus or in embolics, or again cooked barley (*yavaudana*) followed by the water of three fruits with plenty of ghee.
- 47 When there is bloodshot blindness (*rāgiṇī timire*), the wise physician should not cut a vein. A humour injured (*utpiḍita*) by the instrument rapidly destroys vision.
- 48 Non-bloodshot blindness (*araga timira*) in the first layer (*paṭala*) is treatable. And bloodshot blindness (*rāgiṇī timire*) in the second layer, with difficulty. And in the third layer it can be mitigated (*yāpya*).<sup>966</sup>
- 49 I shall explain the therapy for success when there is a cataract (*liṅganāśa*) caused by phlegm. It may be white, like a full moon, an umbrella, a pearl (*muktā*) or a spiral (*āvarta*).
- 50 Or it may be uneven, thin in the middle, streaked or have excessive shine (*prabha*). A humour (*dosa*) in the pupil may be characterized as being painful or having blood.<sup>967</sup>
- 51–52 At a time that is neither too hot or too cold, the patient who has been oiled and sweated is restrained and seated, looking symmetrically at his own nose.
- The wise physician should separate (*muktvā*) two white sections from the black part (*kṛṣṇa*) and from the outer corner of the eye (*apāṅga*). Then he should press (*pīḍ-*) properly into the eye,<sup>968</sup> at the naturally-occurring (*daivakṛte*) opening (*chidra*) with a probe (*śalākā*) made of copper or iron, with a tip like a barley-corn, held by a steady hand with

meaning of  
kalpa

965 Dalhaṇa noted that *Kalpa* means the Uttaratantra adhyāya 18 (Su 1938: 633 ff).

966 Although the text says with difficulty (*kṛcchra*), the implication is that it is untreatable (*asādhya*) (cf. 6.17.2 (Su 1938: 625) above). The three categories, treatable, untreatable and possibly mitigated are standard categories of triage.

967 In the vulgate, and in parallel passages in the AS, the reading "it may be (*bhavet*)" is replaced with the negative "if, then not (*na ced*)" (cf. utt.17.1–3 (As 1980: 712)). These characteristics are then read as conditions that preclude surgery; for the Nepalese recension, they are simply descriptions of the appearance of a cataract.

968 We understand the locative *nayane* as the place of pressing; other interpreters take it as an accusative dual. The idea is that the eye is held steady by the surgeon.

the middle finger, forefinger and thumb, the left one with the right hand and the other one contrariwise.

When the piercing is done properly, there is the issue of a drop of liquid and a sound.<sup>969</sup>

- 55 The expert should moisten the exact place of piercing with a woman's breast-milk. Then he should scratch the circuit of the pupil (*dr̥stimaṇḍala*) with the tip of the probe (*śalākā*).<sup>970</sup>
- 56 Without injuring, gently pushing the phlegm in the circuit of the pupil against the nose, he should remove it by means of sniffing (*ucchiṅgana*).<sup>971</sup>
- 57 Whether the humour is solid (*styāna*) or liquid (*cala*), one should apply sweating to the eye externally, with leaves (*bhaṅga*) that remove wind, after fixing the needle (*sūci*) properly.<sup>972</sup>
- 58 But if the humour cannot be destroyed or if it comes back, one should apply the piercing (*vyadha*) once again, with appropriate oils and so on.
- 59 Now the pupil (*dr̥ṣṭi*) shines like the sun (*hari*) in a cloudless sky; then, when objects become visible, one may slowly remove the probe (*śalākā*).<sup>973</sup>
- 60 Having smeared ghee on the eye, one should cover it with a bandage. Then, he must lie down supine in a house free from disturbances.<sup>974</sup>
- 61 At that time, he should not belch, cough, sneeze, spit or shiver. Afterwards there should be restrictions (*yantraṇā*) as in the case of someone who has drunk oil.<sup>975</sup>

<sup>969</sup> Dalhaṇa remarked on 6.17.61ab (Su 1938: 630) that when the piercing is not correctly done, blood issues and there is no sound.

<sup>970</sup> The anatomy of the eye is described in 6.1.14–16 (Su 1938: 596). The disks or *maṇḍalas* are the circuits or disks of the eye.

<sup>971</sup> Dalhaṇa described sniffing (*ucchiṅgana*) at 6.19.8 (Su 1938: 641), clearly intending inward sniffing.

<sup>972</sup> We interpret *bhaṅga* as leaves, following the usage elsewhere in this sthāna 4.32.9, 6.11.5 (Su 1938: 513, 614) where *bhaṅga* means shoots (*pallava*). A similar procedure is described at 6.17.25 (As 1980: 716a), where sweating of the eye is done by means of the leaves of a castor-oil plant.

<sup>973</sup> There are many problems with the MS readings and interpretation of this half-verse. We have inferred “sky” and emended from “free from the point (*agramukta*)” to “free from clouds (*abhramukta*)”. The latter meaning is supported (in different words) by the vulgate and occurs elsewhere in Sanskrit literature.

<sup>974</sup> Dalhaṇa explained disturbances specifically as dust, smoke, drafts and sunlight 6.17.67 (Su 1938: 631a).

<sup>975</sup> Dalhaṇa glossed “restrictions (*yantraṇā*)” as having a controlled diet and the other

- 62 Every three days one should wash it with decoctions (*kaṣāya*) that remove wind. After three days, one should sweat the eye externally because of the danger of wind.
- 63 Having restrained himself in this way for ten days he should thereafter take a beneficial regimen (*karma*) that clears the pupil (*dṛṣṭi*) and also he should take light food in measure.

## [Complications]

- 64 When there is a misshapen eyeball (*vilocana*), the eye may fill because of the release of blood from a vein.<sup>976</sup>  
A hard probe leads to shooting pain (*sūla*), a thin to unsteadiness of the humours (*dosapariplava*).<sup>977</sup>
- 65 a thick-tipped probe leads to a large wound, and a sharp one may cause harm in many ways; a very irregular one may cause a discharge of water, a rigid (*sthirā*) one brings about a loss of function (*kriyāsaṅga*).<sup>978</sup>
- 66 Therefore, one should make a good probe that is free from these defects.

## [Characteristics of the probe]

The probe should be eight finger-breadths long and in the middle it is wrapped with thread and is as thick as a thumb joint. It is shaped like a bud at both ends (*vaktra*).

- 67 A commendable probe should be made of silver, iron or gold (*sātakumbhī*).<sup>979</sup>

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restrictions appropriate to someone who is taking oil as a preparation before further therapy (6.17.68 (Su 1938: 631)). These restrictions are also described at 6.18.28 (Su 1938: 635) and 1.16.25cd (Ah 1939: 249).

976 The condition of “misshapen eye” is referred to briefly in 6.61.9 (Su 1938: 800), where Dalhana glossed it as “bent brow and eye (*vakrabhrūnetra*).” The vulgate’s reading of “with blood (*śonitena*)” is easier to construe.

977 There is a medically significant difference here from the vulgate, which reads “a rough (*khara*) probe” not a “thin” probe.

978 This translation of loss of function (*kriyāsaṅga*) is given on the basis of Dalhana’s gloss of *kriyāsaṅgakarī* at 3.8.19 (Su 1938: 382) as “causing the destruction of actions such as moving (*gamanādikriyāvināśakarī*).”

979 The vulgate reads “copper (*tāmra*)” in place of “silver.”

## [Complications]

- Redness, swelling, lumps, driness (*coṣa*), bubbling (*budbuda*),<sup>980</sup> pigs' eye (*sūkarākṣitā*),<sup>981</sup> irritation (*adhimantha*), etc. and other diseases arise from faults in the piercing,
- 69–70 or even from bad behaviour. One should treat them each accordingly. Listen to me once again about compounds for painful red eyes.  
Red chalk (*gairikali*), Indian sarsaparilla (*śārivā*), panic grass (*dūrvā*), and ghee ground with barley.
- 71 This face ointment is to be used for quelling pain and redness. Or else it may be taken combined with the juice of citron (*mātuluinga*) with sesame gently fried, mixed with white mustard (*siddhārthaka*).<sup>982</sup> This is immediately beneficial when someone is looking for relief.
- 72 A paste with Holostemma (*payasyā*),<sup>983</sup> Indian sarsaparilla (*śārivā*), cassia cinnamon (*patra*), Indian madder (*mañjiṣṭhā*), and liquorice (*madhukair*) stirred with goat's milk, pleasantly warmed, is said to be healthy.<sup>984</sup>
- 73 Alternatively, it can be made in this way with Himalayan cedar, Himalayan cherry (*padmaka*) and dried ginger. Or, in the same way, with grapes, liquorice and the Lodh tree mixed with Sindh salt.
- 74 Alternatively, goats' milk with the Lodh tree, Sindh salt, red grapes and liquorice, cooked, should be used in irrigation because it removes pain and redness.
- 75 Having cooked it with liquorice, water-lily, and costus, mixed with grapes (*drākṣā*), lac (*lākṣā*), white sugar (*sitā*), with wild asparagus, Hare Foot Uraria (*pr̥thakparṇī*),<sup>985</sup> nutgrass (*mustā*), liquorice, Hi-

980 Dalhaṇa glossed “bubbling (*budbuda*)” as “prolapse (*māṇisanirgama*) that looks like bubbles.”

981 The expression “pigs' eye” appears to be a *hapax*. It was glossed as “downward vision (*adhadrṣṭitva*)” by Dalhaṇa.

982 On the adverbial use of gently (*mṛdu*), see Gombrich 1979.

983 The identity of *payasyā* is debated (GVDB: 538), and was already in doubt at the time of Dalhaṇa but likely candidates may be those suggested by Dalhaṇa, who suggests either *arkapuspi* or *kṣirakākoli*, that may be *Holostemma adakodien* Schult. and *Leptadenia reticulata* (Retz.) Wight & Arn. (ADPS: 195–196). The *Sauśrutanighanṭu* glosses it as *kṣirikā* or *arkapuspi* (Suvedī and Tīvārī 2000: v. 307).

984 The expression “stirred with goat's milk (*ajākṣīrārdita*)” is difficult. It may be connected with the rare root *ard* documented by Whitney (1885: 15). Cf. √*ard* *gatau* (*Dhātupāṭha* 1.56).

985 Suvedī and Tīvārī 2000: 18.

- malayan cherry (*padmaka*), and Sindh salts, one should apply it [irrigation] gently warm.
- 76cd–77ab Ghee that has been cooked in four times the amount of milk that has itself been cooked with drugs that destroy wind.<sup>986</sup> This has an admixture of cottony jujube (*kākoli*) etc., should be prescribed in all treatments.<sup>987</sup>
- 77cd–78ab If pain does not end in this way, one should administer blood-letting to the vein of someone who has previously been oiled and sweated. Then the wise physician should apply cauterization in the advised manner.<sup>988</sup>
- 78cd–80ab Now listen to two excellent collyrums for making the pupils clear. After grinding the flowers of perploca of the woods (*meṣaśṛṅga*), siris (*śiriṣa*), axelwood (*dhava*) royal jasmine (*jātī*), pearl and beryl (*vaidūrya*) with goat's milk, one should put it in a copper pot for seven days.
- 80cd–81 Having made it into wicks (*vartti*), the physician should apply it as a collyrium (*añjana*). Alternatively, one should make kohl (*srotoja*), coral (*vidruma*), cuttlefish bone (*phena*), and realgar (*manahśilā*) and peppers into wicks as before. One should apply these wicks, which are good in a collyrium, to steady the pupil.
- 82 I shall again discuss the foremost collyrums at length in the *Kriyākalpa* section. Those various methods may be applied here too.

or a dual?

<sup>986</sup> Ḏalhaṇa mentioned that these drugs include Deodar (*bhadradāru*) and other wind-destroying drugs. The *vātasaṃśamana* group is listed in *Suśrutasanhitā sūstrasthāna* 1.39.7.

<sup>987</sup> Ḏalhaṇa noted that this would include errhines, ointments, etc.

<sup>988</sup> The vulgate reads *vāpi* for *cāpi*, so Ḏalhaṇa saw blood-letting and cauterity as alternatives, not a sequence of treatments. Ḏalhaṇa listed the places that cauterization may be applied, such as the brow, forehead, etc.



## **Part 6.2 Uttaratantra, Kumāratantra**



## **Part 6.3 Uttaratantra, Kāyacikitsātantra**



# **Uttaratantra 38: Diseases of the Female Reproductive System**

## **Introduction**

The chapter talks about various diseases of the female reproductive system and, in doing so, combines both aspects that go into a representation of diseases in āyurvedic literature: signs, symptoms and pathogenesis (*nidāna*), on the one hand, and medical treatment (*cikitsā*), on the other. In chapters of the *Uttaratantra*, these two aspects are sometime dealt with in two different chapters *X-vijñānīya* and *X-pratiṣedha*. There are, however, many examples where this distinction is not made.

## **Literature**

The chapter is summarized, with notes on vocabulary and references to further research literature, in [HIML](#): IA, 313. (Tivārī 1990) dedicated a monograph to this topic, and Selby (2005a,b) has explored gyencological narratives in ayurveda.

## **Placement of the Chapter**

In the vulgate text ([Su 1938](#)) the current chapter, 6.38, is found after the *Uttaratantra*'s subsection on paediatrics, the *Kumāratantra*, see Table 9.<sup>989</sup> But in the Nepalese version, this is chapter 6.58 of the *Uttaratantra*. And it is also counted as chapter 23 of the subsection *Kāyācikitsā*.

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<sup>989</sup> Or *Kumārabhṛtya* as this section is named in MS Kathmandu KL 699.

Table 9: Subdivisions of the Uttaratantra, in the vulgate.

Section	Chapters	Internal count
Śālakyatantra	1–26	1–26
Kumāratantra	27–38	1–12
Kāyacikitsātantra	39–59	1–21
Bhūtavidyātantra	60–62	1–3
Tantrabhūṣaṇādhyaśaya	63–66	1–4

Several things are noteworthy in this regard:

- In the placement of the vulgate, this chapter follows upon 6.37 *Grahotpatti* (6.35 in the Nepalese version), a chapter that talks about the origination of nine demons (*graha*) that are responsible for all children's diseases described in previous chapters of the *Kumāratantra*. In this way, the current chapter retains the general focus on the child bearing (*kaumārabhṛtya*), but, at the same time, marks a change to a distinct, less mystical approach to the topic at hand (that could originate in a cultural milieu different from that of the preceding eleven chapters). Ḏalhaṇa explained how the chapter fits its context in the following way:

It is appropriate that, for the sake of treating the disorders of the female reproductive system, the chapter called “Countermeasures Against Disorders of the Female Reproductive System” is taught immediately after the chapter called “The Origination of Demons (*graha*).” It is because (1) there is an explicit mention of the word “*yoni*” in the statement “born in the womb (*yoni*) of animal and human” [in 6.37.13bc (Su 1938: 667)] and because (2) the disorders of the female reproductive system are the causes for the inborn disorders of children.<sup>990</sup>

- In the placement of the Nepalese version,
  - 6. *Yonivyāpatpratiṣedha* is preceded by

990 Ḏalhaṇa on 6.38.1 (Su 1938: 668): ग्रहोत्पत्त्यध्यायायानन्तरं ‘तिर्यग्योनि मानुषं च’ इति वचनेन योनेनाम-संकीर्तनात् कुमारजन्मविकारकारणत्वाच्च योनेव्यापचिकित्सितार्थं योनिव्यापत्यतिषेधाध्यायारम्भो युज्यत [...].

- 6.56 *Mūtrāghātapratisedha* (6.58 in [Su 1938](#)) and
- 6.57 *Mūtrakṛcchraptpratisedha* (6.59 in [Su 1938](#)), two chapters dealing with the diseases of the urinary tract.

The current chapter carries on with the topic of diseases that affect genitalia. In its Nepalese version, the chapter opens with two verses that explain the reasons for treating the particular set of diseases. These lack any reference to the inborn disorders of children, mentioned by Dalhaṇa, and instead highlight the importance of curing female diseases for the satisfaction of male partner.

- SS.1.3 in both [Su 1938](#) and the Nepalese version lists the chapter at the place where it is found in the vulgate.<sup>991</sup>
- Parallel chapters in the *Aṣṭāṅgasamgraha* and the *Aṣṭāṅgahṛdayasamhitā* form a part of the *Śalyatantra* section of each text.

## Parallels

The current chapter is parallel in its content to *Aṣṭāṅgasamgraha* 6.38 and 6.39 as well as *Aṣṭāṅgahṛdayasamhitā* 6.33 and 6.34 (*Guhyarogavijñāna* and *Guhyarogapratisedha* respectively).

A close literary parallel to the first part of the chapter is found in *Mādhavanidāna* ([MN<sub>3</sub>](#)) 62, or at least its version printed in Yādavaśarma Trivikrama Ācārya ([MN<sub>3</sub>](#): 361). The readings of the [MN<sub>3</sub>](#) as it stands now usually side with the vulgate version rather than with the Nepalese. In addition to the basic text, there are several valuable pointers made in the *Madhukośa*, an early commentary on the [MN<sub>3</sub>](#). This part of the text is authored by Śrīkaṇṭhadatta, who was most like a direct student of Vijarakṣita. The latter wrote the first part of the *Madhukośa*, up to chapter 32, and, what is more, can be dated to the late eleventh or early twelfth centuries.<sup>992</sup>

Another most interesting parallel is found in *Carakasamhitā* 6(Ci).30.

<sup>991</sup> See 1.3.37ab ([Su 1938](#): 15): नैगमेषचिकित्सा च ग्रहोत्पत्तिः सयोनिजा ॥.

<sup>992</sup> Meulenbeld [1974b](#): 22–26.

## Philological notes

### Metrical alterations

The first two verses in the Nepalese version, 6.38.2.1 and 6.38.4.1, are written in a classical variety of the *upajāti* metre:  $\underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}}$ . In content, they are only approximately parallel to three hemistichs in *anuṣṭubh* metre found in the vulgate.<sup>993</sup> The latter verses lack the apologetic explanation concerning the reasons for this chapter being taught.

### The original opening verses

From verse *Suśrutasamhitā* 6.38.5.1 onwards, the Nepalese version of the text continues with three hemistichs in the same classical *upajāti* metre (the syllabic pattern above).<sup>994</sup> By contrast, the vulgate contains two complete verses (four hemistichs) in the *anuṣṭubh* metre, again with only loosely-related content.<sup>995</sup> The three final hemistichs of this group are borrowed verbatim from the *Carakasamhitā*.<sup>996</sup> We can be sure of the direction of borrowing because one of these shared verses says that the twenty kinds of diseases of the female reproductive system “have already been indicated in the *Compendium of Diseases* (*rogasamgraha*)”.<sup>997</sup> This statement does not make any sense in the context of the *Suśrutasamhitā*, where no such Compendium exists.<sup>998</sup> By contrast, in the *Carakasamhitā* this reference points back to chapter 1.19 (Ca 1941: 109–112), which calls itself “The Compendium of Diseases”.<sup>999</sup> This Compendium lists all the diseases dealt with in later sections of the text, and specifically mentions the twenty diseases of female reproductive system.<sup>1000</sup> Even the vocabulary and wording of this

<sup>993</sup> *Suśrutasamhitā* 6.38.3–4ab (Su 1938: 668).

<sup>994</sup> The metre of these verses is not perfect.

<sup>995</sup> *Suśrutasamhitā* 6.38.4cd–6ab (Su 1938: 668).

<sup>996</sup> *Carakasamhitā* 6.30.7cd–8 (Ca 1941: 634).

<sup>997</sup> *Suśrutasamhitā* 6.38.5ab (Su 1938: 668): विंशतिर्यापदो योनेर्निर्दिष्टा रोगसंग्रहे॥ ← *Carakasamhitā* 6.30.7cd (Ca 1941: 634).

<sup>998</sup> The remark was not commented on by Dalhaṇa.

<sup>999</sup> *Carakasamhitā* 1.19.9cd (Ca 1941: 112): रोगात्याये प्रकाशिताः.

<sup>1000</sup> *Carakasamhitā* 1.19.3 (Ca 1941: 110): विंशतिर्यानिव्यापदः।

passage is identical to the later verses. It is beyond doubt that this passage originated in the *Carakasamhitā* and was borrowed by the editors of the vulgate text of the *Suśrutasamhitā*.<sup>1001</sup>

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<sup>1001</sup> The above three hemistichs in *anuṣṭubh* are also repeated in the **MN**<sub>3</sub> 62.1–2ab. Given that the subsequent verses in the **MN**<sub>3</sub> stem from the *Suśrutasamhitā*, it is likely that **MN**<sub>3</sub> 62.1–2ab too was borrowed from from the *Suśrutasamhitā* and not from its original location in the *Carakasamhitā*).

## Translation

- 1 And now I shall explain the countermeasures against disorders of the female reproductive system (*yoni*<sup>vyāpat</sup>).<sup>1002</sup>
- \*3 For good men, a woman is the most pleasurable thing. Therefore a physician should diligently attend to the diseases located in the female reproductive system (*yoni*), because he is entirely devoted to it (that is, to curing these diseases) for the sake of (people's) happiness.<sup>1003</sup>
- \*4 A corrupted female reproductive system (*yoni*) cannot consume semen (*bīja*), and therefore, the woman cannot take a fetus (that is, become pregnant). She gets severe prolapses (*arśas*), abdominal lump (*gulma*) and similarly many other diseases (*roga*).
- \*5 Humours (*doṣa*), wind (*vāta*), etc., corrupted due to faulty medical treatment (*mithyopacāra*),<sup>1004</sup> sexual activity, fate, and also defects (*doṣa*) of menstrual blood (*ārtava*) and semen (*bīja*), produce various diseases in the female reproductive organ (*yoni*). These 20 diseases

<sup>1002</sup> On this broad understanding of the term *yoni* as “female reproductive system” see R. P. Das 2003: pp. 572–5.

<sup>1003</sup> As our translation indicates, the sentence construction does not allow an unambiguous identification of who or what is the referent of the pronoun *tad* in the compound form *tadadhīna* ‘devoted to it.’ Our current understanding is that *tad* refers to the ‘most pleasurable thing’ mentioned in pāda a. It could, however, also refer to ‘them,’ that is, the ‘good men.’

<sup>1004</sup> In our translation of the compound मिथ्योपचार, we decided for the technical meaning of the term उपचार, that is, “medical application” or “treatment.” The combination मिथ्या+उप-√चर is attested several times in medical literature. At least once, at *Carakasaṃhitā* 3.3.38 (Ca 1941: 245), it is given an explicit gloss by Cakrapāṇidatta: मिथ्योपचरितानि असम्यक् चिकित्सितान् “... given improper therapy”. In the *Suśrutasaṃhitā* (Su 1938), it is used once in a passage (6.18.30 (Su 1938: 635)) where it refers specifically to the wrong application of irrigation (*tarpaṇa*) and roasting (*puṭapāka*), both of which are mentioned in the previous verse. Another use of the compound in a similar meaning is found in a citation from Bhoja’s work (see p. 21) quoted by Gayadāsa at *Suśrutasaṃhitā* 2.5.17 (Su 1938: 287): श्वित्रं तु द्विविधं प्रोक्तं दोषजं व्रणजं तथा । तत्र मिथ्योपचाराद्वि व्रणस्य व्रणजं स्मृतम्॥ “... arises from wrong treatment of the wound.” In contrast to this, the parallel verse in *Suśrutasaṃhitā* 6.38.5ab (Su 1938: 668) = *Carakasaṃhitā* 6.30.8 (Ca 1941: 634) = MN<sub>3</sub> 62.1 reads मिथ्याचार “wrong conduct.” All commentators (Cakrapāṇidatta on the *Carakasaṃhitā*, Śrīkanṭhadatta on the MN<sub>3</sub>, and Dalhaṇa on the *Suśrutasaṃhitā*) explain that the wrong conduct stands here specifically for unwholesome diet. The parallel in *Aṣṭāṅgahṛdayasaṃhitā* 6.33.27 (Ah 1939: 895) = *Aṣṭāṅgasaṅgraha* 6.38.34 (As 1980: 829) plainly reads दुष्टभोजन “corrupted food” instead.

are taught here distinctly and one by one along with their treatment (*bhesaja*), causes (*hetu*) and signs (*cihna*).

\*6.1 Because of wind (*vāta*), female reproductive organ (*yoni*) becomes:

1. udāvartā (*udāvartā*),
2. called Infertile (*vandhyā*), and
3. Sprung (*plutā*),
4. Flooded (*pariplutā*), and
5. Windy (*vātalā*).

\*6.2 And because of choler (*pitta*), occur:

1. With bloodloss (*raktakṣayā*),
2. Vomiting (*vāminī*), and
3. Causing a Fall (*sraṇīsanī*),
4. Child-murderess (*putraghṇī*), and also
5. Bilious / Choleric (*pittalā*).

\*7.1 And because of phlegm (*kapha*) occur:

1. Extremely Excited (*atyānandā*),
2. Protuberant (*karṇīnī*), and
3. & 4. two Caranī (*caranī*), and
5. other Phlegmatic (*śleṣmalā*).

\*7.2 And similarly there are other (kinds of morbid female reproductive system) involving all *dosas*:

1. Impotent (*śāṇḍhī*),
2. With testicles (*aṇḍīnī*),
3. two Huge (*mahaṭī*),
4. With a needle-like opening (*sūcīvaktrā*),
5. Sarvātmikā (*sarvātmikā*).



## **Part 6.4 Uttaratantra, Bhūtatantra**



# **Uttaratantra 39: On Fevers and their Management [draft]**

## **Literature**

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>1005</sup>

## **Remarks on the Nepalese version**

This chapter is numbered 6.39 in the vulgate.

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<sup>1005</sup> [HIML](#): IA, 313–317.

## Translation

1 And now we shall explain the chapter on the prevention of fever.<sup>1006</sup>

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<sup>1006</sup> The present chapter discusses the therapeutics of fever. One would expect this to be preceded by a chapter on the causes of fever, perhaps in the *Nidānasthāna*, but such a chapter does not occur in the *Suśrutasamhitā*.

## **Part 6.5 Uttaratantra, Tantrabhūṣaṇādhya**



# Uttaratantra 65: Rules of Interpretation

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>1007</sup> Other explorations of this topic have included TY; S. N. Dasgupta 1952a; Oberhammer 1968; TYV; Lele 1981; Scharfe 1993; Comba 1994; Mejor 2000; A. Singh 2003.

Scherrer-Schaub (1981) discussed the term *yukti* in Buddhist literature; see also Biardeau 1964: 444–446 Prets and Prandstetter 1991–2006: 343–345, while Frauwallner 1958 discussed the influence of the *tantrayuktis* in the Sāṅkhya tradition. Preisendanz (2013: 105–106, fn. 109) provided further references to the discussion of *yukti* in Buddhist literatures. Manevskaia (2008) gave examples of the use of *tantrayuktis* in Buddhist commentarial literature. Chevillard (2009) discussed the translation of the *tantrayuktis* in Tamil literary tradition, with a specific focus on *Tolkāppiyam* and its commentaries.

## Early Sources

An ancient tradition of enumerating the *tantrayuktis* served as a foundational source not only for medical texts but also for works in various other disciplines, including Arthaśāstra, philosophy, and even grammar. The *Suśrutasaṃhitā* stands as the earliest Āyurvedic text that presents a compilation of a list of *tantrayuktis* followed by their definitions and usage. Mentions to Tantrayuktis are also found in the *Carakasaṃhitā* 8.12 (Ca 1941)

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<sup>1007</sup> HML: IA, 331.

which introduce four additional *tantrayuktis*. However, the *tantrayuktis* remain undefined in the *Carakasamhitā*.

## The *Arthaśāstra*

The enumeration and definitions of the *tantrayuktis* in the *Suśrutasamhitā* closely parallel their treatment in the *Arthaśāstra*. *Tantrayuktis* are discussed in the fifteenth and final chapter of the *Arthaśāstra*, called the *Tantrayukti*.<sup>1008</sup> For a side-by-side comparison of the *tantrayuktis* in the *Suśrutasamhitā* and the *Arthaśāstra*, please refer to Table 10.

## The *Yuktidīpikā*

*Yuktidīpikā* (circa late sixth to early eighth century), an anonymous commentary on Īśvarakṛṣṇa's *Sāṅkhyaśārīrakā*, initiates its discourse with a detailed discussion of the characteristics of a scientific treatise, some of which align with the *tantrayuktis*.<sup>1009</sup> In the *Yuktidīpikā*, these terms are referred to as *tantraguṇa* or *tantrasampat*. They are: (1) *sūtropapatti* (2) *pramāṇopapatti* (3) *avayavopapatti* (4) *anyūnatā* (5) *saṃśayayokti* (6) *nirṇayayokti* (7) *uddeśa* (8) *nirdeśa* (9) *anukrama* (10) *saṃjñā* and (11) *upadeśa*.<sup>1010</sup> Apart from these, the *Yuktidīpikā* also exemplifies (12) *utsarga* (general rule), (13) *apavāda* (exception), and (14) *atideśa* (extended application). However, *utsarga* and *apavāda* are not considered *tantrayuktis* in other comprehensive lists. The *Yuktidīpikā* further states that while other *tantrayuktis* can be demonstrated in a similar manner, since they are peripheral topics, the text does not delve into their discussion.<sup>1011</sup>

1008 *Arthaśāstra*: 280–283

1009 See Oberhammer 1968: 605–614 for a detailed discussion of the use of the *tantrayuktis* in the *Yuktidīpikā*.

1010 सूत्रप्रमाणावयवोपपत्तिरन्यूनता संशयनिर्णयोक्तिः ।  
उद्देशनिर्देशमनुक्रमश्च संज्ञोपदेशाविह तत्त्वसम्पत् ॥

Wezler and Motegi 1998: 3

1011 एवमारा अन्येऽपि द्रस्तव्याह् । तद्यथोत्सर्गोऽपवादोऽतिदेश इत्यादि ।...इत्येवमन्या अपि तत्त्वयुक्तयः शक्या  
इह प्रदर्शयितुम् । अतिप्रसङ्गस्तु प्रकृतं तिरोदधातीति निवर्त्यते । सिद्धं तत्त्वयुक्तीनां सम्बन्धोपपत्तेस्तत्त्वम् इदम्  
इति । Wezler and Motegi 1998: 8

## Tamil literature

Discussions on the *tantrayuktis* are also found in Tamil technical literature, the earliest of which is the *Tolkāppiyam*.<sup>1012</sup> A list of 32 *tantrayuktis*, called *utti* or *tantiravutti* in Tamil, are given in the 27<sup>th</sup> (the final) chapter titled *Marapiyal* “Chapter on conventions” of the last book called *Porul* “Matters” of the *Tolkāppiyam*. There is no consensus regarding the dating of the *Tolkāppiyam*. However, if we endorse Zvelebil’s view, which posits that the final redaction of the *Tolkāppiyam* occurred around the fifth centuryCE, it follows that this section of the *Tolkāppiyam* cannot postdate the fifth century. If we follow the dating of Zvelebil, we can safely argue that by that time, Sanskrit *tantrayuktis* had already been translated into Tamil. Nevertheless, determining the correspondence between specific *tantrayuktis* and Tamil *uttis* poses a challenge. A major factor contributing to this challenge is the disagreement between two commentators of the *Tolkāppiyam*, namely Ilampūraṇar (11th or 12th century) and Pērāciriyan (possibly 13th century), regarding the interpretation of the list of *uttis*. It is still not clear which list of 32 *tantrayuktis* was before the author of the *Tolkāppiyam*.

After the *Tolkāppiyam*, several other Tamil texts refer to the *tantrayuktis*. Among them the *Yāpparuinkalam* (possibly 10th century), the *Vīracolīyam* (11th century), *Nannūl* (late 12th or early 13th century), and their commentaries hold significant importance in this context.

## The *Viṣṇudharmottarapurāṇa*

The third book of the *Viṣṇudharmottarapurāṇa*, believed to have been composed between the fifth and seventh centuries, includes a chapter dedicated to the *tantrayuktis*.<sup>1013</sup> Unlike the *Arthaśāstra* and the *Suśrutasanhitā*, this chapter lacks illustrative examples of the *tantrayuktis*. The chapter lists 32 *tantrayuktis* followed by definitions. Notably, the list and definitions given here – we are using the critical edition by Priyabala Shah – in most cases bear a striking resemblance to those found in the *Suśrutasanhitā*. Given the striking alignment between the list and definitions of *tantrayuktis*, one could suggest that the *Viṣṇudharmottarapurāṇa*’s chapter on *tantrayuktis* likely draws directly or indirectly from the *Suśrutasanhitā* or

<sup>1012</sup> For a detailed discussion of the treatment of the *tantrayuktis* in the *Tolkāppiyam* see Chevillard 2009.

<sup>1013</sup> Adhyāya 6, *Viṣṇudh* 3:13–14.

from a common source. The designations and the order of the *tantrayuktis* in the *Viṣṇudharmottarapurāṇa* are almost identical. The only differences in the order are as follows:

1. *Viparyaya* is placed after *vidhāna* whereas in the *Suśrutasaṃhitā* it follows *arthāpatti*.
2. *Anumata* is placed after *vyākhyāna* whereas in the *Suśrutasaṃhitā* it follows *nirṇaya*.
3. *Anāgatāvekṣaṇa* (*anāgatāpekṣaṇa* in the Nepalese version) occurs after *atikrāntāvekṣaṇa* (*atikrāntāpekṣaṇa* in the Nepalese version) whereas the order is reverse in the *Suśrutasaṃhitā*.

For a side-by-side comparison of the *tantrayuktis* in the *Suśrutasaṃhitā* and the *Viṣṇudharmottarapurāṇa*, please refer to Table 10.

## The *Saddanīti*

A list of the 32 *tantrayuktis* accompanied by definitions also appear in the final chapter (*Pariccheda 28*) of the final book (book 3: *Suttamālā*) of the renowned Pali grammar *Saddanīti* composed by Aggavāmsa in Arimaddanapura (modern Bagan, Burma) in the twelfth-century.<sup>1014</sup> Just as the *Viṣṇudharmottarapurāṇa*, this list also does not provide examples of the *tantrayuktis*. Although written in Pali, the order and the definition of the *tantrayuktis* (*tantiyutti* in Pali) closely resemble those of the *Suśrutasaṃhitā*. There are, however, a few differences:

1. The *tantrayukti pradeśa* is referred to as *paṭidesa* (Sanskrit *pratideśa*) and is positioned after *atidesa* (Sanskrit *atideśa*) whereas in the *Suśrutasaṃhitā* it follows *apadeśa*.
2. *Atikrāntāpekṣaṇa* is designated as *atītāpekkhana* (Sanskrit *atītāpekṣaṇa*).
3. *Svasaṃjñā* is designated as *anaññā sakasaṃjñā* (Sanskrit *ananyā svasaṃjñā*) and is defined with subtle variations.
4. *Ūhya* is designated as *upānīya*.

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<sup>1014</sup> *Saddanīti* 3: 920–921.

For a side-by-side comparison of the *tantrayuktis* in the *Suśruta Saṃhitā* and the *Saddanīti*, please refer to Table 10.<sup>1015</sup>

Table 10: *Tantrayuktis* in *Suśrutasaṃhitā* (S), *Viṣṇudharmottarapurāṇa* (V), *Arthaśāstra* (A), and *Saddanīti* (N)

Sequence	Terms	Definitions
(S) 1.	<i>adhikaraṇa</i>	तत्र यमर्थमधिकृत्योच्यते तदधिकरणम्।
(V) 1.	<i>adhikaraṇa</i>	तत्र यमर्थमधिकृत्योच्यते तदधिकरणम्।
(A) 1.	<i>adhikaraṇa</i>	यमर्थमधिकृत्योच्यते तदधिकरण।
(N) 1.	<i>adhikaraṇa</i>	तत्थं अधिकिच्च वुच्चति, तं अधिकरणं।
(S) 2.	<i>yoga</i>	येन वाक्यं युज्यते स योगः। यथा व्यत्यासेनोक्तानां सन्निकृष्टविप्रकृष्टानां पदार्थानाम् एकीकरणम्।
(V) 2.	<i>yoga</i>	येन वाक्यार्थो युज्यते स योगः।
(A) 3.	<i>yoga</i>	वाक्ययोजना योगः।
(N) 2.	<i>yoga</i>	पुब्बापरवसेन वुत्तानं सन्निहितासन्निहितानं पदानं एकीकरणं योगोः।
(S) 3.	<i>padārtha</i>	योऽर्थोऽभिहितः सूत्रे पदे वा स पदार्थः। पदस्य प-दयोः पदानां वा योऽर्थः स पदार्थः। अपरिमिताश्च पदार्थः।
(V) 3.	<i>padārtha</i>	योऽर्थो विधिकृतः सूत्रपदे स पदार्थः।
(A) 4.	<i>padārtha</i>	पदावधिकः पदार्थः।
(N) 3.	<i>padattha</i>	सुत्तपदेसु पुब्बापरयोगतो यो अत्थो विहितो, सो प-दत्थो।
(S) 4.	<i>hetvartha</i>	यदुक्तं साधनं भवति स हेत्वर्थः।
(V) 4.	<i>hetvartha</i>	यदन्यद्युक्तिमदर्थस्य साधनं स हेत्वर्थः।
(A) 5.	<i>hetvartha</i>	हेतुरर्थसाधको हेत्वर्थः।
(N) 4.	<i>hetuattha</i>	यं वुत्तत्थसाधकं, सो हेतुअत्थो। <sup>1016</sup>
(S) 5.	<i>uddeśa / samuddesā</i>	समासवचनं समुद्देशः।

<sup>1015</sup> For the reading of *Saddanīti*, we used the edition by H. Smith who also provided an apparatus with variants. However, the edition by Thera sometimes consists of variants which do not appear in the apparatus of Helmer Smith's edition. In those cases, we noted the variants in footnotes.

<sup>1016</sup> *yam vuttaatthasādhanam?* so hetuttho. Thera 1909: 807.

Sequence	Terms	Definitions
(V) 5.	<i>uddeśa</i>	समासवच्चनमुद्देशः ।
(A) 6.	<i>uddeśa</i>	समासवाक्यमुद्देशः ।
(N) 5.	<i>uddesa</i>	समासवच्चनं उद्देसो ।
(S) 6.	<i>nirdeśa</i>	विस्तरवच्चनं निर्देशः ।
(V) 6.	<i>nirdeśa</i>	विस्तरवच्चनं निर्देशः ।
(A) 7.	<i>nirdeśa</i>	व्यासवाक्यं निर्देशः ।
(N) 6.	<i>niddesa</i>	वित्थारवच्चनं निह्वसो ।
(S) 7.	<i>upadeśa</i>	एवमित्युपदेशः ।
(V) 7.	<i>upadeśa</i>	एवमेवेत्युपदेशः ।
(A) 8.	<i>upadeśa</i>	एवं वर्तितव्यमित्युपदेशः ।
(N) 7.	<i>upadesa</i>	एवन् ति उपदेसो ।
(S) 8.	<i>apadeśa</i>	अनेन कारणेनेत्यपदेशः ।
(V) 8.	<i>apadeśa</i>	अनेन कारणेनेत्यपदेशः ।
(A) 9.	<i>apadeśa</i>	एवमसावाहेत्यपदेशः ।
(N) 8.	<i>apadesa</i>	अनेन कारणेना ति अपदेसो ।
(S) 9.	<i>pradeśa</i>	प्रकृतस्यातिक्रान्तेन साधनं प्रदेशः ।
(V) 9.	<i>pradeśa</i>	प्रकृतस्यानागतेन साधनं प्रदेशः ।
(A) 11.	<i>predeśa</i>	वक्तव्येन साधनं प्रदेशः ।
(N) 10.	<i>paṭidesa</i>	पक्तस्स अनागतेन अत्थसाधनं पटिदेसो ।
(S) 10.	<i>atideśa</i>	प्रकृतस्यानागतेन साधनम् अतिदेशः ।
(V) 10.	<i>atideśa</i>	अतिक्रमणेन अतिदेशः ।
(A) 10.	<i>atideśa</i>	उक्तेन साधनमतिदेशः ।
(N) 9.	<i>atidesa</i>	पक्तस्स अतिक्रान्तेन साधनं अतिदेसो ।
(S) 11.	<i>apavarga</i>	अभिप्रमृज्यापकर्षणमपवर्गः ।
(V) 11.	<i>apavarga</i>	अभिप्रायानुकर्षणमपवर्गः ।
(A) 22.	<i>apavarga</i>	अभिप्रुतव्यपकर्षणमपवर्गः ।
(N) 11.	<i>apavagga</i>	अतिव्यापेत्वा अपनयनं अपवग्गो ।
(S) 12.	<i>vākyasēṣa</i>	येन पदेनानुक्तेन वाक्यं समाप्यते स वाक्यशेषः ।
(V) 12.	<i>vākyasēṣa</i>	येनार्थः परिसमाप्यते पदेनाहार्येण स वाक्यशेषः ।
(A) 17.	<i>vākyasēṣa</i>	येन वाक्यं समाप्यते स वाक्यशेषः ।
(N) 12.	<i>vākyadosa</i>	येन पदेन अवुत्तेन वाक्यपरिसमापनं भवति, सो वाक्यदोसो ।

Sequence	Terms	Definitions
(S)		
(V)		
(A) 12.	<i>upamāna</i>	दृष्टेनादृष्टस्य साधनमुपमानम्।
(N)		
(S) 13.	<i>arthāpatti</i>	यदकीर्तितमर्थादापद्यते सार्थापत्तिः।
(V) 13.	<i>arthāpatti</i>	यदकीर्तितमर्थादापद्यते सार्थापत्तिः।
(A) 13.	<i>arthāpatti</i>	यदनुक्रमर्थादापद्यते सार्थापत्तिः।
(N) 13.	<i>atthāpatti</i>	यद् अकिञ्चितं अत्थतो आपज्जति, सा अत्थापत्ति।
(S) 14.	<i>viparyaya</i>	यद्यस्य प्रातिलोम्यं तद्विपर्ययः।
(V) 20.	<i>viparyaya</i>	तस्य प्रातिलोम्यं विपर्ययः।
(A) 16.	<i>viparyaya</i>	प्रतिलोमेन साधनं विपर्ययः।
(N) 14.	<i>vipariyaya</i>	यं यथ विहितं, तत्र यं तस्स पटिलोमं, सो विपरिययो।
(S) 15.	<i>prasaṅga</i>	प्रकरणान्तरेण समानः प्रसङ्गः।
(V) 14.	<i>prasaṅga</i>	प्रकरणाभिहितोऽर्थः केनचिदुपोद्घातेन पुनरुच्यमानः प्रसङ्गः।
(A) 15.	<i>prasaṅga</i>	प्रकरणान्तरेण समानोऽर्थः प्रसङ्गः।
(N) 15.	<i>pasaṅga</i>	पकरणन्तरेन समानो अत्थो पसङ्गो।
(S) 16.	<i>ekānta</i>	यदवधारणेनोच्यते स एकान्तः।
(V) 15.	<i>ekānta</i>	यथा तथा स एकान्तः।
(A) 26.	<i>ekānta</i>	सर्वत्रायत्तमेकान्तः।
(N) 16.	<i>ekānta</i>	सब्बथा यं तथा, सो एकान्तो।
(S) 17.	<i>anekānta</i>	क्वचित्तथा क्वचिदन्यथा सोऽनेकान्तः।
(V) 16.	<i>anekānta</i>	क्वचित्तथा क्वचिदन्यथाऽसावनेकान्तः।
(A)		
(N) 17.	<i>anekānta</i>	यो पन कत्थचि अञ्जथा सो अनेकान्तो।
(S) 18.	<i>pūrvapakṣa</i>	यस्तु निःसंशयमभिधीयते स पूर्वपक्षः। <sup>1017</sup>
(V) 17.	<i>pūrvapakṣa</i>	प्रतिषेधवचनं पूर्वपक्षः।
(A) 24.	<i>pūrvapakṣa</i>	प्रतिषेद्वयं वाक्यं पूर्वपक्षः।
(N) 18.	<i>pubbapakkha</i>	[यो] तु निस्सन्देहम् अभिधीयते, सो पुब्बपक्खो।
(S) 19.	<i>nirṇaya</i>	तस्योत्तरं निर्णयः।

<sup>1017</sup> This definition of *pūrvapakṣa* in the Nepalese version is problematic.

Sequence	Terms	Definitions
(V) 18.	<i>nirṇaya</i>	उत्तरवचनं निर्णयः ।
(A) 25.	<i>uttarapakṣa</i>	निर्णयवाक्यमुत्तरपक्षः ।
(N) 19.	<i>nirṇaya</i>	तस्स यं उत्तरं, सो निर्णयो ।
(S) 20.	<i>anumata</i>	परमतमप्रतिषिद्धमनुमतम् ।
(V) 25.	<i>anumata</i>	परमतमप्रतिषिद्धमनुमतम् ।
(A) 18.	<i>anumata</i>	परवाक्यमप्रतिषिद्धमनुमतम् ।
(N) 20.	<i>anumata</i>	परमतम् अप्पटिसिद्धं अनुमतं ।
(S) 21.	<i>vidhāna</i>	प्रकरणानुपूर्वादभिहितं विधानम् ।
(V) 19.	<i>vidhāna</i>	प्रकरणानुपूर्वं विधानम् ।
(A) 2.	<i>vidhāna</i>	शास्त्रस्य प्रकरणानुपूर्वीं विधानम् ।
(N) 21.	<i>vidhāna</i>	पकरणानुपूर्वं विधानं ।
(S) 22.	<i>anāgatāpekṣaṇa</i>	एवं वक्ष्यतीत्यनागतापेक्षणम् ।
(V) 22.	<i>anāgatāpekṣaṇa</i>	परत्र वक्षामीत्यनागतावेक्षणम् ।
(A) 27.	<i>anāgatāvekṣaṇa</i>	पश्चादेवं विहितमित्यनागतावेक्षणम् ।
(N) 22.	<i>anāgatāpekkhana</i>	एवं वक्खामि ति अनागतापेक्खनं ।
(S) 23.	<i>atikrāntāpekṣaṇa</i>	इत्युक्तमित्यतिक्रान्तापेक्षणम् ।
(V) 21.	<i>atikrāntāpekṣaṇa</i>	इत्युक्तमतिक्रान्तावेक्षणम् ।
(A) 28.	<i>atikrāntāvekṣaṇa</i>	पुरस्तादेवं विहितमित्यतिक्रान्तावेक्षणम् ।
(N) 23.	<i>atītāpekkhana</i>	इति बुत्तन् ति अतीतापेक्खनं ।
(S) 24.	<i>samśaya</i>	उभयहेतुनिर्दर्शनं संशयः ।
(V) 23.	<i>samśaya</i>	उभयतो हेतुदर्शनं संशयः ।
(A) 14.	<i>samśaya</i>	उभयतो हेतुमानर्थः संशयः ।
(N) 24.	<i>samsaya</i>	उभयहेतुदस्सनं संसयो ।
(S) 25.	<i>vyākhyāna</i>	तत्रातिशायोपवर्णनं व्याख्यानम् ।
(V) 24.	<i>vyākhyāna</i>	तत्रातिशायवर्णनातिव्याख्यानम् ।
(A) 19.	<i>vyākhyāna</i>	अतिशायवर्णना व्याख्यानम् ।
(N) 25.	<i>vyākhyāna</i>	संवर्णना व्याख्यानम् ।
(S) 26.	<i>svasamjñā</i>	अन्यशास्त्रासामान्या स्वसंज्ञा ।
(V) 26.	<i>svasamjñā</i>	परैरसम्मतः शब्दः स्वसंज्ञा ।
(A) 23.	<i>svasamjñā</i>	परैरसमितः शब्दः स्वसंज्ञा ।
(N) 26.	<i>anaññā sakasaññā</i>	भूतानं पवत्ता आरम्भचिन्ता अनञ्जा, सस्स साधारणा सकसञ्जा ।

Sequence	Terms	Definitions
(S) 27.	<i>nirvacana</i>	लोकप्रथितमुदाहरणं निर्वचनम्।
(V) 27.	<i>nirvacana</i>	लोके प्रतीतमुदाहरणं निर्वचनम्।
(A) 20.	<i>nirvacana</i>	गुणतः शब्दनिष्पत्तिर्निर्वचनम्।
(N) 27.	<i>nibbacana</i>	लोकप्पतीतम् उदाहरणं निष्पचनं।
(S) 28.	<i>nidarśana</i>	दृष्टान्तव्यक्तिनिर्दर्शनम्।
(V) 28.	<i>nidarśana</i>	तद्युक्तिनिर्दर्शनं दृष्टान्तः।
(A) 21.	<i>nidarśana</i>	दृष्टान्तो दृष्टान्तयुक्तो निर्दर्शनम्।
(N) 28.	<i>nidassana</i>	दिघ्नन्तसंयोगो निर्दस्सनं।
(S) 29.	<i>niyoga</i>	इदमेवेति नियोगः।
(V) 29.	<i>niyoga</i>	एवेति नियोगः।
(A) 29.	<i>niyoga</i>	एवं नान्यथेति नियोगः।
(N) 29.	<i>niyoga</i>	इदम् एवा ति नियोगो।
(S) 30.	<i>vikalpa</i>	।
(V) 30.	<i>vikalpa</i>	इदं वेदं वेति विकल्पः।
(A) 30.	<i>vikalpa</i>	अनेन चानेन वेति विकल्पः।
(N) 30.	<i>vikappa</i>	इदं वा ति विकल्पो।
(S) 31.	<i>samuccaya</i>	।
(V) 31.	<i>samuccaya</i>	इदं चेदं चेति समुच्चयः।
(A) 31.	<i>samuccaya</i>	अनेन चानेन चेति समुच्चयः।
(N) 31.	<i>samuccaya</i>	संखेपवचनं समुच्चयो।
(S) 32.	<i>ūhya</i>	यदनिर्दिष्टं बुद्धिगम्यं तदूद्घम्।
(V) 32.	<i>ūhya</i>	अत्र यदनिर्दिष्टं युक्तिगम्यं तदूद्घम्।
(A)	<i>ūhya</i>	अनुकूकरणमूद्घम्।
(N) 32.	<i>upānīya</i>	यद् अनिदिष्टं बुद्धिया अवगमनीयं, तद् उपानीयन् ति।

## Āyurvedic literature

### Primary texts

While references to *tantrayuktis* can be found across various disciplines, Āyurveda places a particular emphasis on their discussion, especially evident in key texts of Āyurveda, such as the *Carakasaṃhitā* and the *Suśrutas*.

*saṁhitā*, as well as the *Aṣṭāṅgasanīgraha*. The *Carakasaṁhitā* and *Aṣṭāṅgasanīgraha* present an identical list of *tantrayuktis* contained in a stanza of four *anuśtubh* verses.<sup>1018</sup> However, unlike the *Suśrutasaṁhitā* they lack explicit definitions and examples. This list of the *tantrayuktis* appear in the final chapter of the last book in both *Carakasaṁhitā* (41b–45a, chapter 12, *Siddhisthāna*) and *Aṣṭāṅgasanīgraha* (150–153, chapter 50, *Uttarasthāna*). The same has been quoted by Aruṇadatta in his commentary *Sarvāṅgasundarī* on the *Aṣṭāṅgahṛdaya* while elucidating the concept of *tantraguṇa* (qualities of the system)<sup>1019</sup> and by Śrīdāsa Pandita in the prefatory section of his commentary *Hṛdayabodhikā* on the *Aṣṭāṅgahṛdayasaṁhitā*.<sup>1020</sup> Notably, this list consists of 36 *tantrayuktis* instead of 32 found in the *Suśrutasaṁhitā* and other texts. The additional four are: *prayojana* (objective), *pratyutsāra* (rebuttal), *uddhāra*, and *sambhava* (origin).

The presence of identical verses enumerating the *tantrayuktis* in the *Aṣṭāṅgahṛdayasaṁhitā*, *Carakasaṁhitā*, *Sarvāṅgasundarī* and *Hṛdayabodhikā* strongly suggests a shared origin. However, a critical issue arises due to the absence of a comprehensive critical edition of the chapter 12 of the *Siddhisthāna* of the *Carakasaṁhitā*, leaving uncertainty about the total number of *tantrayuktis* recognized by Drḍhabala in this section.<sup>1021</sup> The problem arises from different readings of the half-verse that occurs right

1018 तत्राधिकरणं योगो हेत्वर्थोऽथः पदस्य च ।  
प्रदेशोद्देशनिर्देशवाक्यशेषाः प्रयोजनम् ॥  
उपदेशापदेशातिदेशार्थापत्तिनिर्णयाः ।  
प्रसङ्गकान्तनैकानन्ताः सापवर्गो विपर्ययः ॥  
पूर्वपक्षविधानानुमतव्याख्यानसंशयाः ।  
अतीतानागतापेक्षास्वसंज्ञोद्यसमुच्चयाः ॥  
निर्दशनं निर्वचनं नियोगोऽथ विकल्पनम् ।  
प्रत्युत्सारस्तथोद्घारः सम्भवस्तत्रयुक्तयः ॥

*Aṣṭāṅgasanīgraha* 6.50.150–153 (As 1980: 959). *Carakasaṁhitā* 8.12.41b–45a

(Ca 1941: 736) reads almost the same. The only two variants are (1) अतीतानागतावेक्षा... and (2) निर्वचनं सनियोगो विकल्पनम्.

1019 Aruṇadatta on the *Aṣṭāṅgahṛdayasaṁhitā* 6.40.78 (Ah 1939: 946).

1020 AHS 1940: 1–2.

1021 We know from internal textual evidence that the *Siddhisthāna* of the *Carakasaṁhitā* in which the list of the *tantrayuktis* appear was originally authored by Drḍhabala, who lived in a town called Pañcanada sometime between 300 and 500CE.

Cf. अखण्डार्थ दृढबलो जातः पञ्चनदे पुरे ।  
कृत्वा बहुभ्यस्तन्त्रेभ्यो विशेषोऽल्लशिलोच्चयम् ॥  
सप्तदशौषधाध्यायसिद्धिकल्पैरपूरयत् ।

8.12.39–40a (Ca 1941: 735)

before the list of 36 *tantrayuktis*. In MS Kathmandu NAK 1/1648 (dated 1183CE, the oldest dated manuscript of the *Carakasamhitā* known to us), the reading of this verse is: षट्टिंशद्विर्विचित्राभिर्भूषितं तत्रयुक्तिभिः ॥ This number of 36 *tantrayuktis* perfectly agrees with the following list of the 36 *tantrayuktis*. A similar reading is found in Trikamji's 1933 *Carakasamhitā* edition which contains only the *mūla*-text.<sup>1022</sup> However, although most of the other editions consist of the same reading, a number of editions show quite a lot of discrepancies with the number. For example, Trikamji's 1941 edition of the *Carakasamhitā* reads the same half-verse as षट्टिंशता विचित्राभिर्भूषितं तत्रयुक्तिभिः । 8.12.41a (Ca 1941: 735). In the same edition, the reading of Cakrapāṇi's *Āyurvedadīpikā* supports the reading: षट्टिंशततत्रयुक्तिभिर्भूषितमपूरयहृष्टबल इति योजना. However, after this verse, the same edition consists of the versified list of the 36 *tantrayuktis* and commenting on these verses, the *Āyurvedadīpikā* confirms the total number of the *tantrayuktis* as 36: इत्येताः षट्टिंशततत्रयुक्तयोव्याहृताः ।<sup>1023</sup> Moreover, the edition of Rāmaprasāda Vaidyopādhyāya reads the half-verse as— पञ्चत्रिंशद्विचित्राभिर्भूषितं तत्रयुक्तिभिः.<sup>1024</sup> Rāmaprasāda Vaidyopādhyāya excludes *ūhya*.<sup>1025</sup> The same reading is found in Satīśacandra Śarmā's third edition of the *Carakasamhitā*.<sup>1026</sup> However, adding more troubles to it, Satīśacandra Śarmā, in his Bengali translation, says that there are 34 *tantrayuktis* (even though the main Sanskrit text of his edition counts 35). Then he in fact illustrates 36 *tantrayuktis* making a remark that states—

“in Gaṅgadhara’s reading, there are 36 *tantrayuktis* because he counts *saṃśaya* twice in his commentary. But 35 was reckoned in his *mūla*-text. Another manuscript reckons 34 *tantrayuktis* excluding *apadeśa*. This edition reads thirty-five instead of thirty-four or thirty-six.”<sup>1027</sup>

1022 षट्टिंशता विचित्राभिर्भूषितं तत्रयुक्तिभिः ॥ 8.12.70a (Ca 1933: 972).

1023 Ca 1941: 737.

1024 Ca 1911: 1913.

1025 Understanding the *tantrayukti samuccaya* as *asamuccaya*, he reads the verse where *ūhya* appears as— अतीतानागतापेक्षा स्वसंज्ञा ह्यसमुच्चयाः. Surely, this reading is erroneous as the plural ending after *samuccaya* does not make sense.

1026 Ca 1923: 1020. His first edition, however, reads the half-verse the same as the reading in Ca 1933. (Ca 1904: 884)

1027 “গঙ্গাধর পাঠ— তত্ত্বযুক্তি ছত্রিশ প্রকার। তিনি টীকাতে সংশয়কে দুই বার উল্লেখ করিয়া ছত্রিশ প্রকার গণনা করিয়াছেন, কিন্তু তাঁহার মূলে পঁয়ত্রিশ প্রকার আছে; এছান্তরে ৩৪ প্রকার আছে; তাহাতে অপ-

In the edition of Narendranātha Senagupta and Balāicandra Senagupta that includes Cakrapāṇi's *Āyurvedadīpikā* and Gaṅgādhara's *Jalpakalpataru*, the Sanskrit *mūla* and the *Jalpakalpataru* enumerate 36 *tantrayuktis*. However, in the same edition, the *Āyurvedadīpikā* reads, पञ्चत्रिंशतन्त्रयुक्तिभिर्भूषितमपूर्यद्वल इति योजना।<sup>1028</sup> Again, after the illustrations of the 36 *tantrayuktis* it reads, इत्येताः षड्द्विंशतन्त्रयुक्तयो व्याहृताः।<sup>1029</sup> In his edition of the *Tantrayuktivicāra*, Muthuswami also mentions that 35 *tantrayuktis* are reckoned in the *Carakasamñhitā*.<sup>1030</sup> Jivānanda Vidyāsagara's edition gives no number at all— तथा च ता विचित्राभिर्भूषितं तन्त्रयुक्तिभिः।<sup>1031</sup>

Commentaries on the *Carakasamñhitā* prior to Cakrapāṇi's *Āyurvedadīpikā*, such as the *Carakanyāsa* of Bhaṭṭāra Hariścandra (ca. mid-sixth century) or *Nirantarapadavyākhyā* of Jejaṭa (ca. 7th or 8th century BCE) do not help much because the extant portions of these commentaries do not include the concerned section of the 12th chapter of the *Siddhisthāna*. However, Hariścandra was possibly not aware of the total number and the list of the *tantrayuktis* in the final chapter of the *Siddhisthāna* because he discussed the *tantrayuktis* right at the beginning of his commentary and showed no indication to the awareness about the discussion on the *tantrayuktis* at the end of the text. Moreover, he discusses 40 *tantrayuktis* instead of 36. It is not yet settled whether or not Hariścandra was aware of Dṛḍhabala's redaction of the *Carakasamñhitā*. However, Hariścandra's treatment of the *tantrayuktis* supports the latter.<sup>1032</sup> It is clear from Cakrapāṇi's commentary on the *Carakasamñhitā* that in the version of the text he commented upon contained the four verses that list the 36 *tantrayuktis*. It is, however, not improbable that the four verses that list the 36 *tantrayuktis* were later added to the *Carakasamñhitā* sometime between the sixth (the date of Hariścandra) and the eleventh century (the date of Cakrapāṇi) and the discrepancy appeared when the previous verse that gives the total number of the *tantrayuktis* was not properly emended by the scribes complying with the following list of 36 *tantrayuktis*. There is a need of a critical edition of the twelfth chapter of the *Siddhisthāna* of the

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দেশ' ধর্তব্য হয় নাই। এই অনুবাদের মূলে চতুর্থিংশৎ বা ষট্ট্রিংশৎ স্থলে পঞ্চত্রিংশৎ লিখিত হইল।”  
Ca 1923: 1022.

1028 Ca 1928-33: III, 3814.

1029 Ca 1928-33: III, 3822.

1030 ‘पञ्चत्रिंशद्विंशतिभिर्भूषितं तन्त्रयुक्तिभिः।’ इति चरके। द्वार्तिशदिति सुश्रुतः। (TYV: 2, fn. 2).

1031 Ca 1877: 961.

1032 HIML: IA, 189.

*Carakasamhitā* to address these issues definitely.

### Commentaries

The commentators who extensively delved into the discussion of the *tantrayuktis* are Hariścandra, the author of *Carakanyāsa*, and Aruṇadatta (12th century),<sup>1033</sup> who authored his commentary *Sarvāṅgasundarī* on the *Aṣṭāṅgahṛdaya* of Vāgbhaṭa. Hariścandra meticulously defined and analyzed 40 *tantrayuktis* at the beginning of his work. The four additional *tantrayuktis* are: *paripraśna* (question), *vyākaraṇa* (grammatical clarification), *vyutkrāntābhidhāna* (overpassing statement) and *hetu* (means of knowledge).<sup>1034</sup>

Aruṇadatta, while discussing the concept of *tantraguṇa* at the end of the *Aṣṭāṅgahṛdaya*, provided an elaborate description of *tantrayuktis*, considering them as part of a system of ninety-five *tantraguṇas*. Śrīdāsa Paṇḍita (14th century), a commentator on the *Aṣṭāṅgahṛdaya*, echoed Aruṇadatta's exploration of *tantrayuktis* in the beginning of his commentary, *Hṛdayabodhikā*.<sup>1035</sup> Thus, both Hariścandra and Śrīdāsa Paṇḍita engage with this topic right at the beginning, underscoring the significance they attribute to the subject. Other noteworthy commentators who discussed the topic of *tantrayukti* are Cakrapāṇi (11th century) and Indu (sometime between 8th and 12th century). Cakrapāṇi and Indu defined and illustrated the *tantrayuktis* mentioned in the *Carakasamhitā* and the *Aṣṭāṅgasāṅgraha*, respectively. They affirm the inclusion of the four additional *tantrayuktis* in Hariścandra's list. Cakrapāṇi, aligning them with existing concepts, incorporates *paripraśna*, *vyākaraṇa*, and *vyutkrāntābhidhāna* under the *tantrayuktis* *ud-*

<sup>1033</sup> HIMAL: IA, 663–664.

<sup>1034</sup> This text has only been published once (only until the third chapter of *Sūtrasthāna*) by Masta Ram Shastri from Lahore in 1932/33. (HIMAL: IB, 290) Unfortunately, it is currently inaccessible to us. Although some fragmented manuscripts of the *Carakanyāsa* exist, for this section (Chapter 1, *Sūtrasthāna*), we were able to consult only MS MS Jamnagar GAU 114. This is a recent apograph with several lacunae and corruptions. The list of the *tantrayuktis* provided in the *Carakanyāsa* is as follows (with some emendations made in the reading): तच्चस्य युक्तयोऽधिकरणाद्याश्वत्वारिंशत्।... युक्तयस्तावदधिकरणं योगो हेत्वर्थं उद्देशो [निर्देश] उपदेशोऽपदेशोऽतिदेशः प्रदेशो निर्णयोऽर्थापत्तिवाक्यशेषः प्रयोजनं प्रसङ्ग एकान्तोऽनेकान्तो विपर्ययोऽपवर्गः पूर्वपक्षो विधानमनुमतं व्याख्यानं परिप्रश्नो व्याकरणमतीतपेक्षणमनागतापेक्षणं संशयः स्वसंज्ञोद्द्युः समुच्चयो निर्दर्शनं निर्वचनं नियोगो विकल्पः प्रत्युत्सार उद्धारः सम्भवो व्युत्कान्ताभिघानं हेतुरिति।

<sup>1035</sup> HIMAL: IA, 680.

*deśa*, *vyākhyāna*, and *nirdeśa*, respectively. According to him, *hetu* serves as an overarching term encompassing all *pramāṇas* (means of knowledge) such as *pratyakṣa* (perception) and others. Indu, however, outlines three possible reasons for not incorporating these *tantrayuktis* into the list: (1) they lack direct mention in the main text, (2) they could be considered as falling within the scopes of already enumerated *tantrayuktis*, or (3) they are not recognized as *tantrayuktis*.

Detailed discussions on the *tantrayuktis* also appear in the *Jalpakalpataru*, a nineteenth-century commentary on the *Carakasaṃhitā* by Gaṅgādhara Kavirāja from Bengal. Gaṅgādhara included the commentary with his *editio princeps* of the *Carakasaṃhitā*. He defines the *tantrayuktis* most often as defined in the *Suśrutasaṃhitā* making explicit quotations from the *Suśrutasaṃhitā* itself. Hence, this commentary serves as a testimonium for most part of the *tantrayukti* section of the *Suśrutasaṃhitā*.

### Monographs

Two texts authored by Āyurvedic scholars exclusively delve into the topic of *tantrayukti*. The first is the *Tantrayuktivicāra* by a physician named Nīlamegha (also known as Vaidyanātha), while the second is called the *Tantrayukti*, which is a sort of recast of the former by an anonymous author. The anonymous author describes himself as being from the same lineage as Nīlamegha and asserts that Nīlamegha belongs to the same lineage of Bhiṣagārya (also known as Nārāyaṇa Bhiṣaj). Both Nīlamegha and the author of *Tantrayukti* are likely from Kerala or coastal Karnataka.<sup>1036</sup> According to Kolatteri Saṅkaramenon and Meulenbeld, Nīlamegha flourished in the first half of ninth century.<sup>1037</sup> The *Tantrayukti*

<sup>1036</sup> Kolatteri Saṅkaramenon, the first editor of the *Tantrayuktivicāra*, believes that Nīlamegha hails from Kerala. This conclusion is drawn from Nīlamegha's reference to his guru as Sundara, whom Saṅkaramenon identifies as the same individual credited with composing the *Lakṣaṇāmṛta*, a treatise on toxicology. This assertion is plausible because the only known manuscript of *Tantrayuktivicāra* belongs to a member of one of the Aṣṭavaidya families of Kerala, aligning with the Vāgbhaṭa school, to which Nīlamegha also belongs. ( (HIML: IIA, 143)) On the other hand, the anonymous author of the *Tantrayukti* associates Nīlamegha with the lineage of Bhiṣagārya, who hails from Uṇṭuru, a village located 3 kilometers from Gokarṇa which is in coastal Karnataka. (TY: 30).

<sup>1037</sup> Nīlamegha mentions Vāhaṭa (Vāgbhaṭa), Indu, and Jejjāṭa in his work. This places him definitively after the seventh century. The Buddhist influence in the *Tantrayukti*

was very likely composed after the sixteenth century.<sup>1038</sup>

Nīlamegha's *Tantrayuktivicāra* is a versified text accompanied by an autocommentary. The text comprises eighteen verses plus a hemistich, resulting in a total of 37 hemistichs. Each hemistich serves as a definition for a *tantrayukti*. Nīlamegha enumerates a total of 36 *tantrayuktis*, as mentioned in the *Aṣṭāṅgasaṅgraha* and *Carakasaṃhitā*. The additional hemistich defines *aviparyaya*, which, according to Nīlamegha, is sometimes considered instead of *viparyaya*. This substitution occurs when one understands that the negative prefix *a-* is deleted due to a *pūrvavarūpa sandhi*—*sāpavargah* + *aviparyayah* → *sāpavargo viparyayah* (See footnote 1018.).

The text of the *Tantrayukti* includes some verses at the beginning and end, where the author discusses the lineage of Nīlamegha. The author explicitly states that his text is a revised version of Nīlamegha's *Tantrayuktivicāra* because the available manuscripts were mostly corrupt.<sup>1039</sup> It is evident that there are substantial reproductions of parts of the *Tantrayuktivicāra* and its autocommentary. The total number of *tantrayuktis* and their enumeration remains identical to that of the *Tantrayuktivicāra*. What distinguishes it from the *Tantrayuktivicāra* is the incorporation of a list of other *tantraguṇas* and 14 *tantradoṣas*. This list of *tantraguṇas* includes 15 types of *vyākhyā*, 7 types of *kalpanā*, 20 types of *āśraya*, and 17 types of metaphoric and metonymic devices, such as *tācchīlya* and so on.

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indicates a date not much later than 800CE. (TYV: अवतारिका ५-६, HIML: IIA, 143.)

<sup>1038</sup> From the explicit mention of Nīlamegha and Bhiṣagārya in the work *Tantrayukti*, we can say that the author flourished after them. Determining the date of Bhiṣagārya is problematic. However, since the Kairalī commentary on the *Aṣṭāṅgahṛdayasaṃhitā* frequently quotes from Bhiṣagārya's *Abhidhānamāñjari*, it indicates that Bhiṣagārya predates the composition of this commentary. Meulenbeld suggests the end of the seventeenth century as the terminus post quem for the Kairalī (HIML: IA, 675). Moreover, he views *Abhidhānamāñjari* as a work composed after the sixteenth century, citing details within it that affirm its posteriority to the *Rājanighaṇṭu* and *Bhāvaprakāśa* (HIML: IIA, 442).

<sup>1039</sup> वैद्यनाथोपसृष्टानां लक्ष्यलक्षणवाग्जुषाम् ॥  
तासां प्रायः प्रकाशानां दुर्लेखापङ्कटूष्णात् ।  
क्रियते साम्रतं कृच्छादुद्धृत्य परिमार्जनम् ॥

TY: 1

## Tantrayukti-inventories

It is evident from the discussion on the early sources that all these listings of the *tantrayuktis* in the early sources can be grouped into two categories. For the ease of our following discussion, we name these two inventories as (1) earlier listing and (2) later listing.

### Earlier Listing

The four inventories of *tantrayuktis* from the *Arthaśāstra*, *Suśrutasamhitā*, *Viṣṇudharmottarapurāṇa*, and *Saddanīti* belong to what we call the “earlier Listing.” The reason to call this listing as “earlier listing” is: two early Sanskrit texts, viz., the *Arthaśāstra* and the *Suśrutasamhitā* consists of this listing. The Tamil list of the *tantrayuktis* as found in the *Tolkappiyam* also belongs to this group, even though not all of the *uttis* in this list might correspond accurately to the Sanskrit and Pali lists. A defining characteristic of this listing is that each inventory explicitly states the total number of *tantrayuktis* as thirty-two.<sup>1040</sup> Even though there are sometimes different *tantrayuktis* enumerated in different lists, the total count always remains consistent at 32. As demonstrated in Table 10, the Sanskrit and Pali lists are similarly ordered and are always accompanied by similar or identical definitions. This list appears across diverse disciplines.

### Later Listing

The “later listing” is the one we find in the *Aṣṭāṅgasaṅgraha*, *Caraka-saṃhitā*, the commentaries on the *Carakasaṃhitā*, *Aṣṭāṅgasaṅgraha* and *Aṣṭāṅgahṛdayasaṃhitā* and the two monographs, the *Tantrayuktivicāra* and *Tantrayukti*. This list has sprung from a single source—a versified list of thirty-six *tantrayuktis* comprising four verses that appear in the *Aṣṭāṅgasaṅgraha*, *Carakasaṃhitā* and Aruṇadatta’s commentary on the *Aṣṭāṅgahṛdayasaṃhitā*. It remains unclear whether these verses initially

<sup>1040</sup> तद् द्वार्तिशाद् युक्तियुक्तम्। (5.1.3 Kangle 1965: 1, 280) “that (*Arthaśāstra*) is furnished with thirty-two logical methods of the system”, तत्र द्वार्तिशत् तत्त्वयुक्तयो भवन्ति। (*Suśrutasamhitā*6.64.2) “there are thirty-two logical methods of the system”, battimṣa tantiyutiyotiyo bhavanti/ (*Suttamālā*, 28 *Saddanīti* 3: 920) “there are thirty-two logical methods of the system”, எண்ணான்கு உத்தியின்... “It employs thirtytwo rules of criticism regarding writing.” (*Nannūl*: 9–10)

appeared in the Dr̥ḍhabala's redaction of the *Carakasañhitā* or Vāgbhaṭa's *Aṣṭāṅgasaṅgraha*. Unlike the "earlier Listing," this list lacks definitions of the *tantrayuktis*. Definitions and illustrations are given by the authors of the commentaries and monographs as discussed in the previous section. Although Hariścandra's list includes 40 *tantrayuktis* instead of 36, his enumeration aligns more closely with "later listing" than the earlier one. Despite the earlier listing's cross-disciplinary appearance, the later listing notably influences the field of Āyurveda, likely due to the popularity of Vāgbhaṭa's works. The *Suśrutasaṃhitā*, incorporating the "earlier listing" distinguishes itself among Āyurvedic texts that list the *tantrayuktis*.

## Terminology

The terms have been translated into English in numerous books and articles. English renditions of the terms can be found in English translations of the *Suśrutasaṃhitā* such as in Singhal and J. Mitra 1980: 171–172, and P. V. Sharma 1999–2001: 3, 631–639; in translations of the *Carakasañhitā* such as in R. K. Sharma and B. Dash 2006: 436–444 and in Shree Gulabkunverba Ayurvedic Society 1949: 1050, in the translation of the *Arthaśāstra* such as in Shama Sastry 1951: 459, Kangle 1965: 593, Unni 2006: 1103 and Olivelle 2013, and by K. Srikanta Moorthy in TYV: Appendix xi–xxxiv. They are also found in various books and articles dedicated to discussing the *tantrayuktis* such as in Oberhammer 1968: 601–602, Solomon 1976–78: 1, 72, Lele 1981: 34–155, 2006: 36–150 and so on. German translations of the terms can be found in Meyer 1926: 663–664 (German translation of the *Arthaśāstra*) and in Preß and Prandstetter 1991–2006.

The definitions of *tantrayuktis* exhibit numerous variations across different texts. Here we will discuss each of the *tantrayuktis* that occur in the *Suśruta Saṃhitā* in comparison with their definitions in other texts. As indicated in Table 10, the definitions of *tantrayuktis* in the *Suśrutasaṃhitā* are frequently either identical or nearly identical to those found in the *Arthaśāstra*, *Viṣṇudharmottarapurāṇa* and *Saddanīti*. Therefore, unless the definitions in these two texts notably deviate from those in the *Suśrutasaṃhitā*, we will not make explicit references to them in the subsequent elucidation of the terms.

## 1. *adhikarāṇa*

*Adhikarāṇa* appears as the first *tantrayukti* in all traditional enumerations. It is among those *tantrayuktis* for which there is little disagreement concerning its definition. This *tantrayukti* functions as a structural and interpretative device. With a tautological expression, the *Suśrutasaṃhitā* defines *adhikarāṇa* as something, with reference to which statements are made. While defining *adhikarāṇa*, the text employs the same verb, *adhi- kr-* (to refer), whence the noun *adhikarāṇa* has been derived. The text supplies examples of *rasa* (taste) and *dosa* (humour), for which two chapters of the *Uttaratantra*, namely chapter 62 (*Kāyacikitsā* 27) and chapter 65 (*Kāyacikitsā* 30) are dedicated.<sup>1041</sup> Clearly, *adhikarāṇa* is the topic or theme.

Cakrapāṇi and Gaṅgādhara define *adhikarāṇa* in almost the same way as does the *Suśrutasaṃhitā*.<sup>1042</sup> Aruṇadatta's definition is similar but he specifies that *adhikarāṇa* can be of an entire discipline (*śāstra*), or a book (*sthāna*) of it, or a chapter (*adhyāya*), or a section (*prakarāṇa*), or even of a sentence (*vākya*).<sup>1043</sup> Śrīdāsa Paṇḍita follows Aruṇadatta.<sup>1044</sup> However, in the commentaries of Hariścandra and Indu, we explore two more aspects of the concept of *adhikarāṇa*. According to Hariścandra, *adhikarāṇa* is the reason or ground referring to which the authors direct their discourse. For example, diseases create misery and the authors of Āyurveda began their discussion addressing them.<sup>1045</sup> Thus disease is the *adhikarāṇa* or theme of their discussion. Indu identifies *adhikarāṇa* as a binding force that links ideas. According to him, *adhikarāṇa* as an introductory reference and it exposes a general statement to a specific context.<sup>1046</sup>

Nilamegha defines *adhikarāṇa* using the Paninian terminology. According to him, *adhikāraṇa* is the locus in which the *tātparya*, "reference" lies.<sup>1047</sup> *Adhikarāṇa* is one of the six *kāraka-s* (a sort of semantic roles recognized by

1041 They are chapters 63 and 66 in A (*Su* 1938: B).

1042 यर्मथमधिकृत्य प्रवर्तते कर्ता। यथा “विघ्नभूता यदा रोगा” इत्यादि। अत्र रोगादिकमधिकृत्यायुर्वदो महर्षिभिः कृत इति ‘रोगाः’ इत्यधिकरणम्। *Āyurvedadīpikā* (*Ca* 1941: 736). तद् यर्मथमधिकृत्योच्चते; *Jalpalakalpataru* (*Ca* 1928-33: III, 3815).

1043 तत्र अधिकरणं नाम, यदधिकृत्य प्रवर्तते शास्त्रं स्थानमध्यायं प्रकरणं वाक्यं वा।... (*Ah* 1939: 947).

1044 *AHS* 1940: 2.

1045 तत्राधिकरणं नाम यन्निमित्तमधिकृत्य प्रवर्तते कर्ता।... उत वा विघ्नभूता यदा रोगाः प्रादुर्भूताः तदिदं निमित्तमधिकृत्य जगदनुकम्पया महर्षिभिरयमायुर्वद् आगमः। एवमधिकरणव्याख्या वर्णयितव्या। MS MS Jamnagar GAU 114, p.4-5.

1046 अधिकरणं प्रस्तावः सामान्येनोक्तमप्यर्थजातं यद्वलाद्विशेषेऽवस्थाप्यते तदधिकरणम्। (*As* 1980: 959).

1047 तत्राधरोऽधिकरणं तात्पर्यं तत्र तिष्ठति। १ *TYV*: 2.

Sanskrit grammarians). Pāṇini calls it a locus (*ādhāra*).<sup>1048</sup> Through metaphorical extensions, the idea of a locus can apply to abstract domains and not merely to physical locus. In traditional Sanskrit grammar, a metonymic or metaphorical domain is called *vaiśayika adhikaraṇa*. Patañjali considers *vaiśayika* as one of the three types of *adhikaraṇa*.<sup>1049</sup> Nīlamegha applies this idea to his definition of the *tantrayukti adhikaraṇa*. He quotes *Aṣṭāṅgahṛdayasamhitā Sūtrasthāna* 1.5b-6a and explains how the eight limbs of Ayurveda serve as the *adhikaraṇas* of *cikitsā* “treatment”. In Nīlamegha’s understanding, *adhikaraṇa* “theme” is the domain of a reference. The *Tantrayukti* repeats Nīlamegha’s idea but it also adds different types of *adhikaraṇa* as suggested by Aruṇadatta.

In the *Tolkāppiyam*, however, the equivalent expression for this *tantrayukti* remains unclear, as commentators, namely Ilampūraṇar and Pērāciriyan, list the item differently. In Sastri’s translation of the *Tolkāppiyam*, *adhikaraṇa* was identified with *atikāra murai*, the second element in Ilampūraṇar’s list. Sastri translates this expression as “deciding the extent where one serves as *adhikāra sūtra* or a word or words in a *sūtra* taken along with the *sūtra*-s that follow.”<sup>1050</sup> However, Dikshitar, in his brief article on the *tantrayuktis*, equates *adhikaraṇa* with *nutaliyatu arital*, the first element in Pērāciriyan’s list, and translates it as “that division of a book which centers around a chief topic and deals wholly with that topic.”<sup>1051</sup> Clearly, Dikshitar’s interpretation stands close to our definition of *adhikaraṇa*. Sastri’s interpretation, on the other hand, corresponds to the concept of *adhikāra* “heading” and *anuvṛtti* “recurrence” in the *sūtra* literature, especially in Pāṇini’s *Aṣṭādhyāyī*.<sup>1052</sup>

The translators usually translated this *tantrayukti* as “topic” or “subject matter”.

## 2. *yoga*

This *tantrayukti* typically occupies the second position in most lists, except in the *Arthaśāstra* where it appears third following *vidhāna*. Functioning as a syntactic and semantic tool, *yoga*, as defined in the *Suśrutasam-*

<sup>1048</sup> आधारोऽधिकरणम्। *Aṣṭādhyāyī* 1.4.45.

<sup>1049</sup> On *Aṣṭādhyāyī* 6.1.72 *Mahābhāṣya*: 3, 51.

<sup>1050</sup> P. S. S. Sastri 2002: 233.

<sup>1051</sup> Dikshitar 1930: 85

<sup>1052</sup> See Chevillard 2009: 111.

*hitā*, represents the faculty responsible for the cohesion of a sentence. If we consider the main purpose of the *tantrayuktis* as narrated in the *Suśrutasamhitā*, namely, cohesion of a sentence (*vākyayojana*) and cohesion of meaning (*arthayojana*), it becomes evident that this *tantrayukti* is one of the fundamental *tantrayuktis* functioning as the device for *vākyayojana*. The *Suśrutasamhitā* further describes *yoga* as a syntactic connection between words, facilitating the linking of words even when they are in reverse order or placed apart. However, this paraphrased statement is absent in the vulgate; instead, it appears in the commentary of Dālhana with a minor variation.<sup>1053</sup> The definitions of *yoga* in the *Viṣṇudharmottarapurāṇa* and *Arthaśāstra* closely mirror that of the *Suśrutasamhitā*. However, the *Viṣṇudharmottarapurāṇa*'s definition introduces a slight variation by including the term *artha* "meaning". According to this definition, *yoga* is that by which the meaning of a sentence coheres. The *Arthaśāstra* employs a nominalized verb in a compound noun instead of a relative clause—*vākyayojanā* "connecting a sentence". The definition we find in the *Saddanīti* is close to the paraphrased part of the definition of the *Suśrutasamhitā*.<sup>1054</sup>

For illustration, a verse from chapter 18 of the *Cikitsāsthāna* is quoted in the *Suśrutasamhitā*—

तैलं पिबेच्चामृतवल्लिनिम्बहंसाह्यावृक्षकपिप्पलीभिः ।  
सिद्धं बलाभ्याच्च सदेवदारु हिताय नित्यं गलगण्डरोगे ॥<sup>1055</sup>

In this verse, the noun sesame oil (*tailam*) appears at the beginning of the first hemistich, while its adjective cooked (*siddham*) is placed at the beginning of the final hemistich. Despite not being colocated, the *tantrayukti* *yoga* effectively connects them, facilitating our comprehension of the intended meaning. Evidently, this exemplifies a device for linking words within a sentence.

In the commentaries of Hariścandra, Indu, Cakrapāṇi and Aruṇa, however, the *tantrayukti* *yoga* is used in a broader sense. In these interpretations, *yoga* serves not only as a device for cohesion within a sentence but also fosters coherence among sentences in a discourse. Hariścandra identifies three alternative interpretations of *yoga*.<sup>1056</sup> Aruṇadatta also

<sup>1053</sup> See 6.65.9 (Su 1938: 815).

<sup>1054</sup> See Table 10.

<sup>1055</sup> 4.18.47 (Su 1938: 474).

<sup>1056</sup> योगो नाम योजना ग्रन्थानां यथार्थसूत्रभाष्यसूत्रयोः... पञ्चलक्षणो वा योगः । प्रतिज्ञाहेतदाहरणनिगमनानि... यद् इह युज्यते स योग इत्येके । (MS Jamnagar GAU 114, p.5.)

interprets *yoga* in a similar fashion but instead of three alternatives he talks about the first two alternatives of Hariścandra. In the first alternative, *yoga* is coherence between the main statement (*sūtra*) and its gloss (*bhāṣya*). Aruṇadatta expands its scope to coherence between mention (*uddesā*) and description (*nirdeśa*) as well.<sup>1057</sup> In the second alternative, *yoga* is reasoning (*yukti*) having five types: (1) *pratijñā* “proposition”, (2) *hetu* “reason”, (3) *udāharāṇa* “exemplification” (4) *upanaya* “application”, and (5) *nigamana* “conclusion”, resembling the five-membered syllogism of inference (*anumāna*) in the Nyāya-Vaiśeṣika school.<sup>1058</sup> Śridāsa Paṇḍita’s comment is similar to that of Aruṇadatta.<sup>1059</sup> Hariścandra also notes a different understanding of this *tantrayukti* by some others. In this sense, *yoga* is connectedness. This alternative definition is close to that of the *Suśrutasaṃhitā*. In Indu’s interpretation, *yoga* is lexical cohesion, as he understands *yoga* as a relation between a word and its meaning or a sentence and its meaning.<sup>1060</sup> Cakrapāṇi, while defining *yoga* in a fashion similar to the *Suśrutasaṃhitā*, exemplifies it as a connection between five logical elements, namely *pratijñā*, *hetu*, *udāharāṇa*, *upanaya* and *nigamana*, conflating the definition of *yoga* with Hariścandra’s second alternative i.e. *yoga* is reasoning (*yukti*).<sup>1061</sup> Nīlamegha defines *yoga* as connecting words one by one coherently.<sup>1062</sup> As he further explains in the autocommentary with examples from the *Aṣṭāṅgahṛdayasaṃhitā*, it is evident that he understands *yoga* as coherence between a part of a sentence and the discourse.<sup>1063</sup> Neither V. R. Ramachandra Dikshitar nor P. S. Subrahmanya Sastri identified the *tantrayukti* *yoga* with any *utti* mentioned in the *Tolkāppiyam*.<sup>1064</sup>

The word *yoga* derives from the Sanskrit root  $\sqrt{yuj}$  “to connect” with the primary suffix *GHaṄ*, which is often used for creating action nouns. In Sanskrit technical literature, the term *yoga* is used in a broad sense to mean any kind of linguistic connection or connectedness. In the *Aṣṭādhyāyī* of

<sup>1057</sup> योगे नाम योजना, उद्देशनिर्देशयोः सूत्रभाष्ययोर्वा। *Sarvāṅgasundarī* on 6.40.80 (Ah 1939: 947).

<sup>1058</sup> युक्तिर्वा योगः, प्रतिज्ञा हेतुर्दृष्टान्तं उपनयो निगमनमिति पञ्चविधः। 6.40.80 (Ah 1939: 947).

<sup>1059</sup> AHS 1940: 2.

<sup>1060</sup> योगे नाम योगः सम्बन्धः स च पदार्थयोर्वाक्यार्थयोर्वा। *Śaśilekhā* on 6.50.150a (As 1980: 959).

<sup>1061</sup> योगे नाम योजना व्यस्तानां पदानामेकीकरणम्। उदाहरणं तावद्यथा प्रतिज्ञाहेतुदाहरणोपनयनिगमनानि। 8.12.41 (Ca 1941: 736).

<sup>1062</sup> योगः पदानामेकमर्थाचित्येन योजना। 2 TYV: 3.

<sup>1063</sup> TYV: 3.

<sup>1064</sup> Chevillard 2009: 84.

Pāṇini, it often refers to the connection with a word or a word-element.<sup>1065</sup> Hence, it refers to a morphosemantic or syntaco-semantic connection. Patanjali uses this term several times in his *Mahābhāṣya*. In the *Suśrutasaṃhitā* the word *yoga* is primarily used to mean the connection between words in a sentence. According to this definition and illustration, it is primarily intra-sentential cohesion. Unlike the later commentators on the works of Caraka and Vāgbhaṭa, it does not extend the scope of this term to inter-sentential cohesion and coherence. Keeping in mind such definition given in the *Suśrutasaṃhitā*, we translate the term as cohesion even though no other translators of the *tantrayuktis* used this translation. In some other contexts, however, *yoga* can be extended to coherence. Both coherence and cohesion are derived from the Latin verb *cohaere-* (<*con-* “with” *haereō* “cling”) “to cling together.” In other translations of the *tantrayuktis* (see p. 347), *yoga* is variously translated as employment, arrangement, conjoiner, connecting, concomitance, uniting, union, rational linking, joining and so on. We preferred the term cohesion because the other options are either too narrow or too vague. ‘Employment’ is rather *prayoga*, not *yoga*. ‘Rational linking’ disregards the grammatical aspect of *yoga*. ‘Conjoiner’, ‘connecting’, ‘union’, ‘uniting’ or ‘arrangement’ are vague and they do not reflect the technical import of the term *yoga*.

### 3. *padārtha*

In the earlier listing, *padārtha* follows *yoga*, while in the later listing, this *tantrayukti* is enumerated after *hetvartha*, possibly due to metrical requirements. The *Suśrutasaṃhitā* dedicates more words to describing this *tantrayukti* than any other early texts.

The description in the *Suśrutasaṃhitā* commences with the definition of *padārtha*, which is articulated as the meaning conveyed in an aphorism or a word. It then delves into the literal interpretation of the term *padārtha*. The straightforward meaning of the compound *padārtha*, obtained by dissecting its components—*pada* “word,” and *artha* “meaning”—is “the meaning of one or more words.” After presenting the literal interpretation of *padārtha*, the *Suśrutasaṃhitā* provides the rationale why mere word meanings cannot suffice as the *tantrayukti padārtha*—since a word or words may have multiple meanings. Therefore, as a *tantrayukti*, the term *padārtha* denotes the

<sup>1065</sup> Joshi and Roodbergen 1991: 64.

meaning of a word or words within a specific context.<sup>1066</sup> Ḏalhaṇa also supports this perspective, indicating that the term *padārtha* refers to a specific meaning of a word or words.<sup>1067</sup>

In (*Su* 1938), a variant reading of the definition of *padārtha* is noted: सूत्रपदे in the place of सूत्रे पदे वा. It remains unclear which reading was available to Ḏalhaṇa. He proposed an etymological meaning of the word *pada*, defining it as that by which a meaning is understood, and includes *sūtra* under the semantic scope of *pada*. Essentially, he viewed *sūtra* as a type of *pada* because, by conveying a meaning, a *sūtra* falls under the category of *pada*, which by definition signifies a meaning-conveying unit. This interpretation does not separate *sūtra* and *pada* as mutually exclusive entities. Thus, if Ḏalhaṇa's reading of the text is सूत्रे पदे वा, he perceived *pada* as a synonym or an alternative term for *sūtra*. On the other hand, if the reading was सूत्रपदे, he understood the meaning of the word सूत्रपदे as *pada* (a meaning-conveying unit) in the form of a *sūtra*. The editor of (*Su* 1938) offered a more straightforward explanation of the variant reading सूत्रपदे—a word (*pada*) in a *sūtra* is a *sūtrapada*.<sup>1068</sup> The *Viṣṇudharmottarapurāṇa* adopts a definition of *padārtha* close to this variant reading.<sup>1069</sup>

The *tantrayukti padārtha* is illustrated with two examples in the *Sūrtasamhitā*. In the first example, three polysemous words—*sneha*, *sveda* and *abhyāñjana*—are provided. Ḏalhaṇa gave various meanings of these words—*sneha* can mean lubricity or grease or affection; *sveda* can mean sauna either with fire (*sāgnī*) or without fire (*niragnī*); *abhyāñjana* may mean the black eye make-up or oil rub (*abhyāṅga*).<sup>1070</sup> In the case of such polysemy, *padārtha* or relevant meaning will be the meaning which coheres with the prior and subsequent elements (*pūrvāparayogasiddha*). The definition of this *tantrayukti* in *Saddanīti* corresponds to this explanation.<sup>1071</sup> Thus, *padārtha* is that meaning which fits the context.

The second example is taken from the very beginning of the first chapter

<sup>1066</sup> See fn. 1120.

<sup>1067</sup> अयुना बहुषु पदार्थेषु निर्धार्य विशिष्टपदार्थग्रहणाय पदार्थबहुत्वं प्रतिपादयति— अपरिमिता इत्यादि। Ḏalhaṇa on 6.65.10 (*Su* 1938: 816).

<sup>1068</sup> अन्ये तु सूत्रपदे इति पठित्वा व्याख्यानयन्ति--- सूत्रस्य पदं सूत्रपदं तस्मिन् योऽर्थः स पदार्थः। fn.2 (*Su* 1938: 813).

<sup>1069</sup> See table 10.

<sup>1070</sup> तत्र स्वेदशब्दे निर्दिष्टे हि गुणत्रेमसर्पिषां त्रयाणामर्थानामुपपत्तिर्दृश्यते, स्वेदशब्देनापि साम्निराम्निकयोरूष्मणोः प्राप्तिः, अञ्जनशब्देनापि नयनाञ्जनाभ्यङ्गयोः प्राप्तिः। Ḏalhaṇa on 6.65.10 (*Su* 1938: 816).

<sup>1071</sup> See table 10.

of the *Sūtrasthāna* that says वेदोत्पत्तिमध्यायं व्याख्यास्यामः, “I shall narrate the chapter on the origin of knowledge (*veda*).” The problem is, what does this word “*veda*” refer to? Is it the *Veda*, as in *Sāmaveda*? Or something derived from the roots  $\sqrt{vi(n)d}$  or  $\sqrt{vid}$ ? Context (“prior and subsequent elements”) can help us to know that “*veda*” means only *āyurveda* and that the *Suśrutasamhitā* is talking about the origin of *āyurveda*, specifically. The same issue is also addressed by Dalhana at 1.1.1 ([Su 1938:1](#)).

Among the texts of the early listing, the *Arthaśāstra* presents a notably distinct definition of *padārtha*. Here, it is defined as that which has its limit within the word.<sup>1072</sup> Though somewhat ambiguous, this definition implies that *padārtha* is the referent indicated by a word or in other words, *padārtha* is the scope of meaning that corresponds to a word. Hence, this definition of *padārtha* does not necessarily refer to a contextual meaning. It indirectly suggests that *padārtha* is basically the meaning of a word.

Similar to *Arthaśāstra*’s understanding, the commentators Hariścandra, Indu, Cakrapāṇi, Aruṇadatta and Śrīdāsapaṇḍita interpret *padārtha* as the referents indicated by a word. However, by this time, the term *padārtha* became an important point of discussion among certain philosophical schools, particularly Vaiśeṣika and Nyāya.<sup>1073</sup> In the Vaiśeṣika ontology, *padārtha* is the term used for denoting the fundamental ontological categories. Such a wider use of the term among philosophical schools also influenced the *Bṛhattrayī* commentators, most prominently Hariścandra, whose interpretation of *padārtha* aligns with the framework of Vaiśeṣika philosophy. Following the Vaiśeṣika doctrine, he lists six types of *padārthas*, namely, substance (*dravya*), attribute (*guṇa*), movement (*karman*), universality (*sāmānya*), individuality (*viśesa*), and inherence (*saṃavāya*).<sup>1074</sup> In his understanding, a word (*pada*) is a universal category that may have several referents called *padārtha*. While other commentators such as Indu, Aruṇadatta, Śrīdāsa Paṇḍita follow Hariścandra while defining this *tantrayukti* and cite Vaiśeṣika *padārthas* such as *dravya* or *guṇa* as instances of *padārtha*, it is not clear whether they endorse the Vaiśeṣika

<sup>1072</sup> पदावधिकः पदार्थः । (15.1.10 Kangle 1965: 1, 280).

<sup>1073</sup> The concept *padārtha* is also discussed by grammarians such as Patañjali and others.

For the treatment of the term *padārtha* in different Indian philosophical schools, see Prets and Prandstetter 1991–2006: 2, 153–154.

<sup>1074</sup> पदार्थो नाम य एकेन पदेनानेकार्थो गम्यते । यथा द्रव्यं गुणः कर्म सामान्यं विशेषः समवायः ।. MS Jamnagar GAU 114, p.6.

interpretation.<sup>1075</sup> Cakrapāṇi adopts the literal definition of *padārtha* as mentioned in the *Suśrutasamhitā*. With examples, he emphasizes that word-meaning (*padārtha*) can stem from one word, two words or more.<sup>1076</sup> Gaṅgādhara, however, defined *padārtha* in the line of the *Suśrutasamhitā* considering *padārtha* as relevant word sense.<sup>1077</sup>

Nīlamegha presents a distinct perspective, defining *padārtha* as polysemy within a given context.<sup>1078</sup> In his autocommentary, he also acknowledges another viewpoint that perceives *padārtha* as synonymy within a context.<sup>1079</sup> The author of the *Tantrayukti* merely quoted Nīlamegha's statements on this matter while incorporating the additional definition of *padārtha* found in commentaries such as those of Aruṇadatta, Indu, or Śrīdāsa Paṇḍita.<sup>1080</sup> Neither V. R. Ramachandra Dikshitar nor P. S. Subrahmanyam Sastri identified the *tantrayukti padārtha* with any *utti* mentioned in the *Tolkāppiyam*.<sup>1081</sup>

From the discussion above, it is clear that *Suśrutasamhitā*'s understanding of the *tantrayukti padārtha* is distinct from its definition offered by the later commentators of the works of Dṛḍhabala and Vāgbhaṭa. The *Arthaśāstra*, which most often defines the *tantrayuktis* similarly to the *Suśrutasamhitā*, provides a definition of *padārtha* that is closer to the understanding of the commentators such as Hariścandra and so on. In the *Suśrutasamhitā*, *padārtha* is not merely the meaning of a word or words but the meaning arising within a particular context or co-text. It is the result of

<sup>1075</sup> पदार्थो नाम येनार्थो गम्यते । यथा गुर्वादयो गुणशब्दादवगम्यते । *Śaśilekhā* on 6.50.150a (As 1980: 959).

पदार्थो नाम, पदेनार्थो गम्यते । यथा द्रव्यमिति पदं, तस्यार्थो भूजलादिः । गुण इति पदं तस्यार्थो गुर्वादिः । *Sarvāṅgasundarī* on 6.40.80 (Ah 1939: 947). The same reading appears in *Hṛdayabodhikā* (AHS 1940: 2).

<sup>1076</sup> पदस्य पदयोः पदानां वाऽर्थः पदार्थः । तत्र द्रव्यमिति पदेन खादयश्चेतनाषष्ठा उच्यन्ते; पदयोरर्थो नाम यथा—‘आयुषो वेद’ इति पदयोरायुर्बोधकं तत्त्वमित्यर्थः, एवं पदानामप्यर्थं उदाहार्यः । *Ayurvedadīpikā* on 8.12.41 (Ca 1941: 736).

<sup>1077</sup> अर्थः पदस्य चेति पदार्थो नाम तत्त्वयुक्तिः सा योऽर्थोऽभिहितः सूत्रे पदे वा । पदार्थस्त्वनेकस्तत्र योऽर्थः पूर्वापरयो-गसिद्धो भवति सोऽर्थो ग्राह्यः । *Jalpakalpataru* on (Ca 1928-33: 3, 3816).

<sup>1078</sup> पदार्थस्तु पदैक्येऽपि भिन्नमर्थं प्रकाशयेत् । 4 *TYV*: 4.

<sup>1079</sup> केचिच्चु “पदार्थः पदभेदेऽपि न भेदः पुनरर्थतः ।” / *TYV*: 5.

<sup>1080</sup> पदार्थस्तु य ऐक्येऽपि भिन्नमर्थं प्रकाशयेत् ।

... पदार्थेऽपि च भेदेऽपि न भेदः पुनरर्थतः ।

पदेन योऽर्थो ज्ञायते यथा गुर्वादयो गुणे ॥

*TY*: 8–10.

<sup>1081</sup> Chevillard 2009: 84.

word sense disambiguation. Singhal and Mitra translates *padārtha* as “context.” However, *padārtha* denotes not the context but rather the meaning intended in a context or co-text. Most other translators render this term as “import of words,” which fits better in this case. The translation chosen here is “relevant meaning” because in the *Suśrutasaṃhitā*, *padārtha* refers to the meaning that is relevant within a context or co-text.

### 3. *hetvartha*

*Hetvartha* appears after *padārtha* in the earlier listing and before *padārtha* in the later listing. The word *hetvartha* is a compound of two words—reason (*hetu*) and purpose (*artha*). Although the term *hetvartha* is present in all lists of the *tantrayuktis*, it has not been lexicalized as a compound word. Thus, we need to understand the term through its components—*hetu* and *artha*. Depending on the meaning of the word *artha*, the word *hetvartha* can have different meanings. For example, Bhattoji Dīkṣita uses the term *hetvartha* to mean simply the sense of a cause.<sup>1082</sup> As a *tantrayukti*, *hetvartha* is a logical device that serves as the purpose (*artha*) of a reason (*hetu*).

The *Suśrutasaṃhitā* provides an analytical definition of *hetvartha*, where it is described as a statement functioning as a premise (*sādhana*). The text supplies an example about moistening of wounds by milk etc. on the basis of the known fact that water moistens a lump of earth. Notably, the word *ukta* in the definition likely does not imply an explicit statement in the text. As appears in the example, it can be a known fact from the outside world that aids in predicting a similar case related to our body.<sup>1083</sup> The *Suśrutasaṃhitā* does not mention that water moistens a lump of earth; this is understood from general empirical knowledge. The *Suśrutasaṃhitā* prescribes moistening of a wound in certain cases but does not explicitly state how to do so. The knowledge that milk and similar substances can be used to moisten a wound derives from the empirical knowledge of moistening a lump of earth with water. The causal relationship between water and moistening a lump of earth serves a purpose elsewhere as a premise for

1082 हेत्वर्थं तृतीया स्यात् | SiddhKau: 137.

1083 Cf. अत्र बाह्येन मृतिपण्डव्यान्तेन माषदुग्धयोगादिभिराभ्यन्तरो व्रणप्रक्लेदः साध्यते | Dalhana on 6.65.11 (Su 1938: 813).

understanding the causal relationship between milk or other similar substances and moistening of a wound.<sup>1084</sup> The definition is clearer in 6.65.11 (*Su* 1938: 813) because it includes the word other (*anya*), emphasizing that an idea stated in one context serves a purpose in another.<sup>1085</sup> The author of the *Viṣṇudharmottarapurāṇa* as well as commentators such as Hariścandra, Cakrapāṇi, Indu, Aruṇadatta, and Śrīdāsa Paṇḍita define this *tantrayukti* similarly.<sup>1086</sup> However, in their interpretation, the term stated (*ukta*) means an explicit statement in the text.

A different definition appears in Nīlamegha's *Tantrayuktivicāra*, where he defines *hetvartha* as a situation where an entity is represented by its cause. For example, in the statement, रोगस् तु दोषवैषम्यम्, “disease, however, is the disproportion of the humours,” the cause “disproportion of the humours” represents its effect, “disease.” It can also be the reverse, where disease is the cause of disproportion of the humours. When a cause and its effect are considered equivalent and one represents the other, it is called *hetvartha*.<sup>1087</sup> This definition by Nīlamegha is not found elsewhere. This may explain why the author of the *Tantrayukti* does not refer to this definition at all, even though he frequently quotes Nīlamegha. Instead, the author of *Tantrayukti* uses Aruṇadatta's definition without attribution. He concludes with another definition, describing *hetvartha* as a statement

<sup>1084</sup> The definition is similar in *Saddanīti*. In the *Arthaśāstra*, *hetvartha* is defined as a cause that serves a purpose. Although phrased differently, this definition refers to the same concept. See table 10.

<sup>1085</sup> यदन्यदुक्तमन्यार्थसाधकं भवति स हेत्वर्थः। 6.65.11 (*Su* 1938: 813). The testimonium in Gaṅgādhara's *Jalpakalpataru* supports the reading of (*Su* 1938). In his own definition, Gaṅgādhara merely reproduces the definition of the *Suśrutasamhitā*. *Ca* 1928-33: 3, 3815.

<sup>1086</sup> The definition of *hetvartha* is quite consistent across all the commentaries. Cakrapāṇi's definition: हेत्वर्थो नाम यदन्यत्राभिहितमन्यत्रोपप्यते। *Āyurvedadīpikā* on 8.12.41 (*Ca* 1941: 736). Indu's definition: हेत्वर्थो नाम यदेकत्रोच्चमानमन्यत्रापि तथैवोपयुज्यते। *Śāsilekhā* on 6.50.150a (*As* 1980: 959). Hariścandra's definition is also quite similar: हेत्वर्थो नाम यदन्यप्रस्तावाभिहितमर्थजातमन्यत्रापि तथैवापाद्यते। MS Jamnagar GAU 114 p. 5. Aruṇadatta's definition: हेत्वर्थो नाम यदन्यप्रस्तावोक्तमन्यत्रापि तथैवापाद्यते। *Sarvāṅgasundarī* on 6.40.80 (*Ah* 1939: 947). Śrīdāsa Paṇḍita's definition: हेत्वर्थो नामान्यप्रस्तावोक्तमन्यत्रापि तथैवापाद्यते। *Hṛdayabodhikā* (*AHS* 1940: 2).

<sup>1087</sup> हेत्वर्थो हेतुनैव स्यात् तत्तदर्थप्रकाशनम्॥३॥ यथा—‘रोगस्तु दोषवैषम्यम्’ (अ.ह.सू. १.२९) इत्यादौ रोगो नाम दोषवैषम्यहेतुः। न तु दोषवैषम्यम्। तत्तु वृद्धिः क्षयो वा। अतो हेतोर् एव रोगः। अत्र तुशब्देन रोगोऽपि दोषवैषम्यस्य हेतुरिति योतयति। *TYV*: 4.

where a reason is expressed.<sup>1088</sup> Neither V. R. Ramachandra Dikshitar nor P. S. Subrahmanya Sastri identified *hetvartha* with any *utti* mentioned in the *Tolkāppiyam*.<sup>1089</sup>

The term *hetvartha* has been translated in various ways, including “extension of argument,” “implication,” “goal of a reason,” and merely “reason.” We chose to translate *hetvartha* as “purpose of a reason” based on the components of the compound, which closely aligns with Olivelle’s translation, “goal of a reason.”<sup>1090</sup> While other translations may capture the application of *hetvartha*, they do not convey the lexical meaning of the term.

## 5–6. *uddeśa* and *nirdeśa*

It is necessary to consider the *tantrayuktis* *uddeśa* and *nirdeśa* in relation to each other as they form a pair of relational antonyms. They consistently appear together in all listings—following *hetvartha* in the earlier listing and *pradeśa* in the later listing. The *Suśrutasamhitā* defines *samuddeśa* as a brief statement and *nirdeśa* as a detailed statement. An example of *uddeśa* is given as the simple mention of the word “spike (*śalya*).” In contrast, the example of *nirdeśa* is the phrase “in the body or exogenous,” where spike is described in more detail as being of two kinds. These two *tantrayuktis* are stylistic structural devices used in scientific compositions for precision and clarity.

The texts of the earlier listing provide identical or near-identical definitions of *uddeśa* and *nirdeśa*.<sup>1091</sup> They are also similarly defined and exemplified in the *Yuktidīpikā*.<sup>1092</sup> Commentators on the works of Dṛḍhabala and Vāgbhaṭa also defined *uddeśa* and *nirdeśa* similarly.<sup>1093</sup> However, Indu’s definitions of these two *tantrayuktis* are more informative.

1088 हेतुना सह यत्रोक्तिः स हेत्वर्थः प्रकीर्तितः ॥ TY: 8.

1089 Chevillard 2009: 84.

1090 Olivelle 2013: 436.

1091 See table 10.

1092 Wezler and Motegi 1998: 7.

1093 उद्देशो नाम सङ्क्षेपाभिधानम्...निर्देशो नाम विस्ता... MS Jamnagar GAU 114 p. 6. उद्देशो नाम सङ्क्षेपाभिधानम्...निर्देशो नाम संख्येयोक्तस्य (सङ्क्षेपोक्तस्य ?) विवरणम्। Āyurvedadīpikā on 8.12.42 (Ca 1941: 736). उद्देशो नाम सङ्क्षेपाभिधानम्...निर्देशो नाम तस्यैव विस्तारात्तिः। Sarvāṅgasundarī on 6.40.80 (Ah 1939: 947) and *Hṛdayabodhikā* (AHS 1940: 2). उद्देशो नाम तत्त्वयुक्तिः सा, यत् स-मासकथनम्।...निर्देशो नाम तत्त्वयुक्तिः सा, यद् विस्तरेणोन्न्यते। Jälpakalpataru, Ca 1928-33: 3, 3816.

According to him, *uddeśa* refers to objects mentioned merely by single words, while *nirdeśa* involves restating those objects to show their specific features.<sup>1094</sup>

There is a difference between the examples of *uddeśa* and *nirdeśa* in the *Suśrutasaṃhitā* and other texts. In the *Suśrutasaṃhitā*, the example of *uddeśa* is a single word, not a complete sentence, while in other texts, including the *Arthaśāstra*, it is a complete sentence, usually a simple equative sentence. For instance, Arunadatta and Śrīdāsa Paṇḍita quote 1.1.6b (Ah 1939: 6) as an example of *uddeśa*: वायुः पित्तं कफश्चेति त्रयो दोषाः समासतः ।, “the three humours are wind, bile, and phlegm.” As an example of *nirdeśa*, they quote 1.1.11 (Ah 1939: 9), which describes the characteristics of wind: तत्र रुक्षो लघुः शीतः खरः सूक्ष्मश्वलोऽनिलः ।, “wind is rough, light, cold, harsh, subtle, and mobile.” Even in these cases, where *uddeśa* is given with a complete sentence, *uddeśa* is exemplified by the individual items in those sentences. Thus, there are three *uddeśas* in that sentence, and the description of each functions as *nirdeśa*. What constitutes *uddeśa* and *nirdeśa* is contextually determined. In the example of the *Suśrutasaṃhitā*, spike (*śalya*) is the *uddeśa*, and its *nirdeśa* is the expression that provides its two varieties: (1) in the body and (2) extraneous. When each variety is further described, each variety of the spike functions as *uddeśa*. The author of the *Tantrayukti* indicates this mutual relatedness of *uddeśa* and *nirdeśa* in a verse.<sup>1095</sup> He also provides a versified definition of these two *tantrayuktis*, in addition to repeating Nīlamegha’s statements.<sup>1096</sup> Nīlamegha also defined these *tantrayuktis* in a similar fashion.<sup>1097</sup> Similar *uttis* also appear in the *Tolkappiyam*. However, Sastri and Dikshitar differently identified these *tantrayuktis* with the *uttis* of *Tolkāppiyam*.<sup>1098</sup>

1094 उद्देशो नाम यत्रार्थानां शब्दमात्रेणैव कीर्तनमुद्देशः ।...निर्देशो नाम यच्छब्दमात्रेण निर्दिष्टानां स्वरूपविशेषप्रदर्शनाय पुनः कीर्तनं निर्देशः । Šāśilekhā on 6.50.150b (As 1980: 960).

1095 उद्देशनिर्देशकयोरन्योन्यापेक्षिता भवेत् ।  
यत्तदोरिव नित्यैव शास्त्रे सर्वत्र सर्वदा ॥  
TY: 12.

1096 प्राक् सङ्क्षेपेण कथनमुद्देश इति कीर्तितम् ।  
निर्देशो नाम तस्यैव विस्तरोक्तिरुदाहृतः ॥  
TY: 12.

1097 उद्देशः समवायोक्तिरिति प्राहुर्मनीषिणः ।  
निर्देशः स्याद् विवरणं पूर्वोक्तानामनुक्रमात् ॥  
TYV: 6.

1098 Chevillard 2009: 85.

*Uddeśa* is a common technical term in Sanskrit literature.<sup>1099</sup> Sometimes it appears paired with *lakṣaṇa*, where *uddeśa* means mentioning an item by name, and *lakṣaṇa* is its definition. In this sense, *lakṣaṇa* and *nirdeśa* are similar. However, *nirdeśa* means any elaboration of the mentioned item, whereas *lakṣaṇa* refers to precise features. In Pakṣilasvāmin's *Nyāyabhāṣya*, the term *uddeśa* appears with *lakṣaṇa* and investigation (*parikṣā*), and the triad of these three is called the course of the discipline.<sup>1100</sup>

We mentioned before that Hariścandra added four more *tantrayuktis* to the later listing. Indu and Cakrapāṇi suggested that the scope of these *tantrayuktis* could be included in those already enumerated. According to Cakrapāṇi *paripraśna* could be included in *uddesa* and *vyutkrāntābhidhāna* is a variety of *nirdeśa*.<sup>1101</sup> The only manuscript of Hariścandra's *Carakanyāsa* available to us (MS MS Jamnagar GAU 114) is full of lacunae, making it challenging to determine its reading. It seems that asking a question about a topic is *paripraśna*, and stating something without mentioning the order of its items or objects is *vyutkrāntābhidhāna*. Including *paripraśna* and *vyutkrāntābhidhāna* under *uddesa* and *nirdeśa* respectively may be an oversimplification.

The *tantrayukti uddesa* has been variously translated as enunciation, concise statement, allusion, mention, etc. We chose the translation "mention." The expressions enunciation, allusion, and concise statement are vaguer than "mention." The *tantrayukti nirdeśa* is translated as elaboration, detailed statement, explanation, amplification, exposition, etc. All these translations are accurate. We translated *nirdeśa* as "exposition."

<sup>1099</sup> For more references to the term *uddesa* check Preš and Prandstetter 1991–2006: 2, 28–30.

<sup>1100</sup> त्रिविधा चास्य शास्त्रस्य प्रवृत्तिः, उद्देशो लक्षणं परीक्षा चेति । तत्र नामधेयेन पदार्थमात्रस्याभिधानमुद्देशः । तत्रोद्दिष्टस्यातत्त्वव्यवच्छेदको धर्मो लक्षणम् । लक्षितस्य यथालक्षणमुपपद्यते न वेति प्रमाणैरवधारणं परीक्षा । D. Josī 1922: 14.

<sup>1101</sup> तत्र परिप्रश्न उद्देशेऽन्तर्भवति,...व्युत्कान्ताभिधानं निर्देशप्रभेदः: *Āyurvedadīpikā* on 8.12.41b–45a (Ca 1941: 737).

## Notes on Significant Variants

...द्वितीये पादे...

The Nepalese version reads द्वितीये पादे which would properly mean the second quarter of the first line; the vulgate reads तृतीये पादे “third quarter” which seems more correct.

यत्र तु स्नेहस्वेदाभ्यञ्जनेषु...पूर्वापरयोगसिद्धो भवति।

There is a dangling relative clause, योऽर्थः, in the Nepalese version that is avoided in the vulgate recension by the addition of स ग्रहीतव्यः. There are two possible explanations for this discrepancy: firstly, the missing main clause may have been present in the archetype but inadvertently omitted in the Nepalese version due to a scribal error. Alternatively, the main clause could have been elliptical in the archetype. The scribes of the Nepalese manuscripts accurately transmitted the text. However, at some stage during the transmission process, the main clause was supplied as an attempt to rectify the ungrammatical sentence. The interpolation may also stem from Dalhana’s commentary in which the exact clause was used.<sup>1102</sup> Considering the principle *lectio difficilior potior*, we may posit that the second scenario is more plausible. This is because the subject of the main clause can be inferred from the subject of the previous sentence, and within the context, the meaning of the sentence remains totally intelligible even without the explicit main clause.

सामवेदादयश्च वेदाः

Both , Su 1938 and the excerpts from the *Suśrutasamhitā* cited in the *Jalpakalpataru* read ऋग्वेदादयस्तु वेदाः, ē “Rgveda and so on are the Vedas.” Traditionally, the *Rgveda*, being the earliest composed *Veda*, is often considered the prototype. However, the selection of *Sāmaveda* as the prototype in the Nepalese Version of the *Suśrutasamhitā* is intriguing. This choice brings to mind a verse from the *Bhagavadgīta* where Kṛṣṇa

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<sup>1102</sup> तत्र योऽर्थ इत्यादि। पूर्वोक्तपरोक्तवाक्यसम्बन्धेनोपपन्नो योऽर्थो भवति स ग्रहीतव्य इत्यर्थः Dalhana on 6.65.10 (Su 1938: 816).

declares, वेदानां सामवेदोऽस्मि<sup>1103</sup>, "I am the *Sāmaveda* among the Vedas." With its incorporation of musical elements, the *Sāmaveda* holds a unique charm compared to the *Rgveda*. Thus, the decision to prioritize the *Sāmaveda* as the prototype may stem from its intrinsic appeal or enchantment rather than chronological precedence.<sup>1104</sup> However, this reading not just appear in the Nepalese version. Another early *Suśrutasamhitā* manuscript from 1595 also keeps the same reading.<sup>1105</sup>

### ...विद् विन्द् इत्येतयोश्च धात्वोः...

Three issues need to be addressed here: (1) nomenclature of the verb roots in Sanskrit, (2) the homonymy of *vid*, and (3) variant readings in , *Su* 1938 and *Jalpakalpataru*.

(1) The text suggests the etymology of the word *veda* by mentioning two verb roots, namely *vinda* and *vida*. It is worth noting that there are multiple ways of representing Sanskrit verb roots, even within traditional Sanskrit grammar like that of Pāṇini. Verb roots are presented in various forms, including mere lexical root forms,<sup>1106</sup> forms ending in *-a*,<sup>1107</sup> ending in *-i*,<sup>1108</sup> or with the ending *-ti* in the present stem,<sup>1109</sup> or sometimes with indicatory sounds (*anubandha*) as found in the *Dhātupāṭha*<sup>1110</sup> In the reading of the Nepalese version of the *Suśrutasamhitā*, the second option, representing the verbs with a final *-a*, is adopted.

(2) The second issue pertains to the homonymy of *vid* in Sanskrit *Dhātupāṭhas*, where at least four homonymous verbs are mentioned. They all belong to different classes and signify different meanings: √*vid* "to know" belongs to the second class (*adādi* or the root class), √*vid* "to find,

1103 10.22 *BhaGī*: 456.

1104 Cf. Madhusūdana Sarasvatī's comment on the same verse: चतुर्णा वेदानां मध्ये गानमाधुर्यातिरमणीयः सामवेदोऽहमस्मि (10.22 *BhaGī*: 456), "amongst the four Vedas I am the *Sāmaveda*, which is extremely delightful due to its musical charm."

1105 MS Jodhpur RORI 20060 f.265r5.

1106 E.g. as √*gup*, √*tij*, and √*kit* are mentioned in गुसिञ्जिक्यः सन् (*Aṣṭādhyāyī*: 3.1.5).

1107 E.g. as √*gam*, √*han*, √*vid*, and √*viś* are mentioned in विभाषा गमहनविदविशाम् (*Aṣṭādhyāyī*: 7.2.68).

1108 E.g. as √*mṛj* is mentioned in मृजेविभाषा (*Aṣṭādhyāyī*: 3.1.113).

1109 E.g. as √*as*, √*vac*, and √*khyā* are mentioned in अस्यतिवक्तिरब्यातिभ्योऽङ् (*Aṣṭādhyāyī*: 3.1.52).

1110 E.g. as √*iś* is mentioned in इषुगमियमां छः (*Aṣṭādhyāyī*: 6, 7.3.77). Cf. इषुम् इच्छायाम् (*Dhātupāṭha* 6.78).

to attain" to the sixth class (*tudādi* or the suffixally accented thematic class), *√vid* "to consider" to the 7th class (*rudhādi* or the athematic nasal infix class) and *√vid* "to exist" to the fourth class (*divādi* or the thematic *ya*-suffix class).<sup>1111</sup> A 10th-class verb *√vid* is also mentioned in the *Dhātupāṭha* but this appears to be derived from the other *vid* verbs with a pleonastic causative suffix. The 4th-class *vid* is also originally a derivative of the other *vid* verbs formed with the passive suffix. The sixth-class verb *vid* belongs to a subclass called *mucādi*, characterized by a nasal infix. Thus, it is clear that *vinda*, the first of the two verbs mentioned in the *Suśrutasamhitā*, is the *vid* of the 6th class. The form *vinda* is, therefore, the present stem of the sixth-class verb *vid*.<sup>1112</sup> The other one may be the 2nd- or the 7th-class *vid*. The nominalized form of all of these verbs, using the suffix *GHaÑ*, is *veda*. This is where the ambiguity appears.

(3) In , *Su 1938*, the verbs are represented as they appear in the Paninian *Dhātupāṭha*, with indicatory letters (*anubandha*) and meanings attached to the roots: विद् विचारणे, विदू लाभे.<sup>1113</sup> However, the citation from the *Jalpakalpataru* presents another variant— विद् विचारणे विद् विन्दति<sup>1114</sup>. In both of these variants, the meanings of the verb roots appear. The verbs mentioned here are the 7th- and the 6th-class *√vid* respectively. The absence of meanings attached to the verb roots in the Nepalese version suggests the preservation of an older form of the text.<sup>1115</sup>

...धात्वोरेकार्थः। पश्चात् पदं भवति...

The Nepalese version of this passage significantly diverges from other witnesses. For a comparison the readings of four witnesses are provided:

- पूर्वापरम् उपलक्ष्य विन्द् विद् इत्येतयोश्च धात्वोरेकार्थः। पश्चात् पदम् भवति आयुर्वदोत्पत्तिमयं विवक्षुरिति (Nepalese version)

1111 Cf. सत्तायां विद्यते ज्ञाने वेत्ति विन्ते विचारणे। विन्दते विन्दति प्राप्तौ श्यन्तुवश्मशेषिदं क्रमात्॥ (SiddhKau: 402).

1112 Mentioning verbs in their present stem forms is not uncommon. The same 6th class verb *√vid* is mentioned as *vinda* in this rule: अनुपसर्गाण्डिष्पविन्दधारिपारिवेद्युदेजिचेतिसातिसाहिष्यश्च (Aṣṭādhyāyī: 3.1.138).

1113 6.65.10 (*Su 1938*: 813).

1114 *Ca 1928-33*: 3, 3816.

1115 Scholars believe that meanings were not initially attached to verb roots in the original Paninian *Dhātupāṭha* and were later additions, possibly by Bhīmasena. See Cardona 1976: 161–163.

2. तत्र पूर्वापरयोगमुपलभ्य विदतीत्येतयोश्च धात्वोरेकार्थयोः पश्चात् पदं भवति आयुर्वेदोत्पत्तिमयं विवक्षुरिति (*Śuśrutapāṭhaśuddhi* MS London BL IOLR 1842)
3. तत्र पूर्वापरयोगमुपलभ्य विद् विचारणे विद् विन्दतीत्येतयोश्च धात्वोरनेकार्थयोः प्रयोगः पश्चात् प्रतिपत्तिर्भवति आयुर्वेदोत्पत्तिमयं विवक्षुरिति (*Jalpakalpataru*)
4. विद् विचारणे, विदू लाभे, इत्येतयोश्च धात्वोरनेकार्थयोः प्रयोगात्, तत्र पूर्वापरयोगमुपलभ्य प्रतिपत्तिर्भवति आयुर्वेदोत्पत्तिमयं विवक्षुरिति (*Su 1938*)

Evidently, the readings gradually change across these manuscripts, with the Nepalese version representing the earliest and the last drawing from more recent manuscripts. Two key issues emerge: firstly, the contradictory readings of एकार्थः or एकार्थयोः versus अनेकार्थयोः, and secondly, the syntactic structure of the sentence.

(1) The Nepalese version and MS London BL IOLR 1842 uphold the former of the contradictory readings, while the *Jalpakalpataru* and (*Su 1938*) adhere to the latter. Dalhaṇa's commentary provides no definitive insight about his preferred reading. Nevertheless, the earlier reading appears more coherent. Although the two homonymous verbs bear distinct meanings, the context fails to privilege one over the other. In essence, we are not able to grasp the relevant meaning (*padārtha*) of the word *veda* by choosing one or the other meanings of the homonymous verb *vid*—be it *Sāmaveda* or *Āyurveda*, the meaning of the root *vid* does not change. The comprehension of *veda* as *Āyurveda* only occurs upon encountering the word “āyurveda” itself appearing after two sentences.<sup>1116</sup>. Hence, the reading अनेकार्थयोः appears less tenable. But if we take the meaning of the word *artha* as “meaning,” the phrase विन्द् विद् इत्येतयोश्च धात्वोरेकार्थः does not make sense either because these two homonymous verbs indeed have two different meanings. However, interpreting the word *artha* as “purpose” offers a more plausible explanation—both verbs, regardless of their individual meanings, serve the same purpose when nominalized with the suffix *GHaÑ*, yielding the same form *veda*.

(2) The other issue pertains to the sentence's syntax. In the Nepalese version, there are two separate sentences: “पूर्वापरमुपलक्ष्य विन्द् विद् इत्येतयोश्च धात्वोरेकार्थः” and “पश्चात् पदम् भवति...”, whereas all other witnesses present a unified sentence. The fact of having two different sentences in the Nepalese

<sup>1116</sup> Cf. ‘आयुर्वेदमिच्छाम इहोपदिश्यमानम्’ इत्यस्मिन्नायुर्वेदशब्दः श्रूयते, अतोऽत्र वेद आयुर्वेद इत्यभिप्रायः ॥ (Dalhaṇa on 6.65.10 (*Su 1938*: 816)).

version is determined by the use of the nominative case in the word एकार्थः, while the nominative of the second sentence is पदम्. In other readings, the genitive case is employed (एकार्थयोः) and thus the entire chunk in question constitutes a single sentence. Under this interpretation, the sentence conveys the meaning as: “when the prior and the subsequent elements are considered, after the fact that the roots *vind* and *vid* have the same meaning, the clue appears that he wants to talk about the origin of Āyurveda.” Here, the word पदम् likely denotes a sign or a clue, rather than its conventional meaning “word”, which would be incongruous in this context.

### यदुक्तं साधनं भवति स हेत्वर्थः:

The reading in 6.65.11 ([Su 1938: 813](#)) is यदन्यदुक्तमन्यार्थसाधकं भवति स हेत्वर्थः. The same reading appears in MS London BL IOLR 1842 and the testimonium in the *Jalpakalpataru*. MS Jodhpur RORI 20060 reads यदुक्तमुभयार्थसाधनं भवति स हेत्वर्थः. Clearly, the reading in the Nepalese version represents an older stage of the textual transmission, while the vulgate version indicates an attempt to clarify the definition. A comparison with the readings found in the texts of earlier listing may also suggest that the reading in the Nepalese version is older.

### ...तथा माषदुग्धप्रभृतिभिर्वणः क्षिद्यते

The reading माषदुग्ध...presents some challenges. The Nepalese manuscripts, ([Su 1938](#)), Dalhaṇa’s reading in ([Su 1938](#)), and MS London BL IOLR 1842—all have *māṣadugdha-*. However, this reading does not make much sense. Should we interpret it as a *dvandva* (beans and milk) or a *tatpuruṣa* (milk mixed with beans or bean milk)? The first option (*dvandva*) is untenable because a wound cannot be moistened with a solid substance like beans. The second option is also unlikely for two reasons:

1. In the *Suśrutasamhitā*, the word *-prabhṛti-* typically follows more than one item in a *dvandva* compound. Therefore, the reading माषदुग्धप्रभृतिभिः, where *māṣadugdha* signifies one item, is statistically improbable.
2. Does *māṣadugdha* mean bean milk? This expression is not found elsewhere. Does it mean milk mixed with beans? If so, it should be used for a specific remedial recipe and mentioned in the *Suśrutasamhitā*.

However, there is no such reference to *māṣadugdha* in the text. If *māṣadugdha* is not mentioned elsewhere, it is unlikely the author intended such a complex example.

We conjecture that the original term was not *māṣadugdha*- but *cājyadugdha*- or *ājyadugdha*- . MS Jodhpur RORI 20060 supports this reading. In this manuscript, The character before *jya* is unclear, but it is clear that there is a medial vowel *ā* before *jya*. The expression *ājyadugdha*- appears in other Sanskrit texts. If we read *ājya*- or *cājya*- instead of *māṣa*, it would mean “a wound gets moistened with ghee, milk, etc.,” which makes much more sense. If *ājya*- or *cājya*- was the original reading, the scribal error likely occurred quite early when the ligature *jya* looked similar to *sa*.

**समासवचनं समुद्देशः ।**

The reading **समुद्देशः** appears in the Nepalese manuscripts and MS Jodhpur RORI 20060. Everywhere else, the reading is उद्देश, which matches the list of *tantrayuktis* provided at the beginning of the chapter. The version of the *Jalpakalpataru* includes another variant, समासकथनम्, which is not supported by any other witnesses.

## Characteristics of the Manuscript Transmission

## Translation

- 1 Now we shall explain the chapter called, “the enunciation of the logical methods of the system (*tantrayukti*).”
- 3 There are thirty-two logical methods of the system. They are as follows:

1. topic ( <i>adhikarāṇa</i> )	18. objection ( <i>pūrvapakṣa</i> )
2. cohesion ( <i>yoga</i> )	19. determination ( <i>nirṇaya</i> )
3. relevant meaning ( <i>padārtha</i> )	20. consent ( <i>anumata</i> )
4. purpose of a reason ( <i>hetvartha</i> )	21. itemization ( <i>vidhāna</i> )
5. mention ( <i>samuddeśa</i> )	22. future reference ( <i>anāgatāpekṣaṇa</i> )
6. exposition ( <i>nirdeśa</i> )	23. past reference ( <i>atikrāntāpekṣaṇa</i> )
7. prescription ( <i>upadeśa</i> )	24. doubt ( <i>samīṣaya</i> )
8. statement of reason ( <i>apadeśa</i> )	25. explication ( <i>vyākhyāna</i> )
9. indication ( <i>pradeśa</i> )	26. field-specific term ( <i>svasaṃjñā</i> )
10. prediction ( <i>atideśa</i> )	27. interpretation ( <i>nirvacana</i> )
11. exception ( <i>apavarga</i> )	28. illustration ( <i>nidarśana</i> )
12. ellipsis ( <i>vākyāśeṣa</i> )	29. compulsion ( <i>niyoga</i> )
13. implication ( <i>arthāpatti</i> )	30. option ( <i>vikalpa</i> )
14. contraposition ( <i>viparyaya</i> )	31. aggregation ( <i>samuccaya</i> )
15. recontextualization ( <i>prasaṅga</i> )	32. deducible ( <i>ūhya</i> )
16. invariable statement ( <i>ekānta</i> )	
17. variable statement ( <i>anekānta</i> )	

- 4 It is said about this, “what is the purpose of these methods?” The answer is, “cohesion of a sentence and cohesion of meaning”.<sup>1117</sup>
- 5-6 There are two verses about this:

*The logical methods of the system prohibit statements employed by people who do not speak the truth. They also bring about the validity of one's own statements. And they also clarify meanings that are stated back to front, that are implicit, unclear and any that are partially stated.*

<sup>1117</sup> Dalhaṇa on 6.65.4 (Su 1938:815) explained “cohesion of a sentence” as “connecting up a sentence that is not connected,” and “cohesion of meaning” as “clarifying or making appropriate a meaning that is implied or inappropriate.”

- 8 Among them, “topic (*adhikarana*)” refers to the object, with reference to which statements are made, such as flavour (*rasa*) or humour (*dosa*).<sup>1118</sup>
- 9 “Cohesion (*yoga*)” is that by which a sentence coheres, as when words that are in a reversed order, whether placed close or apart, have their meanings unified.

Sesame oil he should drink, with heart-leaved moonseed creeper, neem tree, maidenhair fern, Indrajao, and long pepper

that is cooked with heart-leaf sida and country mallow, and deodar, always for a benefit in the case of the disease goitre.

In this verse, one ought to say, first, “one should drink cooked....” However, the word “cooked” is used in the second line.<sup>1119</sup> Unifying the meanings of words in this way, even though they are far apart, is cohesion.

- 10 The meaning that is conveyed in an aphorism (*sūtra*) or a word is called relevant meaning (*padārtha*). The meaning that is attached to one or more words is the meaning of one or more words (*padārtha*). There are innumerable meanings of a word or words.<sup>1120</sup>

Where two or three meanings of words such as *sneha*, *sveda* or *añjana* appear to be possible, the relevant meaning is the one that coheres with prior and subsequent elements. For example, when it is said that, “We

<sup>1118</sup> The idea here is that “*rasa*” may be the topic of a chapter, and statements in that chapter are all understood to be about that topic

<sup>1119</sup> See note on 360.

<sup>1120</sup> Contrary to the translations by previous translators Singhal and J. Mitra and P. V. Sharma, we believe that there is a distinction in how the term *padārtha* is employed in the first sentence, which serves as the definition of this *tantrayukti*, and in the two subsequent sentences, which pertain to the non-technical understanding of the word *padārtha*. We have translated the initial use of the word *padārtha* as “relevant meaning” and the subsequent use as mere “meaning of one or more words.” Without presupposing the distinct usage of the word *padārtha* in this passage, the statement, अपरिमिताश्च पदार्थः, might seem out of context, as it would not make sense to assert that there are innumerable *padārthas* once the text has already specified that *padārtha* refers to the particular meaning conveyed in a *sūtra* or a word. Furthermore, the subsequent illustration featuring three polysemic words—*sneha*, *sveda*, and *añjana*—also supports our argument. Through these examples, the text advocates for the perspective that in cases where a word has multiple meanings, only the interpretation that aligns with the preceding and subsequent elements should be regarded as *padārtha*.

are going to explain the chapter on the *veda*-origin" the mind may be confused about which "veda" will be spoken about. *Sāmaveda* and so on are the Vedas. Taking note of the prior and subsequent elements, the two roots *vind* "find" and *vid* "know" have a single meaning.<sup>1121</sup> Subsequently, the understanding takes place that there is a wish to talk about the origin of *āyurveda*. So that is the meaning of the word.

- 11 The purpose of a reason (*hetvartha*) is a statement that becomes a premise (*sādhana*). e For example, just as a lump of earth is moistened by water, so a wound is moistened by substances like milk with green gram.
- 12 A mention (*samuddeśa*) is a brief statement such as "spike (*śalya*)".<sup>1122</sup>
- 13 A exposition (*nirdeśa*) is a detailed statement. For example, "in the body or exogenous".<sup>1123</sup>
- 14 "Prescription" (*upadeśa*) refers to statements like "it should be this way." For example, one should not stay awake at night; one should not sleep during the day.
- 15 "Statement of reason" (*apadeśa*) refers to statements like "this happens because of this." For example, in the sentence "Sweet substances increase phlegm," the reason is stated.<sup>1124</sup>
- 16 Substantiation of the subject matter through past evidence is "indication (*pradeśa*)."<sup>1125</sup> For example, he pulled out Devadatta's splinter (*śalya*), therefore he will pull out Yajñadatta's.
- 17 Substantiation of the subject matter through a future event is "prediction (*atideśa*)."<sup>1125</sup> For example, if his wind moves upwards, that will cause him to have colic."<sup>1125</sup>

<sup>1121</sup> The Nepalese text here is hard to follow, and the vulgate has a significantly different reading. But the problem situation seems to be as follows. The *Suśrutasan̄hitā* opens with a statement saying that it will describe the "origin of the *veda*" (*vedotpatti*). The problem is, what does this word "veda" refer to? Is it the Veda, as in *Sāmaveda*? Or something derived from the roots √vind or √vid? Context ("prior and subsequent elements") can help us to know that "veda" means only "*āyurveda*" and that the *Suśrutasan̄hitā* is talking about the origin of ayurveda, specifically. This same issue is also addressed by Ḫalhaṇa at 1.1.1 (*Su* 1938: 1).

<sup>1122</sup> Generally, शर्त्य refers to any painful foreign body embedded in the flesh that requires surgical removal.

<sup>1123</sup> This is a reference to 1.26.4 (*Su* 1938: 121) where शर्त्य is described in more detail as being of two kinds.

<sup>1124</sup> A technical term also in *Nyāyaśāstra* (Jhalakīkar 1978: 54).

<sup>1125</sup> A technical term also in *Nyāyaśāstra* (Jhalakīkar 1978: 6–7).

- 18 A deviation after generalization is exception (*apavarga*). For example, those afflicted by poison should not go through sudorific treatment other than the cases of poisoning by urinary worms.
- 19 Ellipsis (*vākyāśeṣa*) refers to an unstated word that completes a sentence. For example, despite not mentioning the word 'person', when mentioning someone as 'the one having a head, hands, feet, flanks, and abdomen,' it's apparent that the reference is to a person.
- 20 Implication refers to an unstated idea that becomes evident through context. For example, when one said, "We will eat rice" it becomes evident from the context that he did not wish to drink gruel.
- 21 When there is the reversal of it, it is contraposition (*viparyaya*). For example, when it is said, "Weak, dyspneic, and fearful people are difficult to treat," the converse holds true: "Those who are strong and so on are easily treatable."
- 22 Recontextualization (*prasaṅga*) refers to a concept common to another section. For example, a concept belonging to another section is brought up by mentioning it repeatedly throughout.
- 23 Invariable statement (*ekānta*) is one that is stated with certainty. For example, *turpeth* causes purgation; *emetin* induces vomiting.
- 24 Variable statement (*anekānta*) is one that is true in one way in some cases and in another way elsewhere. For example, some teachers identify the main element as substance, others as fluid, some as semen, and some as digestion.
- 25 A first point of view (*pūrvapakṣa*) is something stated with certainty. For example, how are the four types of diabetes caused by wind incurable?<sup>1126</sup>
- 26 Its answer is determination. For example, afflicting the body and trickling downwards, it creates urine mixed with fat, fatty tissues, and marrow. Thus, those caused by wind are incurable.
- 28 Consent (*anumata*) refers to others' opinion that is not rejected. For example, when the assertor says that there are six flavours and that somehow gets accepted with affirmation, it is termed consent.
- 29 Itemization (*vidhāna*) refers to sequentially ordered statements within

See chapter  
40 of Sūtra-  
sthāna.

vasā / me-  
das / maj-  
jan

<sup>1126</sup> The adverb निःसंशयम् is problematic: the example expresses a query or doubt, the opposite of certainty, which is answered in the next passage. It would seem to make more sense to read something like यस्तु संशयम् अभिधीयते स पूर्वपक्षः, but our manuscripts are unanimous in their reading.

- a chapter. For example, the eleven lethal points of thigh are mentioned sequentially in a chapter.
- 30 A statement like “Thus will be stated” is future reference (*anāgatāpekṣāṇa*) such as when he says in the *Sūtrasthāna*, “I will mention it in the *Cikitsāsthāna*.”
  - 31 A statement like “Thus has been stated” is past reference (*atikrāntāpekṣāṇa*) such as when one says in the *Cikitsāsthāna*, “As mentioned in the *Sūtrasthāna*....”
  - 32 An indication pointing to causes on both sides is doubt (*samśaya*). For example, a blow to the sole-heart (*talahrdaya*)<sup>1127</sup> is fatal, whereas cutting hands and feet is not fatal.
  - 33 An elaborate description is explication (*vyākhyāṇa*). For example, the twenty-fifth entity, person (*puruṣa*), is being explicated here. Thus, no other Āyurvedic texts discuss entities beginning with matters.
  - 34 A field-specific term (*svasamjñā*) is uncommon in other fields of studies. The term used in one’s own systems is called field-specific term, such as in this system, pair (*mithuna*) denotes honey and ghee, and triad (*mithuna*) denotes ghee, sesame oil and fat.
  - 35 A customary portrayal is interpretation (*nirvacana*). For example, one goes along the shade fearing heat.
  - 36 Providing examples is illustration (*nidarśana*). For example, just as fire spreads rapidly in a dry forest when accompanied by wind, a wound intensifies affected by wind, bile, and phlegm.
  - 37 A statement like “This is the only way...” ... compulsion (*niyoga*). For example, one should consume only a healthy diet.
  - 39 A statement like “This and this...” is option (*vikalpa*). For example, in the section on meat, the major ones are blackbuck, deer, quail and partridge.<sup>1128</sup>
  - 38 A summarized statement is aggregation (*samuccaya*).<sup>1129</sup> For example, let there be rice with meat broth, rice with milk, or burley with ghee.

A meaningful reading of these two rules would be

Does  
bhūtādi a  
compound  
or it means  
ahankāra or  
ego?

triad? -DW

<sup>1127</sup> तलहृदय is one of the muscle-group of lethal points mentioned in 3.6.7 (*Su 1938*: 370).

<sup>1128</sup> The example here matches समुच्चय (next text), not विकल्प. There seems to have been a metathesis of terms. Yādavaśarma Trivikramācārya Ācārya and N. R. Ācārya (*Su 1945*: 1005, footnote 6) notes that this text and the next have been swapped in the Calcutta edition that includes Hārāṇacandra’s commentary C. Bhāttācārya 1908–

<sup>11</sup>: 2, in the same way as in the Nepalese version.

<sup>1129</sup> As stated in the previous footnote, the example here is of विकल्प, not समुच्चय.

39 idam vedam veti vikalpah / yathā rasodanah kṣīrodanah  
 saghṛtā vā yavāgūr bhavatv iti //

38 samkṣepavacanam samuccayah / yathā māṁsavarge ena-  
 hariṇalāvatittirāḥ pradhānā iti

- 40 What is not explicitly stated but can be understood through discernment is deducible (*ūhya*). For example, in the section on rules of foods and drinks, four types of foods and drinks are mentioned—masticable (*bhakṣya*), edible (*bhojya*), suckable (*lehya*), and drinkable (*peya*). Thus, while four types are needed to be stated, two types are actually mentioned. Here it is deducible that in the section on foods and drinks, by specifically mentioning two types, the four types are also mentioned. Furthermore, a masticable item is not excluded from the category of food because it shares the same characteristic of solidity. A suckable item is not excluded from being classified as a drink because it shares the same characteristic of liquidity. Four types of aliments are rare. They are usually just twofold. Therefore, lord Dhanvantari says “Twofold is popular”.

# Editions and Abbreviations

- Ah 1939 Kumṭe, Aṇṇā Moreśvara, Navare, Kṛṣṇāśāstrī, and Parādkar, Hariśāstrī (1939) (eds.), श्रीमद्वाग्भटविरचितम् अष्टाङ्गहृदयम्, श्रीमदरुण-दत्तविरचितया सर्वाङ्गसुन्दराख्यया व्याख्या, हेमाद्रिप्रणीतया आयुर्वेदरसायनाह्वया टीकया च समुल्लसितम् = *The Astāṅgahṛidayā* (6th edn., Mum̄bayyām: Nirṇayasāgara Press), ARK: [ark:/13960/t3tt6967d](https://ark:/13960/t3tt6967d).
- AHS 1940 Müss, C. N. Nārāyaṇan (1940) (ed.), श्रीमद्वाहटाचार्यप्रणीतम् अष्टाङ्ग-हृदयम्, श्रीदासपण्डितविरचितया हृदयबोधिकाख्यया व्याख्या समलङ्घतम् (Śrīcitrāyurvedagranthamālā, 4; Trivandrum: Rājakīyamudrāśālā), ARK: [ark:/13960/s23qzpqc61j](https://ark:/13960/s23qzpqc61j).
- Apte Apte, Vaman Shivaram (1992), *The Practical Sanskrit-English Dictionary* (Kyoto: Rinsen Book Company), ISBN: 4-653-00038-7; Reprinted from **gode-apte**.
- Arthaśāstra Kangle, R. P. (1960), *The Kauṭilya Arthaśāstra* (University of Bombay Studies Sanskrit, Prakrit and Pali, 1; Bombay: University of Bombay), accessed 23/09/2021.
- As 1980 Āṭhavale, Anamita Dāmodara (1980) (ed.), अष्टाङ्गसङ्खः श्रीमद्वृद्धवाग्भटविरचितः इन्दुव्याख्यासहितः [= *Vāgbhaṭa's Astāṅgasaṅgraha with Indu's Commentary*] (Puṇe: M. A. Āṭhavale, Śrīmad Ātreyā Prakāśanam), ARK: [ark:/13960/s25bwqsdon7](https://ark:/13960/s25bwqsdon7).
- Aṣṭādhyāyī Sharma, Rama Nath (2002–03), *The Aṣṭādhyāyī of Pāṇini*, 6 vols. (Second revised and enlarged edition, New Delhi: Munshiram Manoharlal Publishers Pvt. Ltd.).
- BhaGī Pañśīkar, Wāsudev Laxmaṇ Shāstrī (1936) (ed.), श्रीमद्भगवद्गीता श्रीमच्छाङ्करभाष्येण - आनन्दगिरिकृतव्याख्यायुजा संवलिता तथा नीलकण्ठी - भाष्योत्कर्षदीपिका - श्रीधरीयसुवोधिनी - अभिनवगुप्ताचार्यव्याख्या - श्रीमधुसूदन-सरस्वती - स्वामिकृतगूढार्थदीपिकाख्यव्याख्यासहिता तद्व्याख्यानेन श्रीधर्मदत्तशर्म (प्रसिद्धबच्चाशर्म) विरचित - गूढार्थतत्त्वालोकेन युता च [= *Bhagavadgīta with*

- commentaries]* (2nd edn., Bombay: Nirṇaya-Sāgar Press), ARK: [ark:/13960/t7jq76w6m](https://ark.org/ark:/13960/t7jq76w6m).
- Bhela 1921 Mookerjee, Ashutosh, and Ananta Krishna Shastri, Vedantabisharad (1921) (eds.), *The Bhela Samhita. Sanskrit Text* (Calcutta: University of Calcutta), ARK: [ark:/13960/t3sv3157j](https://ark.org/ark:/13960/t3sv3157j); Based on two copies made of the Thanjavur codex unicus (MS Thanjavur TMSSML 10773, **burn-clas, sast-desc16**).
- Bhela 2000 Krishnamurthy, K. H. (2000), *Bhela-saṃhitā. Text with English Translation, Commentary and Critical Notes* (Haridas Ayurveda Series, 8; Varanasi: Chaukhambha Visvabharati).
- Ca 1877 Bhaṭṭācāryya, Jīvānanda Vidyāsāgara (1877) (ed.), चरक-संहिता सूत्र-निदान-विमान-शारीरन्द्रिय-चिकित्सित-कल्प-सिद्धिस्थानात्मका। भगवता आत्रेयेण पुनर्वसुना उपदिष्टा अग्निवेशनामधेयेन तत् शिषेण विरचिता चरकाभिधेयेन ऋषिणा प्रतिसंस्कृता (Calcutta: Sarasvatī Yantra), ARK: [ark:/13960/tosq9gf44](https://ark.org/ark:/tosq9gf44).
- Ca 1904 Śarmā, Satīśacandra (1904) (ed.), चरकसंहिता। (1st edn., Kalikātā: Bhaiṣajya Steam Machine Press), ARK: [ark:/13960/t51g4nm8m](https://ark.org/ark:/t51g4nm8m).
- Ca 1911 Vaidyopādhyāya, Rāmaprasāda (1911) (ed.), चरकसंहिता। श्रीमन्महर्षिप्रवरचरकप्रणीता। पण्डितरामप्रसादवैयोपाध्यायविरचितप्रसादनी-भाषाटीकासंहिता। (mumbai: Kṣemarāja-Śrīkrṣṇadāsaśreṣṭha), ARK: [ark:/13960/t2r59q189](https://ark.org/ark:/t2r59q189).
- Ca 1923 Śarmā, Satīśacandra (1923) (ed.), चरकसंहिता। (3rd edn., Kalikātā: Bhaiṣajya Steam Machine Press), ARK: [ark:/13960/t17m5hp8c](https://ark.org/ark:/t17m5hp8c).
- Ca 1928-33 Senagupta, Narendranātha, and Senagupta, Balāicandra (1928–33) (eds.), चरक-संहिता। महामुनिना भगवताग्निवेशेन प्रणीता म-हर्षचरकेण दृढबलेन च प्रतिसंस्कृता चरकचतुरानन-श्रीमच्चकपाणिदत्तप्रणीतया आयुर्वेददीपिकाव्यटीकया महामहोपाध्याय-श्रीगङ्गाधरकविरत्कविराजविरचितया जल्पकल्पतरुसमाव्यया टीकया च समलङ्घता, 3 vols. (kalikātānagarī: Dhanvantari Electric Machine Yantra).
- Ca 1933 Ācārya, Yādavaśarma Trivikrama (1933) (ed.), महर्षिणा अग्निवेशेन प्रणीता चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता (3rd edn., Mumbaiyyām: Nirnaya Sagara Press), ARK: [ark:/13960/t42s3kk45](https://ark.org/ark:/t42s3kk45).
- Ca 1941 Ācārya, Yādavaśarma Trivikrama (1941) (ed.), महर्षिणा पुनर्वसु-नोपदिष्टा, तच्छिष्येणाग्निवेशेन प्रणीता, चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता, श्रीचक्रपाणिदत्तविरचितया आयुर्वेददीपिकाव्यया संवलिता (3rd edn., Mumbaiyyām: Nirnaya Sagara Press), ARK: [ark:/13960/t48q2f2on](https://ark.org/ark:/t48q2f2on).

- CDIAL Turner, R. L. (1966–85), *A Comparative Dictionary of the Indo-Aryan Languages* (2nd edn., London, New York, Toronto: Oxford University Press), ISBN: 0197135501, URL: <http://n2t.net/ark:/13960/t2n69n06g>; v. 2: *Indexes* by D. R. Turner (OUP, London, 1969), v. 3: *Phonetic Analysis* by R. L. and D. R. Turner (OUP, London, 1971), v. 4: *Addenda and Corrigenda* ed. J. C. Wright (SOAS, London, 1985). Online database at <http://dsal.uchicago.edu/dictionaries/soas/>.
- DED<sub>2</sub> Burrow, Thomas, and Emeneau, Murray B. (1984), *A Dravidian Etymological Dictionary* (2nd edn., Oxford: Clarendon Press), ARK: <ark:/13960/s24rgc5rszo>, URL: <http://dsal.uchicago.edu/dictionaries/burrow/>.
- EWA Mayrhofer, Manfred (1992–2001), *Etymologisches Wörterbuch des Altindoarischen* (Heidelberg: Carl Winter, Universitätsverlag), ISBN: 3-533-03826-2.
- Garuḍapurāṇa* Pāṇḍeya, Rāmateja (1963) (ed.), श्रीकृष्णद्वैपायनव्यासप्रणीतं गरुडपुराणम् (Vidyabhawan Prachyavidya Granthamala, 3; reprint, Caukhambā Vidyābhavana, Pāṇḍita-Pustakālaya: Kāśī), ARK: <ark:/13960/t6pz7tg7j>.
- HIML Meulenbeld, Gerrit Jan (1999–2002), *A History of Indian Medical Literature*, 5 vols. (Groningen: E. Forsten), ISBN: 9069801248.
- KEWA Mayrhofer, Manfred (1953–72), *Kurzgefaßtes etymologisches Wörterbuch des Altindoarischen; a Concise Etymological Sanskrit Dictionary* (Heidelberg: Carl Winter, Universitätsverlag).
- Mahābhāṣya Kielhorn, F. (1880–85) (ed.), *The Vyākaraṇa-Mahābhāṣya of Patanjali* (Bombay: Government Central Book Depot), ARK: <ark:/13960/s258g7r6bxf>.
- Mahākoṣa* Jośī, Venīmādhavaśāstrī, and Jośī, Nārāyaṇa Harī (1968), आयुर्वेदीय महाकोशः अर्थात् आयुर्वेदीय शब्दकोशः संस्कृत–संस्कृत (Mum̄bai: Mahārāṣtra Rājya Sāhityta āṇi Saṃskṛti Mamḍala), ARK: <ark:/13960/t22c41g8t>.
- Mānasollāsa* Shrigondekar, Gajanan K. (1925–61) (ed.), मानसोल्लासः = *Mānasollāsa* [or *Abhilashītarthacintāmaṇi*] of King Someśvara (Gaekwad's Oriental Series; Baroda: Oriental Institute), ARK: <ark:/13960/t87h8tn95>; v. 2: ARK: <ark:/13960/t3gz41v8m>.

- MN<sub>1</sub> Ācārya, Yādavaśarma Trivikrama (1920) (ed.), महामतिश्रीमाधवकर्पणीतं माधवनिदानम् श्रीविजयरक्षित-श्रीकण्ठदत्ताभ्यां विरचितया मधुकोशाख्याख्यया, श्रीवाचस्पतिवैद्यविरचितया आतङ्कदर्पणव्याख्याया विशिष्टांशेन च समुलुसितम् = *Mādhavanidāna* by Mādhavakara with the Two Commentaries, *Madhukosha* by Vijayarakshita & Shrikanthadatta and Ātankadarpaṇa by Vāchaspati Vaidya (1st edn., Bombay: Nirnaya Sagara Press), ARK: [ark:/13960/t9z08jn5j](https://ark:/13960/t9z08jn5j).
- MN<sub>3</sub> Ācārya, Yādavaśarma Trivikrama (1932) (ed.), महामतिश्रीमाधवकर्पणीतं माधवनिदानम् श्रीविजयरक्षित-श्रीकण्ठदत्ताभ्यां विरचितया मधुकोशाख्याख्यया, श्रीवाचस्पतिवैद्यविरचितया आतङ्कदर्पणव्याख्याया विशिष्टांशेन च समुलुसितम् = *Mādhavanidāna* by Mādhavakara with the Two Commentaries, *Madhukosha* by Vijayarakshita & Shrikanthadatta and Ātankadarpaṇa by Vāchaspati Vaidya (3rd edn., Bombay: Nirnaya Sagara Press), ARK: [ark:/13960/t66452xoh](https://ark:/13960/t66452xoh); Reprinted Varanasi: Chowkhambha, 1986.
- MW Monier-Williams, Monier, Leumann, E., Cappeller, C., et al. (1899), *A Sanskrit–English Dictionary Etymologically and Philologically Arranged, New Edition* (Oxford: Clarendon Press); 1970 reprint.
- Nannūl Sripathi, Muthu Krishna (1995) (ed.), *Nannūl: A perceptive and comprehensive translation in English* (Madurai: MK Sripathi).
- NCC Raghavan, V., Kunjunni Raja, K., Sundaram, C. S., et al. (1949–), *New Catalogus Catalogorum, an Alphabetical Register of Sanskrit and Allied Works and Authors*, 39 vols. (Madras University Sanskrit Series; Madras: University of Madras); v.1: revised edition, 1968. Searchable at <https://vmlt.in/ncc/>.
- OED Simpson, J. A., and Weiner, E. S. C. (1989–), *The Oxford English Dictionary* (2nd edn., Oxford: Oxford University Press), ISBN: 0198611862, URL: <https://www.oed.com>; 20v.
- PW Böhtlingk, Otto, and Roth, Rudolph (1855–75), *Sanskrit-Wörterbuch* (St. Petersburg: Kaiserlichen Akademie der Wissenschaften), URL: <https://www.sanskrit-lexicon.uni-koeln.de/scans/PWGScan/2020/web/>, accessed 18/05/2023.
- PWK Böhtlingk, Otto (1879), *Sanskrit-wörterbuch in kürzerer fassung* (St. Petersburg: Kaiserlichen Akademie der Wissenschaften), URL: <https://www.sanskrit-lexicon.uni-koeln.de/scans/PWScan/2020/web/>, accessed 18/05/2023.

- Śabdasindhu Gupta, Umeśachandra, and Sena, Nagendra Nātha (1983), वैद्यक-शब्दसिन्धुः = *Vaidyaka-Śabdasindhuḥ* (3rd edn., Varanasi & Delhi: Chaukhambha Orientalia); 3rd ed. first published in 1914.
- Saddanīti 3 Smith, Helmer (1930) (ed.), *Saddanīti la grammaire Palie d'Aggavaṇṭa: III Sūttamālā* (Pariccheda XX–XXVIII) (Skrifter utgivna av Kungl. Humanistiska Vetenskapssamfundet i Lund, XII:3; Lund: C. W. K. Gleerup), ARK: [ark:/13960/t1jh9w87b](#).
- SiddhKau Gāḍagīla, Dinakaraśāstrī K., and Paṇaśīkara, Vāsudevaśarman (1904) (eds.), तत्त्वबोधिनीसमाख्यव्याख्यासंवलिता सिद्धान्तकौमुदी नाम भट्टो-जिदीक्षितप्रणीता पाणिनीयव्याकरणसूत्रवृत्तिः (3rd edn., Mumbai: Nirṇaya Sāgara), ARK: [ark:/13960/tozqo8k3z](#).
- Su 1889 Bhaṭṭācāryya, Jīvānanda Vidyāsāgara (1889) (ed.), सुश्रुतः. सूत्र-निदान-शारीर-चिकित्सा-कल्पोत्तर-तत्त्व-कल्पित आयुर्वेद. भगवता धन्व-न्तरिणोपदिष्टः सुश्रुतनामधेयेन तच्छिष्येण विरचितः (3rd edn., Calcutta: Sarasvatī Press), ARK: [ark:/13960/t0202sz1q](#); HIMAL: IB, 311, edition b.
- Su 1931 Ācārya, Yādavaśarma Trivikrama (1931) (ed.), सुश्रुतसंहिता, वैद्यवर-श्रीडल्हणाचार्यविरचितया निबन्धसंग्रहारब्धव्याख्या समुद्धसिता, महर्षिणा सुश्रुतेन विरचिता, सूत्र-निदान-शारीर-चिकित्सा-कल्पस्थानोत्तरतत्त्वात्मकः. आचार्यौपादेन त्रिविक्रमात्मजन यादवशर्मणा संशोधिता = *The Sushrutasaṅhitā of Sushruta with the Nibandhasangraha Commentary of Shree Dalhaṇāchārya* (2nd edn., Mumbai: Pāṇḍuraṅga Jāvajī at the Nirṇayasāgaramudrāyantrālaye), ARK: [ark:/13960/t9j41sg94](#), accessed 09/06/2020; HIMAL: IB, 312 edition \*v.
- Su 1938 Ācārya, Yādavaśarma Trivikrama, and Ācārya, Nārāyaṇa Rāma (1938) (eds.), श्रीडल्हणाचार्यविरचितया निबन्धसंग्रहारब्धव्याख्या निदानस्थानस्य श्रीगयदासाचार्यविरचितया न्यायचन्द्रिकारब्धपञ्जिकाव्याख्या च समुद्धसिता महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता (3rd edn., Bombay: Nirṇayasāgara Press), ARK: [ark:/13960/t09xosk1h](#); HIMAL: IB, 313, edition cc ('the vulgate').
- Su 1939 Ācārya, Yādavaśarma Trivikrama, and Śarman, Nandakiśora (1939) (eds.), सुश्रुतसंहितायाः सूत्रस्थानम्, श्रीचक्रपाणिदत्तविरचितया भानुमतीव्याख्याया समेतम् = *Sushrut-saṅhitā (sūtra Sthān)* with *Bhānumatī Commentary by Chakrapāṇi Datta with Introduction by Gaṇanāth Sen* (Śrīsvāmi Lakṣmīrāma Nidhi Granthamālā = Shrī Swāmī Lakshmī Rām Trust Series, 1; Jaipur: Śyāmasundara Śarman), ARK: [ark:/13960/s207htc1xpj](#); Printed at the Nirṇayasāgara Press, Bombay.

- Su 1945 Ācārya, Yādavaśarma Trivikramācārya, and Ācārya, Nārāyaṇa Rāma (1945) (eds.), महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता (मूलमात्रा). पाठान्तर-परिशिष्टादिभिः संवलिता = *the Suśrutasaṃhitā of Suśruta with Various Readings, Notes and Appendix etc.* (Mumbāi: Nirṇayasāgarākhyamudraṇālaye), ARK: [ark:/13960/t8kd4jh7n](https://ark:/13960/t8kd4jh7n).
- TY Nārāyaṇa, Śaṅkaraśarman (1949), *Tantrayuktih*, ed. Vayaskara N. S. Mooss (Vaidyasārathigranthāvalih, 6; Kotṭayanagaryām: Vaidyasarathi Press), ARK: [ark:/13960/t6zx3wv30](https://ark:/13960/t6zx3wv30).
- TYV Muthuswami, Nurani Easwara (1976) (ed.), *Tantrayuktivicāraḥ [by Nīlameghabhisaj]* (Kerala Praśāsanāyurveda Granthāvalih, 1; 2nd edn., Trivandrum: Publications Division, Govt. Ayurveda College), ARK: [ark:/13960/s2j1p7k0526](https://ark:/13960/s2j1p7k0526).
- Viṣṇudh 3 Shah, Priyabala (1958) (ed.), *Viṣṇudharmottara-Purāṇa. Third Khanda* (Gaekwad's Oriental Series, 130; Baroda: Oriental Institute), ARK: [ark:/13960/t52g33q88](https://ark:/13960/t52g33q88).
- Viṣṇudh. Śarman, Madhusūdana, and Śarman, Mādhavaprasāda (1912) (eds.), विष्णुधर्मोत्तरपुराणम् = [Viṣṇudharmottarapurāṇa] (Mumbai: Khemarāja Śrīkrṣṇādāsa at the Śrīveṅkaṭeśvara Steam Press), ARK: [ark:/13960/t6qz6fr23](https://ark:/13960/t6qz6fr23); Lithograph format. Edited on the basis of a manuscript belonging to the astrologer Śudhākaraśarman of the Varanasi Sanskrit Pāṭhaśālā.
- WEP Wiersema, John H., and León, Blanca (2016), *World Economic Plants*: (2nd edn., Boca Raton: CRC Press), ISBN: 9781466576810.

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# General Bibliography

- Ācārya, Yādavaśarma Trivikrama (1933) (ed.), *महर्षिणा अग्निवेशेन प्रणीता चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता* (3rd edn., Mumbayyām: Nirnaya Sagara Press), ARK: [ark:/13960/t42s3kk45](https://ark.org/t13960/t42s3kk45).
- (1941) (ed.), *महर्षिणा पुनर्वसुनोपदिष्टा, तच्छिष्ठेणाग्निवेशेन प्रणीता, चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता, श्रीचकपाणिदत्तविरचितया आयुर्वेददीपिकाव्याख्या संवलिता* (3rd edn., Mumbayyām: Nirnaya Sagara Press), ARK: [ark:/13960/t48q2f2on](https://ark.org/t13960/t48q2f2on).
- Ācārya, Yādavaśarma Trivikramācārya, and Ācārya, Nārāyaṇa Rāma (1945) (eds.), *महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता* (मूलमात्रा). *पाठान्तर-परिशिष्टादिभिः संवलिता* = *the Suśrutasamhitā of Suśruta with Various Readings, Notes and Appendix etc.* (Mumbāi: Nirṇayasāgarākhyamudraṇālaye), ARK: [ark:/13960/t8kd4jh7n](https://ark.org/t13960/t8kd4jh7n).
- Achaya, K. T. (1994), *Indian Food: A Historical Companion* (Delhi: Oxford University Press), ISBN: 0195628454.
- (1998), *A Historical Dictionary of Indian Food* (Delhi: Oxford University Press), ISBN: 0195642546.
- Adamson, Peter, and Ganeri, Jonardon (2022), *Classical Indian Philosophy*, ed. Jonardon Ganeri (A History of Philosophy without Any Gaps, 5; New York: Oxford University Press), ISBN: 9780198851769.
- Āgāśe, Ve. Śā. Rā. Rā. Kāśinātha Śāstrī, and Āpaṭe, Hari Nārāyaṇa (1904) (eds.), *वाचस्पतिमिश्रविरचितटीकासंवलितव्यासभाष्यसमेतानि पातञ्जलयोगसूत्राणि* तथा भोजदेवविरचितराजमार्तण्डाभिधवृत्तिसमेतानि पातञ्जलयोगसूत्राणि (Ānandāśramasamaskṛtagranthāvalih, 47; Puṇyākhya-pattana: Ānandāśramamudraṇālaya), ARK: [ark:/13960/t4os27g36](https://ark.org/t13960/t4os27g36).
- Agostini, Giulio (2004), “Buddhist Sources on Feticide as Distinct from Homicide,” *Journal of the International Association of Buddhist Studies*, 27/1: 63–96.
- Ali, Salim, and Ripley, S. Dillon (1983), *Handbook of the Birds of India and Pakistan, Together with Those of Bangladesh, Nepal, Bhutan, and Sri Lanka. Compact Edition*, 10 vols. (Delhi: Oxford University Press).

- Alvi, M. A., and Rahman, A. (1968), *Jahangir the Naturalist* (Mongraph Series, 3; New Delhi: National Institute of Sciences of India), ARK: [ark:/13960/t59d2897k](https://ark.org/t59d2897k).
- Angermeier, Vitus (2021), "Agni and Soma Revisited: A Primordial Āyurvedic Concept?," in Toke Lindegaard Knudsen, Jacob Schmidt-Madsen, and Sara Speyer (eds.), *Body and Cosmos* (Leiden: Brill), chap. 3, 15–32. doi: [10/hbph79](https://doi.org/10/hbph79).
- Azeez Pasha, M. (1971), "English Translation of Madan-ul-Shifa, Tibbe Sikandar Shahi (Sikandar Shah's Mine of Medicine)," *Bulletin of the Department of History of Medicine (Osmania University, Hyderabad)*, 2/4: 227–2324; continued in BDHM 3(1) 29–38; BIHM 1(3/4) 127–134; & BIHM 2(1), 17–22.
- Bagchi, P. C. (1941), "New Materials for the Study of the Kumāratantra of Rāvana," *Indian Culture*, 7/4: 269–86, URL: <https://archive.org/details/in.ernet.dli.2015.281551/page/n280/mode/1up>.
- Bailey, Harold W. (1970), "Vāsta," *Acta Orientalia*, 30: 20, ISSN: 0001-6438. doi: [10/gmw34d](https://doi.org/10/gmw34d).
- Baingrigge Fletcher, T. (1914), *Some South Indian Insects and Other Animals of Importance Considered Especially from an Economic Point of View* (Madras: Government Press), ARK: [ark:/13960/t2f76s67n](https://ark.org/t2f76s67n).
- Ball, Valentine (1888), "On the Identification of the Animals and Plants of India Which Were Known to Early Greek Authors," *Proceedings of the Royal Irish Academy*, 2 (1879–1888)/6: 302–46, URL: <https://www.jstor.org/stable/20651530>.
- Barceloux, Donald G. (2008), *Medical Toxicology of Natural Substances. Foods, Fungi, Medicinal Herbs, Plants, and Venomous Animals* (Hoboken, NJ, etc.: John Wiley & Sons), ISBN: 047172761X.
- Bedekar, V. M. (1967), "The Legend of the Churning of the Ocean in the Epics and the Purāṇas: A Comparative Study," *Purāṇa*, 9/1: 7–61, ARK: [ark:/13960/t57d2r97r](https://ark.org/t57d2r97r).
- Bellini, Marco (2025), "The Byzantine Alchemist Christianos and His Procedures on Indian Lac," *Ambix*, 72/2 (Mar.): 127–42, ISSN: 1745-8234. doi: [10/hbph69](https://doi.org/10/hbph69).
- Bhaṭṭācārya, Candrakānta (1908–11) (ed.), सुश्रुतसंहिता प्रथमखण्डम् सूत्रस्थानात्मकम् हाराणचन्द्रचक्रवर्तीकविराजविरचितसुश्रुतार्थसन्दीपनभाष्य-समेतम्...चन्द्रकान्त भट्टाचार्य-प्रसुतैः संशोधितम् = [The Suśrutasaṃhitā with the Commentary Suśrutārthaśandīpanabhāṣya by Hārāṇacandra Cakravarti] (Kalikātā: Satya Press); edition "t" in HIML: IB, 312.
- Bhaṭṭācārya, Rāmaśaṅkara (1965), तत्त्वसमाससूत्रम् भावागणेशाकृत-तत्त्वयाथार्थदीपनटीकान्वितम् (Vārāṇasī: Bhāratīya Vidyā Prakāśana), ARK: [ark:/13960/t1ng8xbog](https://ark.org/t1ng8xbog).

- Biardeau, Madeleine (1964), *Théorie de la connaissance et la philosophie de la parole dans la brahmanisme classique* (Paris & La Haye: Mouton & Co.), ARK: [ark:/13960/t42r7g950](https://ark:/13960/t42r7g950).
- (1981), *Etudes de mythologie hindoue I. Cosmogonies purāṇiques* (Paris: EFEO), URL: [https://www.persee.fr/doc/befeo\\_0336-1519\\_1968\\_num\\_54\\_1\\_3775](https://www.persee.fr/doc/befeo_0336-1519_1968_num_54_1_3775).
- Birch, Jason (2024), "Yoga and Ayurvedic Medicine in South Asia," in Chiara Thumiger (ed.), *Comparative Guts: Exploring the Inside of the Body through Time and Space* (Kiel: Christian-Albrechts-Universität zu Kiel, Exzellenzcluster ROOTS), 101–7. doi: [10.38071/2024-00345-3](https://doi.org/10.38071/2024-00345-3).
- Birch, Jason, Wujastyk, Dominik, Klebanov, Andrey, Parameswaran, Madhu K., et al. (2021), "Further Insight into the Role of Dhanvantari, the Physician to the Gods, in the Suśrutasamhitā," *Academia Letters*. doi: [10/hbph78](https://doi.org/10/hbph78).
- Birch, Jason, Wujastyk, Dominik, Klebanov, Andrey, Rimal, Madhusudan, et al. (2021), "Ḍalhaṇa and the Early 'Nepalese' Version of the Suśrutasamhitā." doi: [10/hbph77](https://doi.org/10/hbph77).
- Bloomfield, Maurice (1890), "The Kauśika Sūtra of Atharva Veda With Extracts from the Commentaries of Dārila and Keśava," *Journal of the American Oriental Society*, 14, ISSN: 0003-0279. doi: [10/dwtbxv](https://doi.org/10/dwtbxv); reprint of the 1889 edition, JAOS.
- Böhtlingk, Otto (1879), *Sanskrit-wörterbuch in kürzerer fassung* (St. Petersburg: Kaiserlichen Akademie der Wissenschaften), URL: <https://www.sanskrit-lexicon.uni-koeln.de/scans/PWScan/2020/web/>, accessed 18/05/2023.
- Böhtlingk, Otto, and Roth, Rudolph (1855–75), *Sanskrit-Wörterbuch* (St. Petersburg: Kaiserlichen Akademie der Wissenschaften), URL: <https://www.sanskrit-lexicon.uni-koeln.de/scans/PWGScan/2020/web/>, accessed 18/05/2023.
- Bosworth, C. Edmund (1994), "Abū Ḥafṣ 'umar Al-kirmānī and the Rise of the Barmakid," *Bulletin of the School of Oriental and African Studies*, 57/2: 268–82, URL: <http://www.jstor.org/stable/620573>.
- Brahmaśāṅkaramiśra (1935) (ed.), भवप्रकाश, पूर्वखण्ड (Varanasi: Caukhambā Saṃskṛta Pustakālaya), ARK: [ark:/13960/s2768v66q4c](https://ark:/13960/s2768v66q4c).
- Breton, P. (1826), "On the Native Mode of Couching," *Transactions of the Medical and Physical Society of Calcutta*, 2: 341–82, ARK: [ark:/13960/t3dz8nn5t](https://ark:/13960/t3dz8nn5t), URL: <https://archive.org/details/s8id13658440/page/338/mode/2up>, accessed 02/06/2021.
- Bronkhorst, Johannes (2016), *How the Brahmins Won: From Alexander to the Guptas* (Leiden: Brill). doi: [10/hbph83](https://doi.org/10/hbph83).

- Brooks, Lisa Allette (2018), "Epistemology and Embodiment: Diagnosis and the Senses in Classical Ayurvedic Medicine," *Asian Review of World Histories*, 6: 98–135. doi: [10/gjngmf](https://doi.org/10/gjngmf).
- (2020a), "A Surgeon's Hand: Reflections on Surgical Tactility in Early Ayurveda," *Asian Medicine*, 15/1: 30–62. doi: [10/hbph8c](https://doi.org/10/hbph8c).
- (2020b), "Whose Life is Water, Whose Food is Blood: Fluid Bodies in Āyurvedic Leech Therapy," in Natalie Köhle and Shigehisa Kuriyama (eds.), *Fluid Matter(s): Flow and Transformation in the History of the Body* (Asian Studies Monograph Series, 14; Canberra: ANU Press). doi: [10/ghx8zq](https://doi.org/10/ghx8zq).
- (2021), "The Vascularity of Ayurvedic Leech Therapy: Sensory Translations and Emergent Agencies in Interspecies Medicine," *Medical Anthropology Quarterly*, 35/1: 82–101. doi: [10/hbph76](https://doi.org/10/hbph76).
- (2021), "Translating Touch in Āyurveda: Medicine, Sense, and Subjectivity in Early south Asia and Contemporary Kerala," PhD thesis (University of California, Berkeley).
- (in press), "Leech Logic: Classification, Sensation, and Care," in Hsiao-wen Cheng, Yan Liu, and Margaret Ng (eds.), *Global Lives of Medicines: Materials, Markets, and Healing Practices Across Asia* (Seattle: University of Washington Press).
- Brunton, T. Lauder, and Fayerer, Joseph (1909), "On the Nature and Physiological Action of the Poison of Naja tripudians and other Indian Venomous Snakes, parts I and II," in *On the Poison of Venomous Snakes and the Methods of Preventing Death from their Bite* (London: Macmillan and Co.), 1–22, 23–110, ARK: [ark:/13960/tobv7ts2c](https://ark.org/13960/tobv7ts2c).
- Buchanan, Andrew (1904), *Report on Lathyrisma in the Central Provinces in 1896–1902* (Nagpur: Central Provinces Administration), ARK: [ark:/13960/t5dcoj55z](https://ark.org/13960/t5dcoj55z).
- Burrow, Thomas (1948), "Dravidian Studies VII," *Bulletin of the School of Oriental and African Studies* (London), 12/2: 365–96, URL: <https://www.jstor.org/stable/608752>.
- (1971), "Spontaneous Cerebrals in Sanskrit," *Bulletin of the School of Oriental and African Studies*, 34/3: 538–59. doi: [10/c7bcgs](https://doi.org/10/c7bcgs), URL: <https://www.jstor.org/stable/613901>.
- (1977), *The Sanskrit Language* (The Great Languages; 3rd edn., London: Faber and Faber), ISBN: 0571048196; First published in 1955.
- Byrski, Maria Christopher (1981), "Is there a Sanskrit Word for Pumice," *Indologica Taurinensis*, 8–9, URL: [http://www.asiainstitutetorino.it/Indologica/volumes/vol08-09/vol\\_08-09\\_art09\\_byrski.pdf](http://www.asiainstitutetorino.it/Indologica/volumes/vol08-09/vol_08-09_art09_byrski.pdf).

- Caillat, Colette (2019), "On the Medical Doctrines in the Tandulaveyāliya: 2. Teachings of Anatomy," trans. Brianne Donaldson, *International Journal of Jaina Studies*, 15/1: 1–12, ISSN: 1748-1074, URL: <https://www.soas.ac.uk/sites/default/files/2022-06/On%20the%20Medical%20Doctrines%20in%20the%20Tandulavey%C4%81liya%202%20Teachings%20of%20Anatomy%20file139945.pdf>, accessed 07/07/2019.
- Cardona, George (1976), *Pāṇini: A Survey of Research* (Trends in Linguistics State-of-the Art Reports, 6; The Hague: Mouton & Co. B.V., Publishers), ARK: <ark:/13960/s2mtq72w6s2>.
- Chakraborty, Deepro (2022), "NAK 5/333 is not a direct copy of KL 699: further evidence." doi: <10/hbph7q>.
- Chatterjee, Amita (2021), "Naturalism in Classical Indian Philosophy," in Edward N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2021, Metaphysics Research Lab, Stanford University), URL: <https://plato.stanford.edu/archives/win2021/entries/naturalism-india/>.
- Chatterji, Suniti Kumar (1974), *Kiraata-Jana-Kṛti* (2nd edn., Calcutta: The Asiatic Society), ARK: <ark:/13960/t47q4b12c>; 1998 reprint.
- Chevers, Norman (1870), *A Manual of Medical Jurisprudence for India, Including the Outline of a History of Crime against the Person in India* (3rd edn., Calcutta), With plates, ARK: <ark:/13960/t7sn5b13b>.
- (1886), *A Commentary on the Diseases of India* (London: J. & A. Churchill), ARK: <ark:/13960/t72v3bn2q>.
- Chevillard, Jean-Luc (2009), "The Metagrammatical Vocabulary inside the Lists of 32 Tantrayuktis and its Adaptation to Tamil: Towards a Sanskrit-Tamil Dictionary," in Eva Wilden (ed.), *Between Preservation and Recreation: Tamil Traditions of Commentary. Proceedings of a Workshop in honour of T.V. Gopal Iyer* (École Française d'Extrême-Orient Collection Indologie, 109; Pondichéry: Institut français de Pondichéry / École Française d'extrême-Orient), 71–132, URL: <https://www.academia.edu/4769252>, accessed 15/11/2023.
- Clark, Matthew (2017), *The Tawny One. Soma, Haoma and Ayahuasca* (London: Muswell Hill Press), ISBN: 978-1908995223.
- Cohen, Jack (1990), "The Function of Human Semen Coagulation and Liquefaction In Vivo," in *Advances in Assisted Reproductive Technologies*, ed. Shlomo Mashiach, Zion Ben-Rafael, Neri Laufer, et al. (NY & London: Plenum Press), 443–52, ISBN: 9781461306450. doi: <10/fxx6s6>.

- Comba, Antonella Serena (1994), "L'enseignement médical en Inde. Un méthode d'exposition (tantra-yukti): l'adhikaraṇa ou spécification du sujet," in Nalini Balbir (ed.), *Genres littéraires en Inde* (Paris: Presses de La Sorbonne Nouvelle), 151–64, ARK: [ark:/13960/s2mb8kpr6px](https://ark.org/13960/s2mb8kpr6px).
- (2011), *La medicina Indiana (Āyurveda)* (2nd edn., Research Triangle, NC: Lulu.com), ISBN: 9781447716570.
- Cone, Margaret (2001), *A Dictionary of Pāli* (Oxford: The Pali Text Society), ISBN: 0 86013 394 x.
- Cowell, E. B., Chalmers, R. C., W. H. D. Rouse, H. T., et al. (1895–1907), *The Jātaka or Stories of the Buddha's Former Births, Translated from the Pāli by Various Hands*, ed. E. B. Cowell (Cambridge: Cambridge University Press); v. 1 ARK: [ark:/13960/t5j969876](https://ark.org/13960/t5j969876); v. 2 ARK: [ark:/13960/toms3vr71](https://ark.org/toms3vr71); v. 3 ARK: [ark:/13960/t7mp55t8](https://ark.org/t7mp55t8); v. 4 ARK: [ark:/13960/t2p61wr9z](https://ark.org/t2p61wr9z); v. 5 ; v. 6 (1907) ARK: [ark:/13960/tojt8933k](https://ark.org/tojt8933k).
- Cox, Whitney (2011), "Saffron in the Rasam," in Y. Bronner, L. McCrea, and W. Cox (eds.), *South Asian Texts in History: Critical Engagements with Sheldon Pollock* (Asia Past & Present: New Research from AAS, 7; Ann Arbor: Association for Asian Studies), chap. 8, 177–201, ISBN: 9780924304637, ARK: [ark:/13960/t5r89k36f](https://ark.org/t5r89k36f); reprinted Delhi, 2016.
- Das, Rahul Peter (1983), "Miscellanea de Operibus Āyurvedics," *Journal of the European Āyurvedic Society*, 1: 47–68, ARK: [ark:/13960/t53g37n9t](https://ark.org/t53g37n9t).
- (2003), *The Origin of the Life of a Human Being. Conception and the Female According to Ancient Indian Medical and Sexological Literature* (Indian Medical Tradition; Delhi: Motilal Banarsidas), ISBN: 81-208-1998-5.
- Dasgupta, S. N. (1952a), "Speculations in the Medical Schools," in *A History of Indian Philosophy*, 2 (Reprint of 1932 edition, Cambridge: Cambridge University Press), chap. 13, 273–436, ARK: [ark:/13960/t1hh6c83r](https://ark.org/t1hh6c83r).
- (1952b), "Speculations in the Medical Schools," in *A History of Indian Philosophy*, 2 (Reprint of 1932 edition, Cambridge: Cambridge University Press), chap. 13, 273–436, URL: <https://archive.org/details/indianphilosophy02dasguoft>, accessed 26/01/2018.
- Dasgupta, Surendranath (1952–61), *A History of Indian Philosophy*, 5 vols. (Cambridge: Cambridge University Press), ISBN: 0-521-04778-1, URL: <https://tinyurl.com/ratwdof>, accessed 26/01/2018; Reprint of 1922 edition.
- Dave, K. N. (1985), *Birds in Sanskrit Literature* (Delhi: Motilal BanarsiDass), ISBN: 0-89581-676-8, ARK: [ark:/13960/t2c94cv8o](https://ark.org/t2c94cv8o).

- Deleanu, Florin (1997), "A Preliminary Study on an Shigao's Translation of the Yogācārabhūmi," *The Journal of the Department of Liberal Arts, Kansai Medical University*, 17/March: 33–52, URL: [https://www.researchgate.net/publication/396974904\\_An\\_Shigao'\\_s\\_translation\\_of\\_the\\_Yogacarabhum](https://www.researchgate.net/publication/396974904_An_Shigao'_s_translation_of_the_Yogacarabhum).
- Demiéville, Paul (1954), "La Yogācārabhūmi de Saṅgharakṣa," *Bulletin de l'École Française d'Extrême-Orient*, 44 (1951)/2: 339–435. doi: [10/bzg6kh](https://doi.org/10/bzg6kh).
- Deshpande, Adwait M., Sastry, K. Venkata, and Bhise, Satish B. (2022), "A Contemporary Exploration of Traditional Indian Snake Envenomation Therapies," *Tropical Medicine and Infectious Disease*, 7/6: 108, ISSN: 2414-6366. doi: [10/hbph7p](https://doi.org/10/hbph7p).
- Deshpande, Vijaya (1999), "Indian Influences on Early Chinese Ophthalmology: Glaucoma As a Case Study," *Bulletin of the School of Oriental and African Studies*, 62: 306–22. doi: [10/dww4pz](https://doi.org/10/dww4pz).
- (2000), "Ophthalmic Surgery: A Chapter in the History of Sino-indian Medical Contacts," *Bulletin of the School of Oriental and African Studies*, 63/3: 370–88, ISSN: 0041-977X. doi: [10/dqvj74](https://doi.org/10/dqvj74).
- Desmond, Ray (1992), *The European Discovery of the Indian Flora* (Oxford, Delhi: Oxford University Press), ISBN: 9780198546849. doi: [10/hbph9s](https://doi.org/10/hbph9s).
- Deuti, Kaushik (2020), *Skinks of India*, ed. Sujoy Raha and Probath Bag (Kolkata: Zoological Survey of India), ISBN: 9788181715517.
- Diedrich, Veronica, Zweerink, Kara, and Elder, Brandon (2024), "Plant Dermatitis," *Emergency Medicine Clinics of North America*, 42/3: 613–38, ISSN: 0733-8627. doi: [10/hbph7c](https://doi.org/10/hbph7c).
- Dikshitar, V. R. Ramachandra (1930), "Tantrayukti," *Journal of Oriental Research*, 4: 82–9, ARK: [ark:/13960/t3bo4m19g](https://ark:/13960/t3bo4m19g).
- Doniger, Wendy (2015), "Introduction: Sympathy for the Devi: Snakes and Snake Goddesses in Hinduism," in Kaiser Haq, *The Triumph of the Snake Goddess* (Cambridge, MA: Harvard University Press), 1–28. doi: [10/hbph84](https://doi.org/10/hbph84).
- Dover, Cedric (1922), "Entomology in India," *The Calcutta Review*, 3/2: 336–49, ARK: [ark:/13960/t16n5nm66](https://ark:/13960/t16n5nm66).
- Dvivedin, Vindhyaśvarī Prasāda (1996) (ed.), सांख्यसङ्ख्यः = *Sāṃkhya Saṃgraha on the Works of Sāṃkhya Philosophy* (Chowkhamba Sanskrit Series, 50; 2nd edn., Benares: Chowkhamba Sanskrit Series Office), ARK: [ark:/13960/t1op9pw5q](https://ark:/13960/t1op9pw5q).
- Eco, Umberto (2004), *Mouse or Rat? Translation As Negotiation* (London: Orion), ISBN: 9780297830016.

- Edgerton, Franklin (1953), *Buddhist Hybrid Sanskrit Grammar and Dictionary* (William Dwight Whitney Linguistic Series; New Haven: Yale University Press); vol. 1: Grammar, vol. 2: Dictionary.
- Edgeworth, M. Pakenham (1851), "Descriptions of Some Unpublished Species of Plants from North-Western India," *Transactions of the Linnean Society of London*, 20: 23–92, ARK: [ark:/13960/t9x060p3b](#).
- Eggermont, Pierre Herman Leonard (1975), *Alexander's Campaigns in Sind and Baluchistan and the Siege of the Brahmin Town of Harmatelia* (Louvain: Leuven University Press), ISBN: 9061860377, ARK: [ark:/13960/s2bf83pcchxw](#).
- Ellenhorn, Matthew J. (1997), *Ellenhorn's Medical Toxicology. Diagnosis and Treatment of Human Poisoning* (2. ed., Baltimore, MD: Williams & Wilkins), ISBN: 0683300318, ARK: [ark:/13960/s21qsb3jf1v](#); Previous ed.: London: Elsevier, 1988.
- Elliot, Robert Henry (1918), *The Indian Operation of Couching for Cataract: Incorporating the Hunterian Lectures Delivered before the Royal College of Surgeons of England on February 19 and 21, 1917* (London: H. K. Lewis).
- Elshakry, Marwa S. (2008), "Knowledge in Motion: The Cultural Politics of Modern Science Translations in Arabic," *Isis*, 99/4: 701–30. doi: [10/bh77v4](#), URL: <https://www.jstor.org/stable/10.1086/595767>, accessed 24/02/2019.
- Elwin, Verrier (1955), *The Religion of an Indian Tribe* (London, Glasgow, New York, etc.: Oxford University Press), ARK: [ark:/13960/totr5kj79](#).
- Emeneau, M. B. (1969), "Sanskrit Syntactic Particles – "kila, khalu, nūnam"," *Indo-Iranian Journal*, 11/4: 241–68.
- Emmerick, Ronald E. (1984), "Some Remarks on the History of Leprosy in India," *Indologica Taurinensia*, 12: 93–105. doi: [10/hbph9v](#).
- Ewart, Joseph (1878), *The Poisonous Snakes of India: For the Use of the Officials and Others Residing in the Indian Empire* (London: J & A Churchill), ISBN: 81-7002-011-5, ARK: [ark:/13960/t9z07w72g](#); Reprinted Delhi: Himalayan Books, 1985.
- Falk, Harry (1991), "Silver, Lead and Zinc in Early Indian Literature," *South Asian Studies*, 7/1: 111–7. doi: [10/cpdxsq](#).
- Fan, Ka Wai (2005), "Couching for Cataract and Sino-Indian Medical Exchange From the Sixth to the Twelfth Century AD," *Clinical and Experimental Ophthalmology*, 33/2: 188–90. doi: [10/fj4zfx](#); unaware of V. Deshpande 1999; 2000.
- Fausbøll, Viggo (1877–96), *The Jātaka. Together with Its Commentary. Being Tales of the Anterior Births of Gotama Buddha*, 7 vols. (London: Trübner); V.7 is indexes by Dines Andersen.

- Fayrer, Joseph (1874), *The Thanatophidia of India, Being a Description of the Venomous Snakes of the Indian Peninsula with and Account of the Influence of their Poison on Life and a Series of Experiments* (2nd edn., London: Churchill), ARK: [ark:/13960/t9h49dg5c](https://ark.org/13960/t9h49dg5c); First edition 1872.
- Filliozat, Jean (1937), *Étude de démonologie indienne: le Kumāratantra de Rāvaṇa et les textes parallèles Indiens Tibétains, Chinois, Cambodgien et Arabe* (Cahiers de la Société asiatique. Première série, 4; Paris: Imprimerie Nationale), ARK: [ark:/13960/s2n9zpkg11f](https://ark.org/13960/s2n9zpkg11f).
- Frauwallner, Erich (1958), "Die Erkenntnislehre des klassischen Sāṃkhya-Systems," *Wiener Zeitschrift für die Kunde Süd- und Ostasiens und Archiv für indische Philosophie*, 2: 84–139, ARK: [ark:/13960/s2sdmmt8nf8](https://ark.org/13960/s2sdmmt8nf8).
- (1984), *History of Indian Philosophy...Translated from Original German into English by V. M. Bedekar* (Delhi: Motilal Banarsi Dass); Reprint of 1973 edition. Original German volumes published in 1953 and 1956c.
- Froese, R., and Pauly, D. (2022) (eds.), "Fishbase: The Global Encyclopedia about Fish," URL: <https://www.fishbase.org.au/v4>.
- Gaastra, Dieuke (1919) (ed.), *Das Gopatha Brāhmaṇa* (Leiden: Brill), ARK: [ark:/13960/t5m96jk2b](https://ark.org/13960/t5m96jk2b).
- Gaṇapatiśāstrī, T. (1920–25), *Āryamañjuśrīmūlakalpaḥ* (Trivandrum Sanskrit Series, 70; Anantaśayane: Rājakīyamudraṇayantrālaye), ARK: [ark:/13960/t4pk5sjoj](https://ark.org/13960/t4pk5sjoj).
- Geeta, R., and Gharaibeh, Waleed (2007), "Historical Evidence for a Pre-Columbian Presence of Datura in the Old World and Implications for a First Millennium Transfer from the New World," *Journal of Biosciences*, 32/S3: 1227–44, ISSN: 0973-7138. doi: [10/ff72g4](https://doi.org/10.1007/s12303-007-0093-2).
- Ghāṇekara, Bhāskara Govinda (1936–41), महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता आयुर्वेद-रहस्यदीपिकाव्यया हिन्दीव्याख्या समूलसिता = *Sushruta Saṃhitā with Hindi Commentary Named "Ayurveda Rahasyadīpikā"*, 2 vols. (1st edn., Lahore: Meharacandra Lakṣmanadāsa); no more published. Edition "ee" in HIMAL: IB, 313, 2: शारीरस्थानात्मकः द्वितीयो भागः = *Shārirsthān* (1941), 2: सूत्रनिदानस्थानात्मकः प्रथमो भागः = *Volume 1, Sutra and Nidānsthān* (1936).
- Ghosh, Ritwik, León-Ruiz, Moisés, Das, Shambaditya, et al. (2023), "Snakebite Envenomation-Induced Posterior Reversible Encephalopathy Syndrome Presenting with Bálint Syndrome," *Neurología (English Edition)*, 38/6 (July): 440–2, ISSN: 2173-5808. doi: [10/hbph7h](https://doi.org/10/hbph7h).

- Gildemeister, Johannes (1847), *Bibliothecae Sanskritae sive recensus librorum sanskitorum hucusque typis vel lapide exscriptorum critici specimen* (Bonn and London: H. B. Koenig), ARK: [ark:/13960/t4rj5dm7j](https://ark:/13960/t4rj5dm7j).
- Gombrich, Richard (1979), "'He Cooks Softly': Adverbs in Sanskrit Grammar," *Bulletin of the School of Oriental and African Studies*, 42/2: 244–56. doi: [10/fbbhtn](https://doi.org/10/fbbhtn).
- Gonda, Jan (1977), *The Ritual Sutras* (A History of Indian Literature, 1.2; Wiesbaden: Harrassowitz).
- Gongkatsang, Tsering, and Willis, Michael (2018), "How to Use a Text and What to Expect: Translation of the Instructions Appended to the Āryatathāgatoṣṇīśasītāpatre Aparajītamahāpratyamgīraparamasiddhanāma Dhāraṇī," URL: <http://doi.org/10.5281/zenodo.1470798>.
- Gostomiris, A.-G. (1897), "Études sur les écrits inédits des anciens médecins grecs et ceux dont le texte original est perdu, mais qui existent en latain or en arabe, première série," *Revue des Études Grecques*, 2/8: 343–83, ARK: [ark:/13960/t9j469d5d](https://ark:/13960/t9j469d5d), URL: <https://www.jstor.org/stable/44265629>.
- Goswami, Pradip Kumar (2011), "Comparative Studies of Bhanumati and Nibandha Samgraha with Special Reference to Arista Vijnana (prognostic Science)," *AYU (An International Quarterly Journal of Research in Ayurveda)*, 32/2: 147. doi: [10/gb95v6](https://doi.org/10/gb95v6).
- Govindjī, Śāstrī Kālidās, Jīvanrām, Vaidyarāj Prabhurām, and Prabhurām, Papat (1901) (eds.), सुश्रूत आयुर्वेद. गुजराती भाषान्तर = [Suśrutasamhitā with a Gujarati Translation] (Mumbai: Nirṇaya Sāgara Press), ARK: [ark:/13960/to8w8r74f](https://ark:/13960/to8w8r74f); edition \*r in [HIML](#).
- Gow, A. S. F., and Scholfield, A. F. (1953), *Nicander. The Poems and Poetical Fragments, Edited with a Translation and Notes* (Cambridge: Cambridge University Press), ARK: [ark:/13960/t5n95440h](https://ark:/13960/t5n95440h).
- Gupta, Parmanand (1989), *Geography from Ancient Indian Coins & Seals* (New Delhi: Concept Publishing Company), ISBN: 9788170222484.
- Gupta, Sri Madhusudana (1835–36) (ed.), Āyur-veda-prakāśa [Also Called Suśrutasamhitā] by Suśruta. The Suśruta, or System of Medicine, Taught by Dhanwantari, and Composed by His Disciple Suśruta, 2 vols. (Calcutta: Education Press and Baptist Mission Press), ARK: [ark:/13960/t6841qw6x](https://ark:/13960/t6841qw6x).
- Gupta, Śyāmacaraṇa (1887), आयुर्वेदार्थचन्द्रिका [=Āyurvedārtha candrikā] (Calcutta), ARK: [ark:/13960/t5w71k903](https://ark:/13960/t5w71k903).
- Hamza, Muhammad, Knudsen, Cecilie, Gnanathasan, Christeine Ariaranee, et al. (2021), "Clinical Management of Snakebite Envenoming: Future Perspectives," *Toxicon*: X 11/100079: 1–12, ISSN: 2590-1710. doi: [10/hbph74](https://doi.org/10/hbph74).

- Harimoto, Kengo (2011), "In Search of the Oldest Nepalese Manuscript," *Rivista degli Studi Orientali*, 84/1–4: 85–106, ISSN: 0392-4866, URL: <https://www.academia.edu/4128593/>, accessed 08/09/2019.
- (2013), "More Observations on the Old Nepalese Manuscripts of the Suśrutasamhitā: oral presentation of the 20th congress of the Association for the Study of the History of Indian Thought, the University of Tokyo, December 2013."
- Harzer, Edeltraud (2006), *The Yuktidīpikā: A Reconstruction of Sāṅkhya Methods of Knowing* (Indologica Halensis; Aachen: Shaker), 154 pp., ISBN: 3832249230, ARK: <ark:/13960/t4os8dg7g>.
- Hayashi, Takao (2017), "The Units of Time in Ancient and Medieval India," *History of Science in South Asia*, 5/1: 1–116. doi: [10/gs3j94](https://doi.org/10/gs3j94).
- Hellwig, Oliver (2009), *Wörterbuch Der Mittelalterlichen Indischen Alchemie* (Groningen: Barkhuis & University of Groningen, University Library), ISBN: 9789077922620. doi: [10/hbph9p](https://doi.org/10/hbph9p), URL: <https://www.academia.edu/1268947/>, accessed 19/06/2020.
- Hemarājaśarman (1938) (ed.), काश्यपसंहिता (वृद्धजीवकीयं तत्रं वा) महर्षिणा मारीचकश्यपे नोपदिष्टा ... हेमराजशर्मणा लिखितेन विस्तृतेन उपोद्धातेन संहिता ... सत्यपाल भिषगा कृतया विद्योतिनी हिन्दीव्याख्या ... समुल्लसिता (1st edn., Mumba: Nirṇayasāgara Press), ARK: <ark:/13960/t3mw5gb9p>.
- Hendley, T. Holbein (1895), *A Medico-topographical Account of Jeypore, Based on the Experience of Twenty Years' Service As a Residency Surgeon and Thirteen As Superintendent of Dispensaries at Jeypore, Rajputana* (Calcutta: Calcutta Central Press Company).
- Hessler, Franciscus (1844–55), *Suśrutas Ayurvédas: id est Medicinae Systema a Venerabili D'havantere Demonstratum a Susruta Discipulo Compositum; Nunc Primum Ex Sanskrita in Latinum Sermonem Vertit, Introductionem, Annotationes Et Rerum Indice Franciscus Hessler* (Erlangen: Ferdinandum Enke), ARK: <ark:/13960/t17m45r97>.
- Hidas, Gergely (2019), *A Buddhist Ritual Manual on Agriculture: Vajratuṇḍasamaya-kalparāja – Critical Edition* (Berlin & Boston: De Gruyter), ISBN: 9783110621051. doi: [10/hbph8n](https://doi.org/10/hbph8n).
- Hilloowala, Franmak (2019), "Ibn Abī Uṣaybi‘ah: His Life and Career," in Emily Savage-Smith (ed.), *A Literary History of Medicine – The ‘Uyūn al-anbā’ fi ṭabaqāt al-ṭibbā’ of Ibn Abī Uṣaybi‘ah*, 1 (Leiden: Brill), chap. 2, 13–26. doi: [10/hbph8m](https://doi.org/10/hbph8m).

- Hirschberg, Julius, and Leffler, Christopher T. (2024) (eds.), *A New History of Cataract Surgery: From Antiquity through 1750* (The History of Ophthalmology – The Monographs, 17; Amsterdam: Wayenborgh Publications), ISBN: 9789062994724.
- Hoernle, A. F. Rudolf (1893–1912) (ed.), *The Bower Manuscript: Facsimile Leaves, Nagari Transcript, Romanised Transliteration and English Translation with Notes* (New Imperial Series, 22; Calcutta: Government of India and under the patronage of the Bengali Government, Archaeological Survey of India), ARK: [ark:/13960/t1wd8kx1x](http://ark:/13960/t1wd8kx1x).
- (1897), *सुश्रूतसंहिता = The Suṣruta-Saṃhitā or the Hindū System of Medicine According to Suṣruta Translated from the Original Sanskrit* (Bibliotheca Indica, 911; Calcutta: Asiatic Society), ARK: [ark:/13960/t8pd1kw9r](http://ark:/13960/t8pd1kw9r), accessed 03/01/2018; No more published; Hoernle does not state which edition he is translating, but it includes the "Dhanvantari phrase".
- (1907), *Studies in the Medicine of Ancient India: Osteology or the Bones of the Human Body* (Oxford: Clarendon Press), ARK: [ark:/13960/t1pg9cq8b](http://ark:/13960/t1pg9cq8b).
- Hopkins, Edward W. (1889), "The Social and Military Position of the Ruling Caste in Ancient India, as Represented by the Sanskrit Epic," *Journal of the American Oriental Society*, 13: 57–376.
- Hort, Arthur (1916) (ed. and trans.), *Theophrastus: Enquiry into Plants, ... with an English Translation by Arthur Hort* (Cambridge MA: Harvard University Press), ISBN: 0674990773, ARK: [ark:/13960/t693ork1g](http://ark:/13960/t693ork1g); vol.2: ARK: [ark:/13960/t51gokkoz](http://ark:/13960/t51gokkoz).
- Hulin, Michel (1978), *Sāṃkhya Literature* (A History of Indian Literature, VI, 3; Wiesbaden: Otto Harrassowitz).
- Husain, Shaykh, Ali, Shaykh, and Hatim, Shaykh (1591), "Scorpions (Detail of Asavari Ragini Painting)," National Museum of Asian Art, Smithsonian Institution, ARK: [ark:/65665/ye31efef5ad-31e8-45a1-bfc8-856e338b5486](http://ark:/65665/ye31efef5ad-31e8-45a1-bfc8-856e338b5486), accessed 18/01/2025.
- Ihm, Sibylle (1995), *Der Traktat περὶ τῶν ἰοβόλων θηρίων καὶ δηλητηρίων φαρμάκων des sog. Aelius Promotus* (Serta Graeca; Wiesbaden: L. Reichert), ISBN: 9783882268225.
- Irwin, John C. (1982), "The Sacred Anthill and the Cult of the Primordial Mound," *History of Religions*, 21/4: 339–60, ISSN: 00182710, 15456935, URL: <http://www.jstor.org/stable/1062329>, accessed 24/01/2024.
- Jack, David Morton (1884), "A Thesis on Cataract in India: Its Pathology and Treatment," Wellcome Library, London, MS 3007, URL: <https://catalogue.wellcomelibrary.org/record=b1842019~S8>, accessed 02/06/2021.

- Jamison, Stephanie W., and Brereton, Joel P. (2014), *The Rigveda. The Earliest Religious Poetry of India* (South Asia Research; New York: Oxford University Press), ISBN: 9780199370184; With commentary at <http://rigvedacommentary.alc.ucla.edu/>.
- Jhā, Gaṅgānātha (1939), *Gautama's Nyāyasūtras (With Vātsyāyana-Bhāṣya)*. Translated into English with his own Revised Notes (Poona: Oriental Book European), ARK: <ark:/13960/s273b5hhbkp>.
- Jhalakīkar, Bhīmācārya (1978), न्यायकोशः (सकलशास्त्रोपकारकन्यायादिशास्त्रीयपदार्थप्रकाशकः) = *Nyāyakośa or Dictionary of Technical Terms of Indian Philosophy* (Poona: Bhandarkar Oriental Research Institute), ARK: <ark:/13960/t4cp7242f>.
- Jolly, Julius (1951), *Indian Medicine*, Translated from the German...by C. G. Kashikar (Poona: C. G. Kashikar), URL: <https://archive.org/details/in.ignca.8567>, accessed 08/11/2017; 2nd edition Delhi: Munshiram Manoharlal, 1977, 1994 etc.
- Joshi, S. D., and Roodbergen, J. A. F. (1991), *The Aṣṭādhyāyī of Pāṇini with Translation and Explanatory Notes* (New Delhi: Sahitya Akademi).
- Jośī, Digambara Nāgeśa, and Āpaṭe, Vināyaka Gaṇeśa (1922) (eds.), श्रीमद्वात्स्यायनमुकृतभाष्यश्रीविश्वनाथभट्टाचार्यकृतवृत्तिसमेतानि श्रीगौतममुनिप्रणीतन्यायसूत्राणि (Pune: Ānandāśramamudranālaya), ARK: <ark:/13960/t12p3rn5r>.
- Kahl, Oliver (2015), *The Sanskrit, Syriac, and Persian Sources in the Comprehensive Book of Rhazes* (Leiden: Brill), ISBN: 9789004290259.
- Kale, M. R. (1947), *The Meghadūta of Kālidāsa With the Commentary (Samjīvani) of Mallinātha*, Edited with a Literal English Translation... (4th edn., Bombay: B. D. Mulgaokar, of Gopal Narayan & Co), ARK: <ark:/13960/t3fz6x53f>.
- Kangle, R. P. (1965), *The Kauṭiliya Arthaśāstra*, 3 vols. (2nd edn., Delhi: Motilal Banarsiādass), ISBN: 978-81-208-0042-7, ARK: <ark:/13960/t3gz6qh1s>; reprint of 2010, 1: *Part I, Sanskrit Text With a Glossary* (1969), 2: *Part II, Translation with Critical and Explanatory Notes* (1972), 3: *Part III A Study* (1965).
- Karmarkar, Raghunath Damodar (1953), *Gauḍapāda-Kārikā*, Edited with a Complete Translation into English (Poona: Bhandarkar Oriental Research Institute), ARK: <ark:/13960/t9h47zr5t>.
- Karttunen, Klaus (2015), *Yonas and Yavanas in Indian Literature* (Studia Orientalia, 116; Helsinki: Finnish Oriental Society), 454, ISBN: 978-951-9380-88-9, URL: <https://journal.fi/store/issue/view/4184>; Published electronically in 2016 as a back issue of *Studia Orientalia*.
- Kaur, Sagan Deep, and Singh, Lakhvir (2018), *Indian Arthropods in Early Sanskrit Literature: A Taxonomical Analysis*. DOI: [10/hbph8v](https://doi.org/10/hbph8v).

- Khan, Zihan Rahman, et al. (2018), "Medicinal Values of Aquatic Plant Genus *Nymphoides* Grown in Asia: A Review," *Asian Pacific Journal of Tropical Biomedicine*, 8/2: 113–9, ISSN: 2221-1691. doi: [10/hbph8t](https://doi.org/10/hbph8t).
- Kieffer-Pülz, Petra (1996), "The Meaning of Māla(ka)/māla(ka) in Pāli," in N. Balbir, G.-J. Pinault, and J. Fezas (eds.), *Langue, style et structure dans le monde indien, Centenaire de Louis Renou. Actes du Colloque international* (Paris, 25–27 janvier 1996 (Paris), 285–325, URL: <https://www.academia.edu/5597472>, accessed 17/05/2023.
- Klebanov, Andrey (2021a), "On the Textual History of the Suśrutasamhitā (1): A Study of Three Nepalese Manuscripts," *eJIM: Electronic Journal of Indian Medicine*, 12/1: 1–64. doi: [10/hbph72](https://doi.org/10/hbph72).
- (2021b), "On the Textual History of the Suśrutasamhitā, (2): An Anonymous Commentary and its Identified Citations," in Toke Lindegaard Knudsen, Jacob Schmidt-Madsen, and Sara Speyer (eds.), *Body and Cosmos: Studies in Early Indian Medical and Astral Sciences in Honor of Kenneth G. Zysk* (Leiden, Boston: Brill), 110–39. doi: [10/hbph7z](https://doi.org/10/hbph7z).
- Kokoszko, Maciej, and Rzeźnicka, Zofia (2018), "Malabathron (μαλάβαθρον) in Ancient and Early Byzantine Medicine and Cuisine," *Medicina Nei Secoli Arte E Scienza / Journal of History of Medicine*, 30/2: 579–616, ISSN: 0394-9001, URL: [https://rosa.uniroma1.it/rosa01/medicina\\_nei\\_secoli/article/view/1551](https://rosa.uniroma1.it/rosa01/medicina_nei_secoli/article/view/1551).
- Kolhatkar, Madhavi (2005), "Jaiminīyabrāhmaṇa, Pseudocyesis and Homosexuality," *Annals of the Bhandarkar Oriental Research Institute*, 86: 81–92.
- Kritzer, Robert (2009), "Life in the Womb: Conception and Gestation in Buddhist Scripture and Classical Indian Medical Literature," in Vanessa R. Sasson and Jane Marie Law (eds.), *Imagining the Fetus: The Unborn in Myth, Religion, and Culture* (New York: Oxford University Press), 73–90. doi: [10/b8gvq2](https://doi.org/10/b8gvq2).
- (2013), "Garbhāvakrāntau ('In the Garbhāvakrānti'): Quotations from the Garbhāvakrāntisūtra in Abhidharma Literature and the Yogācārabhūmi," in Ulrich Timme Kragh (ed.), *The Foundation for Yoga Practitioners. the Buddhist Yogācārabhūmi Treatise and Its Adaptation in India, East Asia, and Tibet* (Harvard Oriental Series, 75; Cambridge, Mass.: Harvard University Press), 738–71, ISBN: 9780674725430.
- Kuiper, F. B. J. (1953), "The Three Sanskrit Roots añc-/añj-," *Vāk*, 2: 36–98. doi: [10/hbph94](https://doi.org/10/hbph94).

- Kulikov, Leonid (2006), "The Sanskrit -yet- Optative: A Formation Not Yet Recorded in Sanskrit Grammars," *Wiener Zeitschrift für die Kunde Südasiens*, 50: 27–68. doi: [10.1515/wzks.2006.003](https://doi.org/10.1515/wzks.2006.003), URL: <https://www.jstor.org/stable/24007742>.
- Kunjalal Bhishagratna, Kaviraj (1907–16), *An English Translation of the Sushruta Samhita Based on Original Sanskrit Text*, 3 vols. (1st edn., Calcutta: The Author), URL: <https://tinyurl.com/bhishagratna>, accessed 18/02/2021.
- Kunjunni Raja, K. (1963), *Indian Theories of Meaning* (Madras: The Adyar Library and Research Centre), URL: <https://archive.org/details/inernet.dli.2015.495203>, accessed 09/01/2018; 2 ed., 1969.
- Kutumbiah, P. (1962), *Ancient Indian Medicine* (Bombay, etc.: Orient Longmans), ARK: [ark:/13960/t6ro1v93g](https://ark.org/t6ro1v93g); Often reprinted.
- Lamming, George E., and Marshall, Francis H. (1990) (eds.), *Marshall's Physiology of Reproduction: Reproduction in the Male* (4th edn., London: Chapman & Hall), ISBN: 0443019673.
- Larson, Gerald James, and Bhattacharya, Ram Shankar (1987), *Sāṃkhya: A Dualist Tradition in Indian Philosophy* (Encyclopedia of Indian Philosophies, 4; Delhi, Varanasi, etc.: Motilal Banarsiidas).
- Law, Bimala Churn (1984), *Historical Geography of Ancient India* (New Delhi: Orient Books Reprint), ARK: [ark:/13960/t3d01t737](https://ark.org/t3d01t737); Reprint of 1954 Paris edition.
- Leffler, Christopher T., Klebanov, Andrey, Samara, Wasim A., et al. (2020), "The History of Cataract Surgery: From Couching to Phacoemulsification," *Annals of Translational Medicine*, 8/22: 1551–97, ISSN: 2305-5847. doi: [10.1177/2305584720930022](https://doi.org/10.1177/2305584720930022), URL: <http://atm.amegroups.com/article/view/54993>, accessed 02/11/2020.
- Lele, W. K. (1981), *The Doctrine of the Tantrayukti-s: Methodology of Theoretico-scientific Treatises in Sanskrit* (Chaukhamba Surabharati Studies, 3; Varanasi: Chaukhamba Surabharati Prakashan), ARK: [ark:/13960/s28vqzhkdjq](https://ark.org/s28vqzhkdjq).
- (2006), *Methodology of Ancient Indian Sciences* (The Chaukhamba Surbharati Studies, 3; Varanasi: Chaukhamba Surbharati Prakashan), ARK: [ark:/13960/s2dc7zd8hf1](https://ark.org/s2dc7zd8hf1).
- Leslie, I. Julia (1989), *The Perfect Wife* (New Delhi: Oxford University Press).
- Levey, Martin (1966), *Medieval Arabic Toxicology: The Book on Poisons of Ibn Wahshiyya and Its Relation to Early Indian and Greek Texts* (New Series, 56.7; Philadelphia: American Philosophical Society).
- Lienhard, Siegfried (1978), "On the Meaning and Use of the Word Indragopa," *Indologica taurinensis*, 6: 177–88, URL: <https://tinyurl.com/Lienhard1978>, accessed 06/02/2021; The indragopa is a 'red velvet mite'.

- Liu, Yan (2021), "Poisons in the Premodern World," *Encyclopedia of the History of Science*. doi: [10/hbph7x](https://doi.org/10/hbph7x).
- Lu, Lu (2025), "Translating Medicine Across Cultures: The Divergent Strategies of An Shigao and Dharmarakṣa in Introducing Indian Medical Concepts to China," *Religions*, 16/7 (June): 844, ISSN: 2077-1444. doi: [10/hbphm5](https://doi.org/10/hbphm5).
- Lüde, Saskia, Vecchio, Sarah, Sinno-Tellier, Sandra, et al. (2016), "Adverse Effects of Plant Food Supplements and Plants Consumed as Food: Results from the Poisons Centres-Based PlantLIBRA Study: Adverse Effects of PFS and Plants Consumed as Food," *Phytotherapy Research*, 30/6: 988–96, ISSN: 0951-418X. doi: [10/f8qj6d](https://doi.org/10/f8qj6d).
- Lüders, Heinrich (1940), *Philologica Indica. Ausgewählte kleine Schriften von Heinrich Lüders. Festgabe zum siebzigsten Geburtstage am 25. Juni 1939 dargebracht von Kollegen, Freunden und Schülern* (Göttingen: Vandenhoeck & Ruprecht), ARK: [ark:/13960/t2d88of53](https://ark:/13960/t2d88of53).
- Lust, Gwyneth Pheasant (2018), "Finding Provenance, Finding Purpose: An Analysis of the Skeleton on Page 41 of Parasurama Shastri's 1931 Edition of the Sāṃgadharma Samhita."
- Maas, Philipp André (2008), "The Concepts of the Human Body and Disease in Classical Yoga and Āyurveda," *Wiener Zeitschrift für die Kunde Südasiens = Vienna Journal of South Asian Studies*, 51: 125–62. doi: [10/cswbh5](https://doi.org/10/cswbh5).
- Mahādeva Śāstrī, K. (1958) (ed.), ജ്യോതിഷ്മികാ: വിഷവൈദ്യം *Jyotsnika* (Viśa Vaidya) [The *Jyotsnikā* of Kārāṭṭu Nārāyaṇan Nampūṭir] (Srī Vañci Setu Lakṣmī series, 9; 3rd edn., Trivandrum: The Government of His Highness The Maharaja of Travancore); first published in 1927.
- Mainkar, T. G. (1972), *Sāṃkhyakārikā of Īśvarakṛṣṇa with the Commentary of Gaudapāda* (Poona Oriental Series, 9; 2nd edn., Poona: Oriental Book Agency), ARK: [ark:/13960/s25h17w4m46](https://ark:/13960/s25h17w4m46); reprint, Chaukhamba, Delhi: 2004.
- Mairs, Rachel (2013), "Greek Settler Communities in Central and South Asia, 323 BCE to 10 CE," in Ato Quayson (ed.), *A Companion To Diaspora And Transnationalism* (Oxford: John Wiley and Sons Ltd), 443–54, ISBN: 9781405188265.
- (2014), *The Hellenistic Far East: Archaeology, Language, and Identity in Greek Central Asia: Archaeology, Language, and Identity in Greek Central Asia* (Berkeley: University of California Press), 250, ISBN: 9780520292468. doi: [10/hbph87](https://doi.org/10/hbph87).
- Majno, Guido (1975), *The Healing Hand. Man and Wound in the Ancient World* (Cambridge, MA: Harvard University Press), ARK: [ark:/13960/t4hm7xf2c](https://ark:/13960/t4hm7xf2c).
- Mānasa-taraṅgiṇī (2009), "vAsiShTha lUtkAshAstra," mAnasa-taraMgiNI Blog (20 Jan.), URL: <https://tinyurl.com/lutikasastra>, accessed 28/05/2025.

- (2019), “Kaiṭabha, Poison and Death: Meanderings through Tradition,” mAnasa-taraMgiNI Blog (1 Sept.), URL: <https://tinyurl.com/kaitabha>, accessed 31/01/2023.
- Manevskaia, Ilona (2008), “Preliminary Observations on Compositional Methods in Haribhadra’s Ālokā,” in Richard Gombrich and Cristina Scherrer-Schaub (eds.), *Buddhist Studies* (Papers of the 12th World Sanskrit Conference, 8; Delhi: Motilal BanarsiDass), 97–117.
- Maxwell-Lefroy, Harold (1909), *Indian Insect Life. A Manual of the Insects of the Plains (Tropical India)* (Calcutta, Simla, etc.: Thacker, Spink & Co.), ARK: <ark:/13960/t4os7sf4r>.
- McHugh, James (2012), “The Disputed Civets and the Complexion of the God: Secretions and History in India,” *Journal of the American Oriental Society*, 132/2: 245, ISSN: 0003-0279. doi: [10/hbph9j](https://doi.org/10/hbph9j).
- (2013), “Blattes de Byzance in India: Mollusk Opercula and the History of Perfumery,” *Journal of the Royal Asiatic Society of Great Britain & Ireland*, 23/1: 53–67, ISSN: 2051-2066. doi: [10/hbph9g](https://doi.org/10/hbph9g).
- (2021), *An Unholy Brew: Alcohol in Indian History and Religions* (New York: Oxford University Press), 416 pp., ISBN: 9780199375936.
- Mehta, S. R., and Sashindran, V. K. (2002), “Clinical Features And Management Of Snake Bite,” *Medical Journal Armed Forces India*, 58/3: 247–9, ISSN: 0377-1237. doi: [10/cv9dz9](https://doi.org/10/cv9dz9).
- Mejor, Marek (2000), “Some Observations on the Date of the *Yukti-dīpikā* (apropos of a New Edition),” in Piotr Blcerowicz and Marek Mejor (eds.), *On the Understanding of Other Cultures*, 7 (Studia Indologiczne; Warszawa: Instytut Orientalistyczny, Uniwersytet Warszawski), 255–89.
- Menon, Vivek (2014), *Indian Mammals: A Field Guide* (Gurgaon: Hachette India), ISBN: 978-93-5009-760-1.
- Meulenbeld, Gerrit Jan (1974b), *The Mādhabanidāna and Its Chief Commentary: Chapters 1–10. Introduction, Translation, and Notes* (Leiden: Brill), ISBN: 978-90-04-03892-9, ARK: <ark:/13960/t25b8q97g>.
- (1987), “Reflections on the Basic Concepts of Indian Pharmacology,” in Gerrit Jan Meulenbeld and Dominik Wujastyk (eds.), *Studies on Indian Medical History* (Groningen: Egbert Forsten), chap. 1, 1–17, ARK: <ark:/13960/t8tco8626>.
- (1989), “The Search for Clues to the Chronology of Sanskrit Medical Texts As Illustrated by the History of Bhaṅgā (cannabis Sativa Linn.),” *Studien zur Indologie und Iranistik*, 15: 59–70.

- (1990), “Conformities and Divergences of Basic Ayurvedic Concepts in Veterinary Texts,” *Journal of the European Ayurvedic Society*, 1: 1–6, URL: <https://archive.org/details/journalofeuropea01unse/page/n5/mode/2up>, accessed 16/02/2022.
- (1991), “The Constraints of Theory in the Evolution of Nosological Classifications: A Study on the Position of Blood in Indian Medicine (Āyurveda),” in *Medical Literature from India, Sri Lanka, and Tibet*, 91–106, ISBN: 90-04-09522-5, URL: <https://goo.gl/D79azA>.
- (1992), “The Characteristics of a Doṣa,” *Journal of the European Āyurvedic Society*, 2/1: 1–5, ARK: <ark:/13960/t8hf69z8j>.
- (1997), “Aspects of Indian Psychiatry,” in Yosio Kawakita, Shizu Sakai, and Yasuo Otsuka (eds.), *History of Psychiatric Diagnoses: Proceedings of the 16th International Symposium on the Comparative History of Medicine – East and West September 1–8, 1991, Susono-shi, Shizuoka, Japan* (Tokyo ; Brentwood, Missouri: Ishiyaku EuroAmerica), 183–237, ISBN: 1563860430, ARK: <ark:/13960/s271krfvdd4>.
- (2008a), “A Quest for Poison Trees in Indian Literature, Along with Notes on Some Plants and Animals of the Kauṭīlīya Arthaśāstra,” *Wiener Zeitschrift für die Kunde Südasiens / Vienna Journal of South Asian Studies*, 51 (2007–2008): 5–75, URL: <https://www.jstor.org/stable/24007714>.
- (2008b), *The Mādhavanidāna with "Madhukośa," the Commentary by Vijayarakṣita and Śrīkaṇṭhadatta (Ch. 1–10). Introduction, Translation, and Notes* (Delhi: Motilal BanarsiDass).
- (2009), *The Trees Called Sigru (Moringa sp.), along with a Study of the Drugs Used in Errhines* (eJim Supplements; Groningen: Barkhuis), ISBN: 978-90-77922-52-1. DOI: [10/hbphq9n](https://doi.org/10/hbphq9n).
- (2011), “The Relationships between Doṣas and Dūṣyas: A Study on the Meaning(s) of the Root Murch-/mūrch,” *eJournal of Indian Medicine*, 4/2: 35–135, URL: <http://ugp.rug.nl/eJIM/article/view/24740>, accessed 13/10/2017.
- Meyer, Johann Jakob (1926), *Das altindische Buch vom Welt- und Staatsleben. Das Arthaśāstra des Kauṭilya* (Leipzig: Otto Harrassowitz), ARK: <ark:/13960/s21gb96bcxv>.
- Minton, Sherman A., and Minton, Madge Rutherford (1969), *Venomous Reptiles* (New York: Charles Scribners' Sons), ARK: <ark:/13960/t9k423s9k>.
- Mitra, T. R. (2005), “Taxonomic Assessment of Insects Recorded n Kalidasa’s Works,” *Records of the Zoological Survey of India*, 105/1–2: 97–103.

Mukhopādhyāya, Girindranāth (1913), *The Surgical Instruments of the Hindus, with a Comparative Study of the Surgical Instruments of the Greek, Roman, Arab, and the Modern European (sic) Surgeons* (Calcutta: Calcutta University), ARK: [ark:/13960/t1zd2pq29](https://ark.org/t1zd2pq29), accessed 29/01/2018; Vol.2: [ark:/13960/t9r25qd8m](https://ark.org/t9r25qd8m). Reprinted as a single volume, New Delhi, 1987.

Nadkarni, K. M. (1954), *Dr. K. M. Nadkarni's Indian Materia Medica, with Ayurvedic, Unani-tibbi, Siddha, Allopathic, Homeopathic, Naturopathic & Home Remedies, Appendices & Indexes ... in Two Volumes*, ed. A. K. Nadkarni, 2 vols. (Third ed., revised by A. K. Nadkarni, Bombay: Popular Prakashan), ARK: [ark:/13960/t6rz4h160](https://ark.org/t6rz4h160).

Ñānamoli, Bhikkhu, and Bodhi, Bhikkhu (1995), *The Middle Length Discourses of the Buddha: A New Translation of the Majjhima Nikaya* (Boston: Wisdom Publications), ARK: [ark:/13960/t7zm3zw8v](https://ark.org/t7zm3zw8v); also at [ark:/13960/s26b1tbb7jg](https://ark.org/s26b1tbb7jg).

O'Flaherty, Wendy Doniger (1980), "Karma and Rebirth in the Vedas and Purāṇas," in id. (ed.), *Karma and Rebirth in Classical Indian Traditions* (Berkeley: University of California Press), chap. 1, 3–37. doi: [10/hbph9z](https://doi.org/10/hbph9z), URL: <https://www.jstor.org/stable/jj.15707015>.

Oberhammer, Gerhard (1968), "Notes on the Tantrayukti-s," *The Adyar Library Bulletin*, 31–32 (1967–1968): 600–16. doi: [10/hbph93](https://doi.org/10/hbph93).

Oberlies, Thomas (2003), *A Grammar of Epic Sanskrit* (Indian Philology and South Asian Studies, 5; Berlin: De Gruyter), ISBN: 9783110144482. doi: [10/hbph9q](https://doi.org/10/hbph9q).

Olivelle, Patrick (1995), "Food in India," *Journal of Indian Philosophy*, 23/3: 367–80. doi: [10/cxw5kk](https://doi.org/10/cxw5kk).

— (1998), *The Early Upaniṣads. Annotated Text and Translation* (New York, Oxford: Oxford University Press), ISBN: 9781429406789.

— (2001), *Food for Thought. Dietary Rules and Social Organization in Ancient India* (Gonda Lectures, 9; Amsterdam: Royal Netherlands Academy of Arts and Sciences), URL: <https://storage.knaw.nl/2022-06/20021013.pdf>, accessed 28/06/2023.

— (2005), *Manu's Code of Law: A Critical Edition and Translation of the Manava-dharmaśastra*, With the editorial assistance of Suman Olivelle (South Asia research; New York: Oxford University Press), ISBN: 0195171462.

— (2013), *King, Governance, and Law in Ancient India: Kautilya's Arthaśāstra. a New Annotated Translation* (New York: Oxford University Press), ISBN: 9780199891825. doi: [10/hbph9f](https://doi.org/10/hbph9f).

- (2017), "The Medical Profession in Ancient India: Its Social, Religious, and Legal Status," *eJournal of Indian Medicine*, 9/1: 1–21, URL: <https://indianmedicine.nl/article/view/28582>, accessed 13/10/2017.
- Osbaldeston, Tess Anne, and Wood, R. P. A. (2000), *Dioscorides. De Materia Medica. Being an Herbal with Many Other Medicinal Materials Written in Greek in the First Century of the Common Era. A New Indexed Version in Modern English* [Introductory Notes by R. P. Wood] (Johannesburg: IBIDIS Press), ISBN: 9780620234351. doi: [10/hbph9r](https://doi.org/10/hbph9r), URL: <https://web.archive.org/web/20160301000627/http://panaceavera.com/demateriaindex.html>, accessed 01/03/2016.
- Özbulat, Mehmet, Açıkalın, Ayca, Akday, Ufuk, et al. (2021), "Factors Affecting Prognosis in Patients with Snakebite," *Eurasian Journal of Emergency Medicine*, 20/1 (Mar.): 6–11, ISSN: 2149-6048. doi: [10/hbph7v](https://doi.org/10/hbph7v).
- Pāṇḍeya, Rāmateja (1963) (ed.), श्रीकृष्णद्वैपायनव्यासप्रणीतं गरुडपुराणम् (Vidyabhawan Prachyavidya Granthamala, 3; reprint, Caukhambā Vidyābhavana, Pāṇḍita-Pustakālaya: Kāśī), ARK: [ark:/13960/t6pz7tg7j](https://ark:/13960/t6pz7tg7j).
- Paramesvaran, Madhu K. (2023), "Personal email communication," 26 Dec.
- Pārśvanātha Śāstrī, Vardhamāna (1940) (ed.), उग्रादित्याचार्यकृत कल्याणकारक (राष्ट्रभाषानुवादसहित) = *The Kalyāṇa-kārakam of Ugrādityacharya, Edited with Introduction, Translation, Notes, Indexes and Dictionary* (Sakhārāma Nemacāmḍa Gramthamālā, 129; Solāpura: Setha Govimādajī Rāvajī Doṣī), ARK: [ark:/13960/t2q617g4d](https://ark:/13960/t2q617g4d).
- Patyal, Hukam Chand (1969), *Gopatha Brahmana English Translation with Notes and Introduction* (Poona: CASS), ARK: [ark:/13960/s22bbfdhcb](https://ark:/13960/s22bbfdhcb).
- Pecchia, Cristina (2022), "Ayurveda, Philology and Print: On the First Printed Edition of The Carakaśamhitā and Its Context," *South Asian History and Culture*, 13/1: 112–34. doi: [10/hbph7m](https://doi.org/10/hbph7m).
- Philips, Cyriac Abby, and Theruvath, Arif Hussain (2024), "A Comprehensive Review on the Hepatotoxicity of Herbs Used in the Indian (Ayush) Systems of Alternative Medicine," *Medicine*, 103/16: e37903, ISSN: 1536-5964. doi: [10/hbph7b](https://doi.org/10/hbph7b).
- Phillips, E. D. (1973), *Greek Medicine* (Thames and Hudson), ISBN: 0500400210.
- Pillay, V. V. (2013), *Modern Medical Toxicology* (New Delhi: Jaypee Brothers Pvt. Ltd), ISBN: 9789350259658.
- Pillay, Vijay V., and Sasidharan, Anu (2019), "Oleander and Datura Poisoning: An Update," *Indian Journal of Critical Care Medicine*, 23/Supplement 4: 5250–5. doi: [10/hbph8k](https://doi.org/10/hbph8k).

- Pollock, Sheldon (1991), *The Rāmāyaṇa of Vālmīki: an Epic of Ancient India: Volume III: Aranyakāṇḍa*, ed. Robert P. Goldman (Princeton: Princeton University Press), ISBN: 0-691-06660-4.
- Poudel, Ram C., Gao, Lian-Ming, Möller, Michael, et al. (2013), "Yews (*Taxus*) along the Hindu Kush-Himalayan Region: Exploring the Ethnopharmacological Relevance among Communities of Mongol and Caucasian Origins," *Journal of Ethnopharmacology*, 147/1: 190–203, ISSN: 0378-8741. doi: 10/f4ws68.
- Prasāda, Rāma (1912), *Pātañjali's Yoga-sūtras with the Commentary of Vyāsa and the Gloss of Vāchaspati Miśra* (The Sacred Books of the Hindus, 4; Allahabad: Pāṇini Office), ISBN: 8121504244, ARK: [ark:/13960/t4tj74z8k](https://ark:/13960/t4tj74z8k); Reprint: Munshiram Manoharalal, New Delhi, 1998 (ISBN 8121504244).
- Preisendanz, Karin (2007), "The Initiation of the Medical Student in Early Classical Āyurveda: Caraka's Treatment in Context," in Birgit Kellner, Helmut Krasser, Horst Lasic, et al. (eds.), *Pramāṇakīrtih. Papers Dedicated to Ernst Steinkellner on the Occasion of His 70th Birthday. Part 2*, 2, 2 vols. (Wiener Studien zur Tibetologie und Buddhismuskunde, 70.2; Wien: Arbeitskreis für Tibetische Und Buddhistische Studien Universität Wien), 629–68, ISBN: 9783902501097, URL: [https://www.istb.univie.ac.at/caraka/file\\_download/36](https://www.istb.univie.ac.at/caraka/file_download/36).
- (2013), "Logic, Debate and Epistemology in Ancient Indian Medical Science: An Investigation Into the History and Historiography of Indian Philosophy. Part I," in Dominik Wujastyk, Anthony Cerulli, and Karin Preisendanz (eds.), *Medical Texts and Manuscripts in Indian Cultural History* (Delhi: Manohar Publishers and Distributors), 63–139, ISBN: 978-9350980194.
- Prets, Ernst, and Prandstetter, Joachim (1991–2006), *Terminologie der frühen philosophischen Scholastik in Indien: Ein Begriffswörterbuch zur altindischen Dialektik, Erkenntnislehre und Methodologie*, ed. Gerhard Oberhammer, 3 vols. (Österreichische Akademie der Wissenschaften, Philosophisch-Historische Klasse, Denkschriften, 223, 248, 343; Wien: Verlag der Österreichischen Akademie der Wissenschaften); Beiträge zur Kultur- und Geistesgeschichte Asiens; Nr. 9, 17, 49.
- Rādhākāntā Deva, Rājā (1876), शब्दकल्पद्रुमः = *Shabda Kalpadrumah, Or, the Tree Bearing All the Words That May Be Wished For* (Calcutta: Baradākānta Mitra & Co. at the New Bengal Press), ARK: [ark:/13960/t9x1ox61b](https://ark:/13960/t9x1ox61b).
- Rai, Rishu (2019), "Kirata Tribes of Colonial Darjeeling: Historical Understanding through Discourse Analysis," *International Journal of Research and Analytical Reviews*, 6/1: 390–9, URL: <https://www.ijrar.org/papers/IJRAR19J5465.pdf>.

- Rai, Saurav Kumar (2019), "Invoking 'Hindu' Ayurveda: Communalisation of the Late Colonial Ayurvedic Discourse," *The Indian Economic & Social History Review*, 56/4: 411–26. doi: [10/hbph8j](https://doi.org/10/hbph8j); Online first.
- Ramachandra Rao, S. K., and Sudarshan, S. R. (1985–2005), *Encyclopaedia of Indian Medicine*, 6 vols. (Bombay: Popular Prakashan), eprint: [ark:/13960/s2dn77q7v39](http://ark:/13960/s2dn77q7v39), 1: *Historical Perspective* (1985), 2: *Basic Concepts* (1985), 3: *Clinical Examination and Diagnostic Methods* (1987), 4: *Materia Medica, Herbal Drugs* (2005), 5: *Materia Medica, Mineral and Metallic Drugs* (2005), 6: *Diseases and their Cures* (2005).
- Ramakrishna Ayyar, T. V. (1963), *Handbook of Economic Entomology for South India* (Madras: Government of Madras), ARK: [ark:/13960/t59d5461t](http://ark:/13960/t59d5461t).
- Ray, Kavirāja Gaṅgādhara (1868–70) (ed.), चरकसंहिता ... श्रीमद्-गङ्गाधर-कविराज-कविरत्न-विरचितया जल्प-कल्प-तरु-समाख्यया व्याख्यया सहितम् तेनैव संशोधितम् = [The Carakasamhitā edited by Kavirāja Gaṅgādhara with his Commentary Jalpakalpataru] (Calcutta: Samvada Jnanaratnakara Press).
- Rāy, Priyadarjan, Gupta, Hirendra Nath, and Roy, Mira (1980), *Suśruta Saṃhitā (a Scientific Synopsis)* (New Delhi: Indian National Science Academy), ARK: [ark:/13960/t64511t6v](http://ark:/13960/t64511t6v).
- Raychaudhuri, Hemachandra (1953), *Political History of Ancient India* (Calcutta: University of Calcutta), ARK: [ark:/13960/s25hzohz29p](http://ark:/13960/s25hzohz29p).
- Renou, Louis (1940), "Sur certaines anomalies de l'optatif Sanskrit," *Bulletin de la Société de Linguistique de Paris*, 41: 5–17, ARK: [ark:/12148/bpt6k121049](http://ark:/12148/bpt6k121049).
- Rossi, Paola M. (2014), "The Sounds of the Warriors: The Vedic Drums between War and Poetry," *Indologica Taurinensis*, 40, URL: [http://www.asiainstitutetorino.it/Indologica/volumes/vol40/14\\_ROSSI.pdf](http://www.asiainstitutetorino.it/Indologica/volumes/vol40/14_ROSSI.pdf).
- Roșu, Arion (1978), *Les conception psychologiques dans les textes médicaux indiens* (Publication de l'institut de civilisation indienne, In-8 fascicule 43; Paris: Institut de civilisation indienne), ARK: [ark:/13960/t5p85ds09](http://ark:/13960/t5p85ds09).
- Rotman, Andy (2008), *Divine Stories* दिव्यावदान *Divyāvadāna* (Classics of Indian Buddhism; Somerville, MA: Wisdom Publications), ISBN: 978-1-61429-470-2, ARK: [ark:/13960/t7nq1444m](http://ark:/13960/t7nq1444m).
- Roy, B. K. (1970), *The Savar: A Scheduled Tribe in West Bengal* (New Delhi: Office of the Registrar General), URL: [https://censusindia.gov.in/nada/index.php/catalog/32384/download/35565/42925\\_1961\\_SAV.pdf](https://censusindia.gov.in/nada/index.php/catalog/32384/download/35565/42925_1961_SAV.pdf).
- Ruben, Walter (1954), "Medizin (Caraka) und Logik (Nyāya) (um 100 u. Z.)," in id., *Geschichte der indischen Philosophie [collected articles]* (Berlin: Deutscher Verlag), chap. 21, 212–22, ARK: [ark:/13960/t9v18cc78](http://ark:/13960/t9v18cc78).

- Ruzsa, Ferenc (2025), "Sāṅkhya," in James Fieser, Bradley Dowden, and Shyam Ranganathan (eds.), *Internet Encyclopedia of Philosophy*, URL: <https://iep.utm.edu/sankhya/>, accessed 19/09/2025.
- Saccone, Margherita Serena (2015), "The Conception of Atoms as Substantially Existing in Śubhagupta," *Journal of the International Association of Buddhist Studies*, 38: 107–37, ISSN: 2507-0347, 2507-0347. doi: [10/cjrs](https://doi.org/10/cjrs).
- Saraswat, K. S. (1991), "Archaeobotanical Remains in Ancient Cultural and Socio-Economical Dynamics of the Indian Subcontinent," *Palaeobotanist*, 40: 514–45. doi: [10/hbphqt](https://doi.org/10/hbphqt).
- Śarmā, Muralīdhara (1895–99) (ed.), श्रीधन्वन्तरिभागवतसमुपदिष्टा, तच्छब्देण सुश्रुतेन विरचिता सुश्रुतसंहिता, आरोग्यसुधाकरसम्पादकेन फर्खनगरनिवासिना पंडित मुरलीधरशर्मणा राजवैद्येन सान्वयसटिप्पणिकासपारिशिष्या भाषाटीकया संभूषिता (Mumbayyam: Khemarāja Śrīkrṣṇadāsa at Śrīvenkateśvara Press), ARK: [ark:/13960/t6no66p8x](https://ark:/13960/t6no66p8x); Volume 1 (sūtrasthāna): [ark:/13960/t6no66p8x](https://ark:/13960/t6no66p8x); vol. 2 (nidāna and śārīra): [ark:/13960/t3328jf4n](https://ark:/13960/t3328jf4n); vol. 3 (cikitsāsthāna and kalpasthāna): [ark:/13960/t5q87zp52](https://ark:/13960/t5q87zp52); vol. 4 (uttaratanatra): [ark:/13960/t24b84s9c](https://ark:/13960/t24b84s9c).
- Sarukkai, Sundar (2016), "Translation As Method: Implications for History of Science," in Bernard Lightman, Gordon McOuat, and Larry Stewart (eds.), *The Circulation of Knowledge Between Britain, India and China* (Leiden: BRILL), 309–29. doi: [10/hbph82](https://doi.org/10/hbph82).
- Sastri, P. S. Subrahmanyam (2002), *Tolkāppiyam. The Earliest Extant Tamil Grammar, with a Short Commentary in English: Volume II. Poruлатikāram* (2nd edn., Chennai: The Kuppuswami Sastri Research Institute), ISBN: 81-85170-27-4, ARK: [ark:/13960/t7jq8k19s](https://ark:/13960/t7jq8k19s); reprint of 1936 edition.
- Śāstri, Paraśurāma (1931) (ed.), दामोदरसूनुशार्ङ्गधराचार्यविरचिता शार्ङ्गधरसंहिता [= *The Śārṅgadharasamhitā* by Śārṅgadharā with the Commentaries of Ādhamalla and Kāśīrāma] (2nd edn., Mumbai: Nirṇayasāgara Press), ARK: [ark:/13960/t7wn11g9r](https://ark:/13960/t7wn11g9r); 1st ed. 1920.
- Sastri, Satalur Sundara Suryanarayana (1948) (ed.), *The Sāṅkhyakārikā of Iśvara Kṛṣṇa* (Publications of the Department of Indian Philosophy, 3; 3rd edn., Madras: University of Madras), ARK: [ark:/13960/t31312b71](https://ark:/13960/t31312b71).
- Sathaye, Adheesh A. (2015), *Crossing the Lines of Caste. Viśvāmitra and the Construction of Brahmin Power in Hindu Mythology* (New York, NY: Oxford University Press), ISBN: 9780199341115.

- Savage-Smith, Emilie, Swain, Simon, and van Gelder, Geert Jan (2019) (eds.), *A Literary History of Medicine - The "Uyūn al-anbā' fī ṭabaqāt al-āṭibbā'" of Ibn Abī Uṣaybi‘ah*, 3 vols. (Handbook of Oriental Studies. Section 1 The Near and Middle East, 134; Leiden: Brill), ISBN: 978-90-04-41031-2, URL: <https://brill.com/view/db/lhom>.
- Scharfe, Hartmut (1993), *Investigations in Kauṭalya's Manual of Political Science* (2nd edn., Wiesbaden: Harrassowitz), ISBN: 3447033304; 2nd. rev. ed. of Untersuchungen zur Staatsrechtslehre des Kauṭalya. Extracts at <https://tinyurl.com/scha-1993>.
- Scherrer-Schaub, Cristina (1981), "Le Terme Yukti: Première étude in Hommage à Constantin Regamey," *Etudes Asiatiques. Revue de la Société Suisse d'Etude Asiatique Bern*, 35/2: 185–99. doi: 10/hbph9x.
- Schubring, Walther (1969), *Tandulaveyāliya: ein Painñaya des Jaina-Siddhānta. Textausgabe, Analyse und Erklärung* (Abhandlungen der Geistes- und Sozialwissenschaftlichen Klasse, 6; Wiesbaden: Franz Steiner Verlag).
- Schwartzberg, Joseph E., Bajpai, Shiva G., et al. (1978) (eds.), *A Historical Atlas of South Asia* (Chicago: University of Chicago Press), URL: <http://dsal.uchicago.edu/reference/schwartzberg/>.
- Scott, H. (1817), "Some Remarks on the Arts of India, with Miscellaneous Observations on Various Subjects," *Journal of Science and the Arts*, 2: 67–72, ill. after 133, ARK: <ark:/13960/t9870jt4g>; Breton 1826: 358–363 cites Scott's description of cataract couching.
- Sekhar Namburi, U. R. (2023), *A Text Book of Agada Tantra (Illustrated)* (repr. Varanasi: Chaukhamba Sanskrit Sansthan).
- Selby, Martha Ann (2005a), "Narratives of Conception, Gestation, and Labour in Sanskrit Ayurvedic Texts," *Asian Medicine*, 1/2: 254–75, ISSN: 1573-420X. doi: 10/b6x32g.
- (2005b), "Sanskrit Gynecologies in Postmodernity: The Commoditization of Indian Medicine in Alternative Medical and New-age Discourses on Women's Health," in *Asian Medicine and Globalization*, chap. 8, 120–31, URL: <https://www.dropbox.com/s/uuwxd2urvkke5uv/2005%20Sanskrit%20Gynecologies%20in%20Postmodernity%20-%20in%20Alter.pdf?dl=0>, accessed 22/03/2018.
- Semalty, Mona, Semalty, Ajay, Badola, Ashutosh, et al. (2010), "Semecarpus anacardium Linn.: A review," *Pharmacognosy Reviews*, 4/7: 88, ISSN: 0973-7847. doi: 10/dn2f5k.

- Semeka-Pankratov, Elena (1979), "A Semiotic Approach to the Polysemy of the Symbol *nāga* in Indian Mythology," in Irene Portis Winner and Jean Umiker-Sebeok (eds.), *Semiotics of Culture* (Approaches to Semiotics, 53; The Hague, Paris, NY: Mouton), 237–90. doi: [10/hbph92](https://doi.org/10/hbph92); The contents of this volume were published simultaneously in *Semiotica* (1/3) 1979.
- Sen, Sailendra Nath (1988), *Ancient Indian History and Civilization* (Delhi: New Age International), ARK: [ark:/13960/t8gf8pz34](https://ark.org/13960/t8gf8pz34).
- Sengupta, Nagendra Nath (1901), *The Ayurvedic System of Medicine, or an Exposition, in English, of Hindu Medicin As Occurring in Charaka, Sucriuta, Bágbhata, and Other Authoritative Works, Ancient and Modern, in Sanskrit* (1st edn., Calcutta: Keval Ram Chatterjee), ARK: [ark:/13960/t4tj3wj4v](https://ark.org/13960/t4tj3wj4v); Often reprinted. Vol.2: <https://archive.org/details/in.ernet.dli.2015.47497>.
- Shamasrastry, R. (1951), *Kautilya's Arthaśāstra* (4th edn., Mysore: Sri Raghuveer Printing Press), ARK: [ark:/13960/to4z1mp6c](https://ark.org/13960/to4z1mp6c).
- Sharma, Priya Vrat (1982), *Dalhana and his Comments on Drugs* (Delhi: Munshiram Manoharlal).
- (1999–2001), *Suśruta-Saṃhitā, with English Translation of Text and Dalhana's Commentary Alongwith (sic) Critical Notes*, 3 vols. (Haridas Ayurveda Series, 9; Varanasi: Chaukhambha Visvabharati), ARK: [ark:/13960/s2gpx8453k1](https://ark.org/13960/s2gpx8453k1).
- Sharma, Priyavrat (1994), *Caraka-saṃhitā. Critical Notes (Incorporating the commentaries of Jejjāṭa, Cakrapāṇi, Gaṅgādhara and Yogīndranātha)* (Jaikrishnadas Ayurveda Series, 36; 1st edn., Varanasi, Delhi: Chaukhambha Orientalia).
- Sharma, Ram Karan, and Dash, Bhagwan (2006), *Agniveśa's Caraka Saṃhitā. Text with English translation & Critical Exposition Based on Cakrapāṇi Datta's Āyurvedadīpikā* (Chowkhamba Sanskrit Studies, 94; repr. Varanasi: Chowkhamba Sanskrit Series Office).
- Shastri, R. Shama (1920) (ed.), बोधायनगृह्यसूत्रम् *The Bodhāyana Grihyasutra* (Mysore: University of Mysore), ARK: [ark:/13960/t2t492622](https://ark.org/13960/t2t492622).
- Shefer-Mossensohn, Miri, and Hershkovitz, K. Abou (2013), "Early Muslim Medicine and the Indian Context: A Reinterpretation," *Medieval Encounters*, 19/3: 274–99. doi: [10/hbph9c](https://doi.org/10/hbph9c), URL: <https://www.academia.edu/4049722>.
- Shree Gulab Kunverba Ayurvedic Society (1949), *The Caraka Saṃhitā. Expounded by the Worshipful Ātreyā Punarvasu Compiled by the Great Sage Agniveśa and Redacted by Caraka & Dridhabala. Edited and Published in Six Volumes with Translations in Hindi, Gujarati and English* (First Impression, Jamnagar: Shree Gulab Kunverba Ayurvedic Society), ARK: [ark:/13960/t5m95n971](https://ark.org/13960/t5m95n971).

- Siddiqi, Muhammad Zubayr (1959), *Studies in Arabic and Persian Medical Literature*, ARK: [ark:/13960/s25bxqt84xm](https://ark.org/s25bxqt84xm).
- Simoons, Frederick J. (1998), *Plants of Life, Plants of Death* (Madison, Wisconsin: University of Wisconsin Press), ISBN: 9780299159009.
- Simpson, J. A., and Weiner, E. S. C. (1989–), *The Oxford English Dictionary* (2nd edn., Oxford: Oxford University Press), ISBN: 0198611862, URL: <https://www.oed.com>; 20v.
- Singh, A. (2003), “*Tantra Yukti: Method of Theorization in Ayurveda*,” *Ancient Science Of Life*, 22/3: 64–74.
- Singh, G. P. (1990), *The Kirātas in Ancient India. A Historical Study of their Life, Culture and Civilization* (Delhi: Gian Publishing House), ISBN: 9788121203296.
- Singh, Girish P. (2008), *Researches into the History and Civilization of the Kirātas* (New Delhi: Gyan Publishing House), 572 pp., ISBN: 8121202817; Includes bibliographical references (p. [503]-526) and index.
- Singhal, G. D., et al. (1972–82), *Diagnostic [and Other] Considerations in Ancient Indian Surgery* (Varanasi: Singhal Publications); A translation of the *Suśrutasamhitā* in 10v.
- Singhal, G. D., and Dwivedi, R. N. (1976), *Toxicological Considerations in Ancient Indian Surgery : Based on Kalpa-Sthāna of Suśruta Saṃhitā* (Ancient Indian Surgery, 7; Allahabad: Singhal Publications).
- Singhal, G. D., and Mitra, Jyotir (1980), *Paediatric & Gynaecological Considerations and Aphorisms in Ancient Indian Surgery: Based on Suśruta Saṃhitā, Uttara-tantra Chapters 27–38 & 63–66* (Varanasi: Singhal Publications).
- Sinha, Nandalal (1928), *The Vaisesika Sutras of Kanada*, ed. B. D. Basu (The Sacred Books of the Hindus, 6; Allahabad: The Panini Office).
- Sircar, Dinesh Chandra (1966), *Indian Epigraphical Glossary* (Delhi: Motilal Banarsidass), ARK: [ark:/13960/t85h7f98n](https://ark.org/t85h7f98n).
- (1971), *Studies in the Geography of Ancient and Medieval India* (2nd edn., Delhi: Motilal Banarsidass), ARK: [ark:/13960/t72w2zd8w](https://ark.org/t72w2zd8w).
- Śiromāṇi, Bharatacandra (1873) (ed.), *चतुर्वर्गचिन्तामणि-दानखण्डम्* (Calcutta: Asiatic Society of Bengal), ARK: [ark:/13960/t1rf9jd94](https://ark.org/t1rf9jd94).
- Slaje, Walter (1995), “R̥tū-, R̥tv(i)ya-, artavá-. Weibliche ‘Fertilität’ im Denken vedischer Inder,” *Journal of the European Ayurvedic Society*, 4: 109–48, ARK: [ark:/13960/tomt26p1b](https://ark.org/tomt26p1b).
- Sleeman, W. H. (1893), *Rambles and Recollections of an Indian Official* (London: Constable), ARK: [ark:/13960/t22c4bx7w](https://ark.org/t22c4bx7w); v. 2 at ARK: [ark:/13960/t2s52bq7w](https://ark.org/t2s52bq7w).

- Slouber, Michael (2016a), *Early Tantric Medicine: Snakebite, Mantras, and Healing in the Garuda Tantras* (New York: OUP), 392 pp., ISBN: 9780190461812.
- (2016b), "Snakebite Goddesses in the Śākta Traditions: Roots and Incorporations of Tvaritā, Kurukullā and Bherundā: History, practice and doctrine," in Bjarne Wernicke Olesen (ed.), *Goddess Traditions in Tantric Hinduism* (Routledge studies in tantric traditions; London: Routledge,), chap. 4, ISBN: 9781317585213.
- Smets, Sandra (2006), "Grossesses atypiques selon l' Ayurveda," *Bulletin des Etudes indiennes*, 24–25: 225–37, ISSN: 0761-3156.
- (2010), "Les fausses couches dans la littérature āyurvédique," *Asiatische Studien / Etudes asiatique*, 64/2: 387–414.
- Smith, Brian K. (1994), *Classifying the Universe: The Ancient Indian Varṇa System and the Origins of Caste* (New York, Oxford: Oxford University Press), ISBN: 0-19-508498-5.
- Smith, William (1870), *Dictionary of Greek and Roman Antiquities*, 1, 3 vols. (Boston: Little, Brown, and Company), ARK: [ark:/13960/t9s17xn41](#).
- Solomon, Esther A. (1974), *The Commentaries of the Sāṃkhya Kārikā – A Study* (Ahmedabad: Gujarat University), ARK: [ark:/13960/s2sx1pvgb8r](#).
- (1976–78), *Indian Dialectics. Methods of Philosophical Discussion*, 2 vols. (Sheth Bholabhai Jeshingbhai Institute of Learning and Research Research Series, 70/74; Ahmedabad: B. J. Institute of Learning and Research. Gujarat Vidyā Sabha), ARK: [ark:/13960/t5jb4x7od](#).
- Spencer, Walter George (1935–38), *Celsus: De Medicina. with an English Translation by W. G. Spencer*, 3 vols. (Loeb Classical Library, 292, 304, 336; Cambridge, MA; London: Harvard University Press; William Heinemann), URL: <https://tinyurl.com/loebcelsus>, accessed 02/06/2021.
- Speziale, Fabrizio (2019), "Rasāyana and Rasaśāstra in the Persian Medical Culture of South Asia," *History of Science in South Asia*, 7: 1–41. doi: [10/hbph8h](#).
- Spiers, Carmen S. (2022), "The Semantics of Sharpness and the Prohibition of the Pungent: Garlic, Sanskrit śigru(ka)-, and Old Persian \*θigra(ka)-," *Indo-Iranian Journal*, 65/2: 93–121, ISSN: 1572-8536. doi: [10/hbphm4](#), URL: <https://hal.science/hal-03703996v1/file/SPIERS%20The%20Semantics%20of%20Sharpness.pdf>.
- Srikantha Murthy, K. R. (1991), *Vāgbhaṭa's Aṣṭāṅga Hṛdayam* (Text, English Translation, Notes, Appendices and Indices) (1st edn., Varanasi: Krishnadas Academy).

- (2000–02), *Illustrated Suśruta Saṃhitā: Text, English Translation, Notes, Appendices and Index* (Jaikrishnadas Ayurveda Series, 102; 1st edn., Varanasi: Chaukhambha Orientalia).
- Steckerl, Fritz (1958), *The Fragments of Praxagoras of Cos and His School* (Leiden: Brill), ARK: <ark:/13960/t41s73f2t>.
- Steiner, Roland (2007), "Das "dreifache Leiden" in Sāṃkhyakārikā 1," in Konrad Klaus and Jens-Uwe Hartmann (eds.), *Indica et Tibetica. Festschrift für Michael Hahn* (Wiener Studien zur Tibetologie und Buddhismuskunde, 66; Wien: Arbeitskreis für Tibetische und buddhistische Studien Universität Wien), 507–19.
- Steingass, F. (1930), *A Comprehensive Persian-English Dictionary Including the Arabic Words and Phrases to Be Met with in Persian Literature* (London: Kegan Paul, Trench, Trubner), ARK: <ark:/13960/s25bwz0337d>; Reprint, Delhi: Oriental Reprint, 1973.
- Storey, C. A. (1971), *Persian Literature, a Bio-bibliographical Survey*. Vol. II.2: Medicine (London: Royal Asiatic Society of Great Britain and Ireland), ARK: <ark:/13960/t9v18bf68>.
- Strauss, Bettina (1934), "Das Giftbuch des Śānāq: eine Literaturgeschichtliche Untersuchung," *Quellen und Studien zur Geschichte der Naturwissenschaften und der Medizin*, 4/2: [89]–[152] followed by Arabic text, ARK: <ark:/13960/s2hb5j66s95>.
- Subba, Tanka Bahadur (1999), *Politics of Culture: A Study of Three Kirata Communities in the Eastern Himalayas* (1st edn., Chennai [u.a.]: Orient Longman), ISBN: 8125016937.
- Sukthankar, Sitaram Vishnu, Belvalkar, Shripad Krishna, et al. (1933–59) (eds.), *The Mahābhārata*, 19 vols. (Poona: Bhandarkar Oriental Research Institute); v.1 adi 1:ark:/13960/t8z94jh90, v.1 ādi 2: ark:/13960/t8z94b72j, v.2 sabhā: ark:/13960/t51g5tj9n, v.3 aranyakā 1: ark:/13960/t4zh1s83p, v.4 aranyakā 2: ark:/13960/t18m2mz6d, v.5 virāṭa: ark:/13960/t6256s42b, v.6 udyoga: ark:/13960/t9q290koh, v.7 bhīṣma: ark:/13960/t77t2z606, v.8 dṛoṇa 1: ark:/13960/t54f7671n, v.9 dṛoṇa 2: ark:/13960/t42r92m7s, v.10 karṇa: ark:/13960/t2p60z01p, v.11 śalya: ark:/13960/t16m8ns5r, v.12 sauptika: ark:/13960/toqso1fog, v.13 śānti / rājadharma: ark:/13960/totr1390g, v.14 śānti / āpaddharma and concordance: ark:/13960/t85j2vj9p, v.15 śānti / mokṣadharma A: ark:/13960/t3zs7vf8x, v.16 śānti / mokṣadharma B: ark:/13960/t8wb0fc4r, v.17.1 anuśāsana 1: ark:/13960/t75t91k4x, v.17.2 anuśāsana 2: ark:/13960/t9h470q3t, v.18 aśvamedhika: ark:/13960/t11p3776b, v.19.1 āśramavāsika 1: ark:/13960/t54f73w1x, Harivamśa 1: ark:/13960/t3rv6og2k,

- Harivamśa 2: [ark:/13960/t64510j5c](https://ark.org/t64510j5c), pratīka index 1: [ark:/13960/t3xt17sov](https://ark.org/t3xt17sov), pratīka index 2: [ark:/13960/t8qc55j3w](https://ark.org/t8qc55j3w).
- Suneson, Carl (1991), "Remarks on Some Interrelated Terms in the Ancient Indian Embryology," *Wiener Zeitschrift für die Kunde Südasiens = Vienna Journal of South Asian Studies*, 35: 109–21, URL: <https://www.jstor.org/stable/24006727>.
- Suvedī, K. S., and Tīvārī, N. (2000) (eds.), *सौश्रुतनिघण्टुः ग्रन्थादौ विस्तृतेन ग्रन्थवैशिष्ठ्य-प्रकाशकेनोपोद्धातेन अवसाने च द्रव्याणामनेकभाषानामावली-पर्यायसङ्घाभ्यां समलङ्घतः सुश्रुतसंहितायां प्रयुक्तानामौषधद्रव्याणां पर्याय-गुणकर्मवर्णात्मको इप्रवृग्रन्थः* (Belajhundī, Dānī: Mahendra-saṃskṛtaviśvavidyālayah).
- Sweet, Michael J., and Zwilling, Leonard (1993), "The First Medicalization: The Taxonomy and Etiology of Queerness in Classical Indian Medicine," *Journal of the History of Sexuality*, 3/4: 590–607, URL: [http://www.jstor.org/stable/3704394](https://www.jstor.org/stable/3704394).
- Talwar, P. K., and Kacker, R. K. (1984), *Commercial Sea Fishes of India* (Calcutta: Zoological Survey of India), ARK: [ark:/13960/t5s841v5m](https://ark.org/t5s841v5m).
- Thackston, Wheeler M. (1999), *The Jahangirnama: Memoirs of Jahangir, Emperor of India* (New York, etc.: Oxford University Press), ISBN: 0195127188.
- Tīvārī, Premvatī (1990), *Āyurvedīya prasūti-tantra evamī strī-roga; pratham bhāg: Prasūti-tantra, dvitīya bhāg: Strī-roga* (Jayakṛṣṇadāsa Āyurvedīya Granthamālā, 41; Varanas: Caukhamba Orientaliai).
- Touwaide, Alain (2019), "Nicander, *Thēriaka*, and *Alexipharmaka*: Venoms, Poisons, and Literature," in Philip Wexler (ed.), *Toxicology in Antiquity* (London: Elsevier), chap. 6, 105–15, ISBN: 9780128153390. doi: [10/gf76w6](https://doi.org/10/gf76w6).
- Touwaide, Alain, Aslanoff, Grégoire, and Föerstel, Christian (1997) (eds.), *Thēriaka y Alexipharmaka de Nicandro. Facsimil y transcripción con estudio* (Barcelona: Moleiro), ISBN: 9788488526298; digital images of the MS are online at [ARK](https://ark.org/t41s58879).
- Trenckner, Vilhelm, and Chalmers, Robert (1888–1925), *The Majjhima-nikāya* (Pali Text Society Text Series, 60; London: Published for the Pali Text Society, by H. Frowde), URL: <https://archive.org/details/MajjhimaNikayaTrenckner>, accessed 02/06/2016.
- Unni, N. P. (2006), *The Arthaśāstra of Kautilya with the Commentary "Śrīmūlā" of Mahāmahopādhyāya T. Gaṇapati Śāstrī: Part III—8, 9, 10, 11, 12, 13, 14 & 15 Adhikaranas* (Delhi: New Bharatiya Corporation), ARK: [ark:/13960/t41s58879](https://ark.org/t41s58879).

- Vaidyopādhyāya, Rāmaprasāda (1911) (ed.), चरकसंहिता। श्रीमन्महर्षिप्रवरचरकप्रणीता। पण्डितरामप्रसादवैद्योपाध्यायविरचितप्रसादनी-भाषाटीकासहिता। (mumbayī: Kṣemarāja-Śrīkrṣṇadāsaśreṣṭhin), ARK: [ark:/13960/t2r59q189](https://ark:/13960/t2r59q189).
- Valiathan, M. S. (2007), *The Legacy of Suśruta* (Hyderabad, Chennai, etc.: Orient Longman).
- Van Bladel, Kevin Thomas (2011), "The Bactrian Background of the Barmakids," in Anna Akasoy, Charles Burnett, and Ronit Yoeli-Talalim (eds.), *Islam and Tibet: Interactions along the Musk Routes* (Farnham: Ashgate), chap. 3, 43–88, URL: <https://academia.edu/5857685>.
- Van Buitenen, J. A. B. (1957), "Studies in Sāṃkhya II: Ahamkāra," *Journal of the American Oriental Society*, 77/1: 15–25; Reprinted as ch. 7 in **roch-stud**.
- Van der Geer, Alexandra (2008) (ed.), *Animals in Stone: Indian Mammals Sculptured Through Time* (Handbuch der Orientalistik 2: India; Leiden & Boston: Brill), ISBN: 9789004168190.
- Varshney, R. K. (2000), "First Authentic Record of the Lac Insect from Gujarat," *Bionotes*, 2/2: 27, ARK: [ark:/13960/s2hjq3344jn](https://ark:/13960/s2hjq3344jn).
- Viśasvāmi (1900–09) (ed.), [Suśrutasaṃhitā] (Madras); unidentified edition mentioned by Hoernle (1907: 68); date uncertain.
- Vogel, Claus (2005), review of Rahul Peter Das (2003), *The Origin of the Life of a Human Being. Conception and the Female According to Ancient Indian Medical and Sexological Literature* (Indian Medical Tradition; Delhi: Motilal Banarsidas), ISBN: 81-208-1998-5, in *Indo-Iranian Journal*, 48/1/2: 127–32, URL: <https://www.jstor.org/stable/24664092>.
- Vogel, Jean (1962), *The Goose in Indian Literature and Art* (Arts & Letters, XXVII; Leiden), 1952, ARK: [ark:/13960/t9j425x5z](https://ark:/13960/t9j425x5z).
- Von Hinüber, Oskar (1978), "On the Tradition of Pali Texts in India, Ceylon and Burma," in Heinz Bechert (ed.), *Buddhism in Ceylon and Studies on Religious Syncretism in Buddhist Countries* (Gottingen: Vandenhoeck & Ruprecht), 48–60, ISBN: 9783525823873.
- Vukadin, Anja (2023), "The Notion of the Three Kinds of Suffering (*ādhyātmika*, *ādhicchātika*, *ādhidaivika*) in Classical and Medieval Sanskrit Literature," MA thesis (University of Vienna). doi: [10/g98g7s](https://doi.org/10/g98g7s).
- Wackernagel, Jakob, and Debrunner, Albert (1896–1964), *Altindische Grammatik* (Göttingen: Vandenhoeck und Ruprecht), URL: <https://archive.org/details/inernet.dli.2015.69896>, accessed 02/08/2018.

- Wall, Frank (1913), *The Poisonous Terrestrial Snakes of Our British Indian Dominions (Including Ceylon) and How to Recognize Them; With Symptoms of Snake Poisoning and Treatment* (3rd edn., Bombay: Bombay Natural History Society), ARK: [ark:13960/t1zc8g94b](https://ark.org/t1zc8g94b).
- (1921), *Ophidia Taprobanica or the Snakes of Ceylon* (Colombo: Cottle, Government Printer), ARK: [ark:13960/t39z9q93n](https://ark.org/t39z9q93n).
- Walshe, Thomas M. (2016), *Neurological Concepts in Ancient Greek Medicine* (Oxford: Oxford University Press, Incorporated), ISBN: 9780190218577.
- Weinstein, Scott, Dart, Richard, Staples, Alan, et al. (2009), "Envenomations: An Overview of Clinical Toxinology for the Primary Care Physician," *American family physician*, 80 (8): 793–802, ISSN: 1532-0650 (ppublish).
- Wezler, Albrecht, and Motegi, Shujun (1998) (eds.), *Yuktidīpikā: The Most Significant Commentary on the Sāṃkhyakārikā* (Alt- und Neu-Indische Studien herausgegeben vom Institut für Kultur und Geschichte Indiens und Tibets an der Universität Hamburg, 44; Stuttgart: Franz Steiner Verlag), ARK: [ark:13960/t9h50c856](https://ark.org/t9h50c856).
- Whitney, William Dwight (1885), *The Roots, Verb-forms, and Primary Derivatives of the Sanskrit Language. A Supplement to his Sanskrit Grammar* (Leipzig: Breitkopf and Härtel), ARK: [ark:13960/t3qv3p906](https://ark.org/t3qv3p906).
- WHO (2019), *Snakebite Envenoming: A Strategy for Prevention and Control* (Geneva: WHO), ISBN: 978-92-4-151564-1.
- Wiersema, John H., and León, Blanca (2016), *World Economic Plants*: (2nd edn., Boca Raton: CRC Press), ISBN: 9781466576810.
- Wikipedia contributors (2025a), "Hottentotta tamulus," *Wikipedia, The Free Encyclopedia* (21 June), URL: [https://en.wikipedia.org/w/index.php?title=Hottentotta\\_tamulus&oldid=1293018226](https://en.wikipedia.org/w/index.php?title=Hottentotta_tamulus&oldid=1293018226), accessed 21/06/2025.
- (2025b), "Koel," *Wikipedia, The Free Encyclopedia*, URL: <https://en.wikipedia.org/wiki/Koel>, accessed 12/08/2025.
- (2025c), "List of Poisonous Plants — Wikipedia, the Free Encyclopedia," URL: [https://en.wikipedia.org/wiki/List\\_of\\_poisonous\\_plants](https://en.wikipedia.org/wiki/List_of_poisonous_plants), accessed 09/07/2025.
- (2025d), "Malabathrum," URL: <https://en.wikipedia.org/wiki/Malabathrum>, accessed 12/08/2025.
- (2025e), "Mitragyna parvifolia" (9 Sept.), URL: [https://en.wikipedia.org/wiki/Mitragyna\\_parvifolia](https://en.wikipedia.org/wiki/Mitragyna_parvifolia).

- (2025f), “Neolamarckia cadamba” (9 Sept.), URL: [https://en.wikipedia.org/wiki/Neolamarckia\\_cadamba](https://en.wikipedia.org/wiki/Neolamarckia_cadamba).
- (2025g), “Senna tora” (8 Sept.), URL: [https://en.wikipedia.org/wiki/Senna\\_tora](https://en.wikipedia.org/wiki/Senna_tora).
- Winternitz, Maurice (1981–85), *A History of Indian Literature*, trans. V. Srinivasa Sarma and Subhadra Jha (2nd edn., Delhi: Motilal Banarsidas), ISBN: 81-208-0264-0, ARK: <ark:/13960/s2p4419t5qd>.
- Woodcock, Martin W. (1980), *Collins Handguide to the Birds of the Indian Sub-continent, Including India, Pakistan, Bangladesh, Sri Lanka and Nepal* (Collins), ISBN: 0-00-219712-X; Reprinted 1990.
- World Health Organization (2022), *WHO International Standard Terminologies on Ayurveda* (Geneva, etc.: World Health Organization), ISBN: 9789240064935, URL: <https://apps.who.int/iris/handle/10665/365543>.
- Wujastyk, Dagmar (2012), *Well-Mannered Medicine: Medical Ethics and Etiquette in Classical Ayurveda* (New York: Oxford University Press). doi: [10/hbph9h](https://doi.org/10/hbph9h).
- (2013), “Perfect Medicine. Mercury in Sanskrit Medical Literature,” *Asian Medicine: Tradition & Modernity*, 8/1 (Sept.): 15–40, ISSN: 1573-4218. doi: [10/hbph89](https://doi.org/10/hbph89).
- (2019), “Iron Tonics: Tracing the Development from Classical to Iatrocchemical Formulations in Ayurveda,” *HIMALAYA: The Journal of the Association for Nepal and Himalayan Studies*, 39/1, ISSN: 2471-3716. doi: [10/hbph8g](https://doi.org/10/hbph8g).
- Wujastyk, Dominik (1999), “Miscarriages of Justice: Demonic Vengeance in Classical Indian Medicine,” in John Hinnells and Roy Porter (eds.), *Religion, Health, and Suffering* (London: Kegan Paul International), 256–75, ISBN: 9780710306111, URL: <https://www.academia.edu/492293/>, accessed 21/09/2019; Reprinted as an eBook, Routledge 2011, 2016.
- (2000), “The Combinatorics of Tastes and Humours in Classical Indian Medicine and Mathematics,” *Journal of Indian Philosophy*, 28: 479–95. doi: [10/bjpqbd](https://doi.org/10/bjpqbd).
- (2002), “Cannabis in Traditional Indian Herbal Medicine,” in Ana Salema (ed.), *Āyurveda at the Crossroads of Care and Cure. Proceedings of the Indo-European Seminar on Ayurveda held at Arrábida, Portugal, in November 2001* (Lisbon: Centro de História de Além-Mar, Universidade Nova de Lisboa), 45–73, ISBN: 972-98672-5-9, URL: <https://www.academia.edu/188844/>, accessed 27/05/2019.
- (2003a), “Black Plum Island,” in *2nd International Conference on Indian Studies. Proceedings* (Kraków: Jagiellonian University, Institute of Oriental Philology and Księgarnia Akademicka), 637–49.

- (2003b), *The Roots of Ayurveda: Selections from Sanskrit Medical Writings* (Penguin Classics; 3rd edn., London, New York, etc.: Penguin Group), ISBN: 0-140-44824-1.
- (2004), “Agni and Soma: A Universal Classification,” *Studia Asiatica: International Journal for Asian Studies*, IV–V, ed. Eugen Ciurtin: 347–70, ISSN: 1582-9111, URL: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2585368/>, accessed 30/01/2021.
- (2008), “A Body of Knowledge: The Wellcome Ayurvedic Anatomical Man and His Sanskrit Context,” *Asian Medicine: Tradition & Modernity*, 4/1: 201–48. doi: [10/c7th7v](https://doi.org/10/c7th7v).
- (2013), “New Manuscript Evidence for the Textual and Cultural History of Early Classical Indian Medicine,” in *Medical Texts and Manuscripts in Indian Cultural History*, ed. Dominik Wujastyk, Anthony Cerulli, and Karin Preisendanz (New Delhi: Manohar), 141–57, URL: <https://www.academia.edu/4125988/>.
- (2016a), “From Balkh to Baghdad. Indian Science and the Birth of the Islamic Golden Age in the Eighth Century,” *Indian Journal of the History of Science*, 51/4: 679–90. doi: [10/hbph8z](https://doi.org/10.16943/ijhs/2016/v51/i4/41244), URL: <http://doi.org/10.16943/ijhs/2016/v51/i4/41244>.
- (2016b), “Models of Disease in Ayurvedic Medicine,” in Mark Jackson (ed.), *The Routledge History of Disease* (Abingdon: Routledge), chap. 3, 38–53, ISBN: 9780415720014. doi: [10/hbph8x](https://doi.org/10/hbph8x).
- (2021), “A New Translation of Carakasaṃhitā, Vimānasthāna, Chapter 1, Based on the Vienna Critical Edition,” in Toke Lindegaard Knudsen, Jacob Schmidt-Madsen, and Sara Speyer (eds.), *Body and Cosmos. Studies in Early Indian Medical and Astral Sciences in Honor of Kenneth G. Zysk* (Leiden, Boston: Brill), chap. 6, 77–109. doi: [10/hbph7s](https://doi.org/10/hbph7s).

Wujastyk, Dominik, et al. (2021–), “The Suśruta Project: The Textual and Cultural History of Medicine in South Asia Based on Newly-Discovered Manuscript Evidence,” ed. Dominik Wujastyk, Jason Birch, Andrey Klebanov, et al., URL: <https://sushrutaproject.org>, accessed 21/01/2023.

Wujastyk, Dominik (2022), “The Science of Medicine,” in Gavin D. Flood (ed.), *The Wiley Blackwell Companion to Hinduism* (2nd edn., Hoboken, NJ: Wiley and Sons, Ltd.), chap. 23, 399–413, ISBN: 9781119144861. doi: [10/hbph7k](https://doi.org/10/hbph7k).

- (2023), “Caraka on the Human Being. A New Translation of *Carakasaṃhitā*, Śārīrasthāna, Chapter 1,” in Christopher T. Fleming, Toke Lindegaard Knudsen, Anuj Misra, et al. (eds.), *Science and Society in the Sanskrit World* (Sir Henry Wellcome Asian Series, 21; Leiden: Brill), chap. 9, 229–60, ISBN: 978-90-04-52231-2. doi: 10/hbph7f.
- (2024), “Candraṭa’s editing of the Suśrutasamhitā,” version 2, The Suśruta Project (12 Sept.), URL: <https://sushrutaproject.org/2024/09/12/candrata/>, accessed 29/09/2023; first published 2023-07-04.
- (2025), “Intertextuality and the Methods of Diagnosis,” version 1, The Suśruta Project (20 Mar.), URL: <https://sushrutaproject2.github.io/website/blog/2025/intertextuality-full/>, accessed 20/03/2025; first published 2025-02-25.
- Wujastyk, Dominik, Birch, Jason, Klebanov, Andrey, et al. (2023), *On the Plastic Surgery of the Ears and Nose. The Nepalese Version of the Suśrutasamhitā* (Heidelberg: Heidelberg Asian Studies Publishing), ISBN: 978-3-948791-63-6. doi: 10/hbph7d.
- Yagi, Toru (1994), “A Note on bhojya- and bhakṣya-,” in Yasuke Ikari (ed.), *A Study of the Nīlamata. Aspects of Hinduism in Ancient Kashmir* (Kyoto: Kyoto Institute for Research in Humanities, Kyoto University).
- Yule, Henry, and Burnell, Arthur Coke (1903), *Hobson-Jobson: A Glossary of Colloquial Anglo-Indian Words and Phrases, and of Kindred Terms, Etymological, Historical, Geographical and Discursive* (London: John Murray), ISBN: 81-215-0109-1, ARK: <ark:/13960/t1zc7wm8w>; Often reprinted.
- Zacchetti, Stefano (2010), “Defining An Shigao’s 安世高 Translation Corpus: The State of the Art in Relevant Research,” *Xi Yu Li Shi Yu Yan Yan Jiu Ji Kan = Historical and Philological Studies of China’s Western Regions*, 3: 249–70, URL: <https://ora.ox.ac.uk/objects/uuid:eacf5f0c-8632-4087-ab4f-23f67b30247d/files/mb2e0e26865aa8b01047145704c8056dd>.
- Zimmermann, Francis (1999), *The Jungle and the Aroma of Meats* (2nd edn., Delhi: Motilal BanarsiDass), ISBN: 8120816188.
- Zwilling, Leonard, and Sweet, Michael (2010), ““Like a City Ablaze”: The Third Sex and the Creation of Sexuality in Jain Religious Literature,” in Stephen Hunt (ed.), *Religions of the East* (New Delhi: Routledge, May), 425–50. doi: 10/hbph9k.

- Zwilling, Leonard, and Sweet, Michael J. (2000), "The Evolution of Third-Sex Constructs in Ancient India a Study in Ambiguity," in Julia Leslie and Mary McGee (eds.), *Invented Identities: The Inter play of Gender, Religion and Politics in India* (New Delhi: Oxford University Press), 99–132, ISBN: 9780195652932.
- Zysk, Kenneth G. (1993), "The Science of Respiration and the Doctrine of the Bodily Winds in Ancient India," *Journal of the American Oriental Society*, 113: 198–213. doi: [10/cz8qf2](https://doi.org/10/cz8qf2).
- (2007), "The Bodily Winds in Ancient India Revisited," *Journal of the Royal Anthropological Institute* (N.S.): S105–S115.

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# Materia Medica

## 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*, 5 vols. (Madras: Orient Longman).
- BIA Prater, S. H. (1993), *The Book of Indian Animals* (3rd edn., Bombay, Delhi, etc.: Oxford University Press), ARK: [ark:/13960/t6356w32f](https://ark.org/t6356w32f); 4th impression of 3rd corrected 1980 edition.
- Chevillard Chevallier, Andrew (2000), *The Encyclopedia of Herbal Medicine*, ed. Penny Warren, Valerie Horn, Christa Weil, et al. (1st edn., New York: Dorling Kindersley), ISBN: 9780751303148, ARK: [ark:/13960/s2bh76qc88s](https://ark.org/s2bh76qc88s).
- Chopra Chopra, R. N., Nayar, S. L., and Chopra, I. C. (1956), *Glossary of Indian Medicinal Plants* (3rd reprint, 1992, New Delhi: Council of Scientific and Industrial Research); vol. 2: [chop-1969](#).
- Chopra IDG Chopra, R. N., Chopra, I. C., Handa, K. L., et al. (1958), *Chopra's Indigenous Drugs of India* (2nd edn., Calcutta: Dhur & Sons), ARK: [ark:/13960/t9673t140](https://ark.org/t9673t140).
- CIPP Pillay, V. V. (2010), "Common Indian Poisonous Plants," in D. A. Warrell, T. M. Cox, and J. D. Firth (eds.), *Oxford Textbook of Medicine* (5th edn., Oxford University Press), 1371–5. doi: [10/hbph9m](https://doi.org/10/hbph9m).

- Dutt Dutt, Uday Chand (1922), *The Materia Medica of the Hindus...with a Glossary of Indian Plants by George King. Revised Edition...by Binod Lall Sen and Ashutosh Sen and Pulin Krishna Sen* (Krishnadas Sanskrit Studies; 3rd edn., Calcutta: Madan Gopal Dass for the Adi-Ayurveda Machine Press), ARK: [ark:/13960/t59c7tg9z](https://ark.org/t59c7tg9z); reprinted Varanasi: Chowkhamba Saraswati Bhawan, 1980.
- Dymock Dymock, William, Warden, C. J. H., and Hooper, David (1890), *Pharmacographia Indica: A History of the Principal Drugs of Vegetable Origin Met with in British India* (London, Bombay, Calcutta: Kegan Paul), URL: <https://tinyurl.com/dymock1890>, accessed 16/03/2023.
- GJM1 Meulenbeld, Gerrit Jan (1974a), "Sanskrit Names of Plants and their Botanical Equivalents," in id., *The Mādhavanidāna and Its Chief Commentary: Chapters 1–10. Introduction, Translation, and Notes* (Leiden: Brill), chap. Appendix Four, 520–611, ARK: [ark:/13960/t25b8q97g](https://ark.org/t25b8q97g).
- 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.
- GVDB Singh, Thakur Balwant, and Chunekar, K. C. (1972), *Glossary of Vegetable Drugs in Brhattrayī* (Varanasi: Chowkhamba Sanskrit Series Office), ARK: [ark:/13960/s2cvp72x58j](https://ark.org/s2cvp72x58j).
- HK Hilgenberg, Luise, and Kirfel, Willibald (1941), *Vāgbhaṭa's Aṣṭāṅgahṛdayasaṃhitā, ein altindisches Lehrbuch der Heilkunde, aus dem Sanskrit ins Deutsche übertragen mit Einleitung, Anmerkungen und Indices* (Leiden: Brill), ARK: [ark:/13960/t52h05616](https://ark.org/t52h05616).
- IGP Griffiths, Mark (1994), *The New Royal Horticultural Society Index of Garden Plants* (London: Macmillan), ARK: [ark:/13960/t2q61gn9z](https://ark.org/t2q61gn9z).
- IHR Khare, C. P. (2004), *Indian Herbal Remedies: Rational Western Therapy, Ayurvedic and Other Traditional Usage, Botany* (Berlin and Heidelberg: Springer), ISBN: 978-3-642-62229-8. doi: [10/bfz5jk](https://doi.org/10/bfz5jk), ARK: [ark:/13960/t2p67054f](https://ark.org/t2p67054f).
- Issar Issar, T. P. (1994), *Blossoms of Bangalore* (Bangalore: T. P. Issar).

- IW Israel, Samuel, Sinclair, Toby, Grewal, Bikram, et al. (1988), *Indian Wildlife: Sri Lanka Nepal* (Insight Guides; Singapore etc.: APA Publications), ISBN: 9780245545238, ARK: [ark:/13960/s2p9d5pqd1w](https://ark.org/13960/s2p9d5pqd1w).
- K&B Kirtikar, K. R., Basu, B. D., and an I.C.S (1987), *Indian Medicinal Plants*, ed. E. Blatter, J. F. Caius, and K. S. Mhaskar, 8 vols. (2nd edn., Dehradun: International Book Distributors), URL: <https://archive.org/details/biodiversity?tab=collection&query=kirtikar>; First published in Allahabad, 1918.
- MBG Missouri Botanical Garden (2024), "Missouri Botanical Garden: Plant Finder," Missouri Botanical Garden, URL: <https://bit.ly/MissouriPlantfinder>.
- NEH Bown, Deni (2001), *New Encyclopedia of Herbs and Their Uses* (2nd edn., London, New York etc: Dorling Kindersly).
- NK Nadkarni, K. M. (1982), *Dr. K. M. Nadkarni's Indian Materia Medica, with Ayurvedic, Unani-tibbi, Siddha, Allopathic, Homeopathic, Naturopathic & Home Remedies, Appendices & Indexes ... in Two Volumes*, ed. A. K. Nadkarni, 2 vols. (3 ed., revised and enlarged by A. K. Nadkarni, Bombay: Popular Prakashan), ISBN: 8171541429, URL: <https://tinyurl.com/Nadkarni1982>; First published in 1954.
- Peter Peter, K. V. (2012) (ed.), *Handbook of Herbs and Spices* (Food Science, Technology and Nutrition, 228; 2nd edn., Oxford, Cambridge, Philadelphia, New Delhi: Woodhead Publishing), ISBN: 9780857090393.
- Potter Wren, R. C. (1956), *Potter's New Cyclopaedia of Botanical Drugs and Preparations*, ed. R. W. Wren (7th edn., Rustington, Sussex: Health Science Press), ARK: [ark:/13960/t14n65c9g](https://ark.org/13960/t14n65c9g).
- Potter<sub>rev</sub> Wren, R. C., Williamson, Elizabeth M., and Evans, Fred J. (1994), *Potter's New Cyclopaedia of Botanical Drugs and Preparations* (Saffron Walden: C. W. Daniel Company Ltd.); Reprint of revised 1988 edition.
- POWO Kew Gardens (2024), "Plants of the World," Royal Botanic Gardens, URL: <https://powo.science.kew.org>.
- Reptiles Daniel, J. C. (1983), *The Book of Indian Reptiles* (Bombay: Oxford University Press).

Trees	Bole, P. V., and Vaghani, Yogini (1986), <i>Field Guide to the Common Trees of India</i> (Bombay, Delhi, Oxford, etc.: World Wildlife Fund – India and Oxford University Press), ISBN: 0-19-561595-6; 4th reprint.
Watt <sub>Comm</sub>	Watt, George (1908), <i>The Commercial Products of India, Being an Abridgement of "the Dictionary of the Economic Products of India"</i> (London: John Murray), ARK: <a href="https://ark.org/ark:/13960/t8cg7dm79">ark:/13960/t8cg7dm79</a> .
Watt <sub>Dict</sub>	Watt, George (1889–96), <i>A Dictionary of the Economic Products of India</i> (Calcutta: Dept. Revenue and Agriculture, Government of India), URL: <a href="https://tinyurl.com/watt1889">https://tinyurl.com/watt1889</a> , accessed 28/04/2021.
WDMPP	Quattrocchi, Umberto (2012), <i>CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology</i> (Boca Raton, FL: CRC Press), ISBN: 978-1-4822-5064-0, ARK: <a href="https://ark.org/ark:/13960/s2k3j7xg2ff">ark:/13960/s2k3j7xg2ff</a> .

## Flora

Numbers after the final colon refer to pages in this book. Silent reference regarding plant names has also been made to Wikipedia, which has well-curated botanical information, including up-to-date nomenclature and synonym lists.

a large aroid (*mahākarambha*) name from etymology; see **an aroid** (*karambha*): 199  
**agarwood** (*aguru*) *Aquilaria malaccensis* Lam., GVDB: 3: 154, 262  
‘alas, alas’ (*hālāhala*) unknown. See Cf. *Sodhalanighantu* p.43 (sub *bola*) = *stomaka* = **Indian aconite** (*vatsanābha*): 200, 202  
**Alexandrian laurel** (*punnāga*) *Calophyllum inophyllum*, L. See AVS: 1, 338, NK: 1, #425: 243, 262  
**amaranth** (*taṇḍulīya*) see **prickly amaranth** (*taṇḍulīyaka*): 244  
**an aroid** (*karambha*) probably a plant belonging to Araceae, GVDB: 76 for useful discussion. E.g., *Alocasia macrorrhiza* (L.) G.Don is an Old

World aroid occurring in S. Asia and has poisonous sap; any part of the aroid *Colocasia* spp. chewed or eaten raw can cause burning pain and buccal swelling, salivation, difficulty breathing, swallowing or speaking. E.g., *C. esculenta* (L.) is native to India and has these properties, WDMPP: 1060–62. The same source (2847–2848) gives the extremely irritant *Pergularia daemia* (Forssk.) Chiov. as *karambha*. Cf. **taro** (*piṇḍaluka*) *karambha* is possibly a syn. for **plumed cockscomb** (*indīvara*), GVDB: 76, 44–45: 199, 377, 394  
**Arabian jasmin** (*trnaśūnya*) see **Arabian jasmine** (*mallikā*), GVDB: 190 MW: 453 says *Jasminium sambac*. GVDB: 190

- also suggest screw-pine (*ketaka*) : 377
- Arabian jasmine (*mallikā*) *Jasminum sambac* (L.) Aiton, *GVDB*: 300 : 377
- Arabian jasmine (*tṛṇāśūlyā*) probably an alternative pronunciation for Arabian jasmin (*tṛṇāśūmya*), *GVDB*: 190 : 262
- arjun (*arjuna*) *Terminalia arjuna* (Roxb.) Wight & Arn., see *HK*: 738, *GVDB*: 61 : 50, 104, 259, 284, 377
- arjun tree (*kakubha*) *Terminalia arjuna* (Roxb.) Wight & Arn., *GVDB*: 61. But these authors also point out that this plant is sometimes cited together with arjun (*arjuna*), so it may be bluebell barleria (*ārtagala*) (see *GVDB*: 39 for extensive discussion) : 283
- Asoka tree (*aśoka*) *Saraca indica* Linn., *GVDB*: 26 : 155, 156, 244, 262, 300, 389
- atis root (*śrīgīvīṣā*) *Aconitum heterophyllum*, Wall. ex Royle. See *AVS*: 1, 42, *NK*: 1, #39: 200, 202
- axlewood (*dhava*) *Anogeissus latifolia* (Roxb. ex DC.) Wall. ex Guill & Perr. See *AVS*: 1, 163 f, *Chopra*: 20 : 50, 103, 213, 259, 263
- bamboo (*vāṇīśa*) *Bambusa arundinacea* (Retz.) Willd. : 283
- bamboo leaves (*venupatrikā*) *Bambusa bambos*, Druce, *NK*: 1, #307. But *GVDB*: 380 argues for *Setaria glauca* Beauv. : 190
- banyan (*nyagrodha*) *Ficus benghalensis*, L., *GVDB*: 356, *HK*: 748 : 378
- banyan (*vaṭa*) see banyan (*nyagrodha*) : 104, 107, 284
- barley (*yava*) *Hordeum vulgare*, L. See *HK*: 752 : 166
- barley ash (*yavakṣāra*) The preparation method is described at *GVDB*: 327 : 169, 170, 378
- barley ash (*yavanālā*) see barley ash (*yavakṣāra*), *GVDB*: 327 : 253
- bayberry (*kaṭphala*) *M. esculenta* Buch.-Ham. ex D.Don, which is native to the Himalaya, from Kashmir to Assam, as well as S. China and SE Asia. *Nageia nagi* (Thunb.) Kuntze (syn of *Myrica nagi* Thunb.), as suggested by T. B. Singh and Chunekar (*GVDB*: 66), is native to East Asia, not India : 244
- bearded premna (*vasuka*) *Premna barbata* Wall. (← *vasuhāṭṭa*), according to Cakrapāṇidatta. See the discussion by T. B. Singh and Chunekar (*GVDB*: 362–363), where other candidate species such as *Osmanthus*, *Calotropis*, and *Trianthema* are discussed. T. B. Singh and Chunekar (*GVDB*: 363) note that when *vasuka* is mentioned with *vasira*, two varieties of salt are often meant (see *vasukavasirā*). See also *NK*: #1299 who identifies it with *Indigofera enneaphylla*, Linn. (Birdsville Indigo), apparently without controversy : 104
- beautyberry (*śyāmā*) *Callicarpa macrophylla*, Vahl. See *AVS*: 1, 334, *NK*: 1, #420 : 161, 188, 190, 245
- beggarweed (*an̄iśumati*) see beggarweed (*śālaparṇī*), *GVDB*: 1, mentioning that the pair of these refers to beggarweed and hare foot uraria : 207, 254
- beggarweed (*sthirā*) see beggarweed (*śālaparṇī*), *GVDB*: 458 : 254, 283
- beggarweed (*vidārigandhā*) see beggarweed (*śālaparṇī*), *GVDB*: 369–370 : 59, 155, 166, 277, 378, 390
- beggarweed (*śālaparṇī*) *Desmodium gangeticum* (L.) DC. See *Dymock*: 1, 428, *GJM1*: 602, *NK*: 1, #1192; *ADPS*: 382, 414 and *AVS*: 2, 319, 4366 are confusing. Also called beggarweed : 378
- beleric myrobalan (*bibhītaka*) *Terminalia bellirica* Roxb. One of the components of the three myrobalans (*triphalā*) *GVDB*: 274, 196 : 398
- Bengal quince (*bilva*) *Aegle marmelos* (L.)

- Corr. See AVS: 1, 62, Chevillard: 161, NK: 1, #62, i(MW: 732a) : 103, 156, 162, 245, 378, 384, 397  
 big poison (*mahāviṣa*) unknown: 200, 202  
 bitter gourd (*paṭoli*) see pointed gourd (*paṭola*), cite[233]gvdb: 244  
 bitumen (*adrija*) → *śilājīt*. A tar-like, black, resinous rock exudate. See *Mahākośa*: 1, 21: 225  
 black Bengal quince (*kṛṣṇaśrīphalikā*) GVDB: 412, on *śrīphala*, synonym of Bengal quince (*bilva*) fruit: 385  
 black creeper (*kālānusārī*) Ichnocarpus frutescens R. Br. or Cryptolepis buchanani Roemer & Schultes. Probably a synonym for *kṛṣṇasārīvā* (GVDB: 94–95). I. frutescens has dark, rust-colored stems, so has been preferred here. However, Cryptolepis grandiflora, Wight, also has black stems. Synonym of *kālānusārī*, *kālānusārīvā*. *kālānusārya* may be a synonym of *tagara*, itself hard to identify: 243, 379  
 black creeper (*pālindī*) Ichnocarpus frutescens, (L.) R.Br. or Cryptolepis buchanani, Roemer & Schultes. See AVS: 3, 141, 145, 203, NK: 1, #1283, 1210, ADPS: 434. Dalhana on SS 5.1.82 identified *pālindī* with *trivṛt* (*turpeth*) and T. B. Singh and Chunekar (GVDB: 246) supported this as a usual identification: 190, 193, 207, 244  
 black nightshade (*kākamācī*) Solanum nigrum, Linn., GVDB: 86–87. May also be the less poisonous S. dulcamara, “bittersweet nightshade,” K&B: 1, 889–892: 255, 262, 382  
 black pepper (*marica*) Piper nigrum, L. See ADPS: 294, NK: 1, #1929. Known to ancient Greek authors (Ball 1888: 341): 167, 260, 300, 384, 398  
 black sarsaparilla (*kālānusārīvā*) see Indian sarsaparilla (*sārīvā*); see also black creeper (*kālānusārī*). Problems about identifying this plant are discussed at GVDB: 94–95 and GVDB: 429–431: 262  
 blackboard tree (*saptachada*) Alstonia scholaris R. Br. GVDB: 420: 190, 379  
 blackboard tree (*saptaparna*) see blackboard tree (*saptachada*): 260  
 blackbuck (*hariṇa*) Antelope cervicapra, L. See BIA: 270 IW: 95, 165, et passim: 193  
 blue water-lily (*utpalā*) Nymphaea stellata, Willd. See GJM1: 528, IGP 790; Dutt: 110, NK: 1, #1726: 41, 124, 188, 207, 262, 300, 301, 383  
 bluebell barleria (*kuravaka*) see bluebell barleria (*kuruwaka*): 245  
 bluebell barleria (*kuruwaka*) Or *kurubaka*. T. B. Singh and Chunekar (GVDB: 108) notes that this is sometimes listed as a type of rice, as at *Suśrutasāṃhitā* 1.46.8 (Su 1938: 215). Further discussion at GVDB: 447–448, sub bluebell barleria (*saireyaka*), where *kurubaka* is said to be identifiable with *baka* and *būka*.  
 T. B. Singh and Chunekar (GVDB) finally propose a red-flowering Rhododendron, admitting that this is a novel suggestion: 199, 379  
 bluebell barleria (*sahā*) see bluebell barleria (*sahācara*), GVDB: 428: 165, 253  
 bluebell barleria (*sahācara*) see bluebell barleria (*saireyaka*), GVDB: 427: 379  
 bluebell barleria (*saireyaka*) A Barleria, perhaps B. cristata L. that is particularly well-known in South India. Four kinds are distinguished in ayurveda, based on the colour of their flowers. See substantive discussion at GVDB: 444–449: 379  
 bluebell barleria (*ārtagala*) A variety of bluebell barleria (*saireyaka*), q.v.; GVDB: 39 argue for Xanthium strumarium L., “clotbur” and for Acanthus ilicifolius Linn., which is not native to S. Asia. See also GVDB: 446: 377  
 bread flower (*āsphota*) GVDB: 41 argue for

- Vallaris solanacea (Roth ex Roem. & Schult.) Kuntze. This has the right distribution in S. Asia **POWO**: s.v.: 255
- bull's head (*gokṣura*) *Tribulus terrestris* L. **GVDB**: 144–145, 193. A component of lesser five roots : 379
- bull's head (*trikāṇṭaka*) → bull's head (*gokṣura*) **GVDB**: 193. A component of lesser five roots : 390
- bulrush (*kaśeru*) "Two species, *Scirpus kysoor* Roxb., and *S. grossus* Linn. f., are used" **GVDB**: 85. Also *kaśeruka* and *kaseru* : 161, 162, 165
- burflower tree (*kadamba*) *Neolamarckia cadamba* (Roxb.) Bosser, sometimes "wild chinchona," **NK**: 1, #204, **GVDB**: 70, Wikipedia contributors 2025f. Cf. *Mitragyna parvifolia* (Roxb.) Korth, which looks similar to N. *cadamba* and is claimed by some to be the ancient tree of this name (Wikipedia contributors 2025e) : 379, 390
- burflower tree (*nīpa*) see burflower tree (*kadamba*), **GVDB**: 228, q.v. for more detail and alternatives : 156
- camphor (*karpūra*) *Camphora officinarum*, Nees. or *Dryobalanops aromatica*, Gaertn.f., nom cons. The latter is native to the Malay Archipelago. See **GVDB**: 82, **IGP**: 253; see also camphor (*śītaśīva*) : 380
- camphor (*śītaśīva*) rarely mentioned. Taken as rock salt (*saindhava*) or shami tree (*śamī*), etc., by some authors, **GVDB**: 402. Dalhaṇa on 5.6.18 (**Su 1938**: 581) glossed it as camphor (*karpūra*), but noticed other interpretations : 262, 379
- cardamom (*elā*) *Elettaria cardamomum*, Maton. See **AVS**: 2, 360, **NK**: 1, #924, **Potter<sub>rev</sub>**: 66 : 154, 207, 215, 243, 244, 252, 262, 283, 380, 398
- cardamom (*kṣudrālā*) see cardamom (*elā*), **GVDB**: 128. This expression, "small cardamom" is only used at *Suśrutasaṃhitā Kalpasthāna* 6.17 : 262
- caray cheddie (*viśvadevā*) → *gāṅgerukī*
- Canthium parviflorum, Lam. See **AVS**: 1, 366 f. Or *Sida rhombifolia* Linn. (**GVDB**: 372, 444 ff. et passim) : 107
- castor oil tree (*gandharvahasta*) see castor-oil (*eraṇḍa*). **GVDB**: 135, **K&B**: 3, 2277 : 55, 156
- castor-oil (*eraṇḍa*) *Ricinus communis*, L. See **NK**: 1, #2145, **Chopra**: 214 : 60, 198, 380
- castor-oil tree (*vardhamāna*) see castor-oil (*eraṇḍa*), **GVDB**: 361 : 260
- catechu (*khadira*) *Senegalia catechu* (L.f.) P. J. Hurter & Mabb = *Acacia catechu* Willd. **GVDB**: 129–130 : 104
- certain minerals (*tārāvitāra*) Unknown. It is not even certain that these are minerals. The variant reading in the vulgate, *tāraḥ sutāraḥ* was glossed by Dalhaṇa on 5.3.14 (**Su 1938**: 568) as follows *tāro rūpyam*, *sutāraḥ pāradāḥ*, "tāra means silver; sutāra means mercury." : 214
- chaff (*kāṇḍana*) The word *kāṇḍana* is not found in dictionaries; *kāṇḍana* is threshing, separating the chaff from the grain in a mortar. Cf. Hemādri's *Caturvargacintāmaṇi* (**PWK**: 2, 8) (**Śiromāṇi** 1873: 1, 138: 21, citing the *Vāyupurāṇa*) : 43, 396
- champak (*campaka*) *Magnolia champaca* (L.) Baill. ex Pierre, **GVDB**: 154 : 262
- chebulic myrobalan (*harītakī*) *Terminalia chebula* Retz. **GVDB**: 466 : 164, 189, 262, 398
- cherry (*elavālu*) *Prunus cerasus*, L. See **GVDB**: 58 for a thoughtful discussion **NK**: 1, #2037. : 207, 262, 380
- cherry (*elavāluka*) see cherry (*elavālu*) : 260
- chickling pea (*kalāya*) *Lathyrus sativa* L. **GVDB**: 84. See **AVS**: 4, 308, **IGP**: 901; cf. **NK**: 1, #1940 : 82
- chinaberry tree (*mahānimba*) *Melia azedarach* L., **GVDB**: 302 : 380, 386

- chinaberry tree (*ramyaka*) according to Dalhaṇa, this is chinaberry tree (*mahānimba*), q.v. (GVDB: 334) : 155
- chir pine (*sarala*) *Pinus roxburghii*, Sarg. GVDB: 423 : 103, 165, 260, 262
- cinnamon (*tvac*) *Cinnamomum cassia*, Blume. See NK: 1, #579 : 254, 262, 283, 380, 398
- cinnamon (*tvak*) see cinnamon (*tvac*) : 244
- cinnamon (*varāṅga*) see cinnamon (*tvac*), GVDB: 360 : 260
- citron (*mātulūṅga*) *Citrus medica*, Linn. GVDB: 276, 306. Also spelled *mātulīṅga*, *mātulaṅga*, *mātulāṅga* : 103, 162, 169, 170, 244, 278
- climbing diamond flower (*prapaṇḍarīka*) conjectural; see the substantial discussion by T. B. Singh and Chunekar (GVDB: 261). They note that it is used mainly in eye troubles and frequently with liquorice (*yaṣṭimadhu*), than which it is has been said to be thicker, and is sweet in taste. Candidates they suggest include *Wendlandia heynei* (Schult.) Santapau & Merchant (formerly W. *exserta*), native to India and *Hedychium flavescens*, Carey. But neither of these plants have any reports of toxicity. Another Indian candidate may be *Hedyotis scandens* Roxb. (syn. *Dimetia scandens* (Roxb.) R.J.Wang) that is poisonous but also used for eye conditions and whose root is abortifacient; the whole plant is used as a fish poison (WDMPP: 1934) : 200, 243, 262, 391
- clove bean (*śaikhinī*) *Ipomoea muricata* (L.) Jacq., Pl. Hort. Schoenbr., GVDB: 385–386 : 154, 167
- cluster fig (*udumbara*) *Ficus racemosa*, L. See ADPS: 487 : 259
- cobra's saffron (*nāgapuṣpa*) → *nāgakeśara*. Mesua ferrea, L. See NK: 1, #1595, GVDB: 220 : 207
- cogongrass (*balvaja*) possibly *Imperata cylindrica* (L.) P. Beauv. GVDB: 271
- describe the debate about this identity : 283
- coleus (*hrīvera*) *Coleus vettiveroides* K.C.Jacob, GVDB: 474, where it is stated that this is a synonym for scented pavonia (*bālaka*), also a disputed plant. See POWO: <https://powo.science.kew.org/taxon/446211-1>. Some say this is *Pavonia odorata*, Willd., "scented pavonia" : 284, 396
- colocynth (*indravārunī*) *Citrullus colocynthis* (L.) Schrad., GVDB: 46. The two varieties of this plant are discussed by (ADPS: 180–183); the first is agreed to be colocynth, the second is debated but is likely to be a Curcubitaceae : 198, 260, 262, 381
- colocynth (*mrgādāni*) see colocynth (*indravārunī*) GVDB: 46, 318 : 244
- common smilax (*śvadāṁśtra*) *Smilax aspera* L., GVDB: 414 : 103
- convolvulus (*lakṣmaṇā*) Sivarajan and Balachandran (ADPS: 273–275) suggest *Ipomoea marginata* (Desr.) Verdc. or *I. obscura* (Linn.) AVS: 3, 237–238 suggests *Ipomoea sepiaria* Roxb. (looks like a little boy (*putraka*), and generates a boy (*putrajananī*), according to the *Bhāvaprakāśa*). Sivarajan and Balachandran (ADPS: 273–275) firmly reject *Mandragora officinalis* which is European; but possible consideration could be given to *Mandragora caulescens* C.B.Clarke, a variant that is known in South Asia. Cf. GVDB: 346–347. NK: #1546, #2323 suggests *Mandragora officinalis*, Linn., known as *putrada* : 107
- coriander (*dhānyaka*) *Coriandrum sativum* L., GVDB: 213 : 381
- coriander (*kustumburya*) see coriander (*dhānyaka*), GVDB: 113 : 262

corky coral tree (*pāribhadra*) Erythrina suberosa Roxb. See **GVDB**: 245: 213, 381

corky coral tree (*pāribhadraka*) see **corky coral tree** (*pāribhadra*): 156, 259

costus (*kuṣṭha*) Dolomiaeae costus (Falc.) Kasana & A. K. Pandey. See **GVDB**: 112, NK: 1, #2239. Known to ancient Greek authors (Ball 1888: 345) : 154, 162, 190, 207, 215, 243, 244, 252, 260, 262, 283, 284

cottony jujube (*kākolī*) Ziziphus mauritiana, Lam. See **IGP**: 1233, NK: 1, #2663; **IGP** 1233. Cf. **NK**: 1, #1170 : 153, 161–163, 240

country mallow (*atibalā*) Abutilon indicum, (L.) Sweet, but may be other kinds of mallow, e.g., Sida rhombifolia, L.. See **NK**: 1, #11, **IGP**: 1080, **NK**: 1, #2300, **ADPS**: 71, 77, and cf. **heart-leaf sida** (*balā*) : 59, 161, 162, 165, 368

country mallow (*sahadevā*) see *balā* (**GVDB**: 428). Contains ephedrine: 107, 165

country sarsaparilla (*ananta-poison*) see **country sarsaparilla** (*anantā*), with which I conjecturally identify this poisonous root plant. See footnote 578, p. 198: 198

country sarsaparilla (*anantā*) Hemidesmus indicus, (L.) R. Br. See **ADPS**: 434, **AVS**: 3, 141–145, **NK**: 1, #1210. But see **GVDB**: 13 for complications that may suggest that it is to be equated with *sārivā*, which may sometimes be Cryptolepis or Ichnocarpus frutescens R. Rr. (**GVDB**: 429–431) : 59, 198, 207, 214, 381

crape jasmine (*tagara*) Tabernaemontana divaricata (L.) R.Br. ex Roem. & Schultes. See **GJM1**: 557, **AVS**: 5, 232. Synonym of *nata*. But some say Valeriana jatamansi, Jones. See **GVDB**: 173–174 for discussion (and charming comments on brain-liquid testing). Some say *tagara* is Indian

rose-bay or Indian valerian or a **Nymphoides** (see **water snowflake** (*kumudavatī*)), but there remain many historical questions about the ancient and regional identities of this plant. See, e.g., **AVS**: 5, 334, 345. See also **IGP**: 1147, **K&B**: 1, 796, #758: 154, 162, 190, 207, 243, 262, 385, 400

crimson trumpet-flower tree (*pāṭalā*) Stereospermum chelonides, (L. f.) A. DC. See **GJM1**: 573, **AVS**: 5, 192 ff, **ADPS**: 362 f, **AVS**: 3, 1848 f, **IGP** 1120, **Dymock**: 3, 20 ff: 384, 400

croton tree (*nāgadantī*) Croton persimilis Müll.Arg., **GVDB**: 222: 260, 382, 395

croton tree (*nāgavinnā*) Croton persimilis Müll.Arg. **GVDB**: 222 I have taken this as **croton tree** (*nāgadantī*) because of context in *Suśrutasaṃhitā* Kalpasthāna 5: 245

crow (*kāka-plant*) an unidentified poisonous plant apparently called "crow." T. B. Singh and Chunekar (**GVDB**: 86) note that several drugs named after the crow are unidentifiable. Thus, **black nightshade** (*kākamācī*) is toxic, but this is a stretch: 199

cucumber (*trapuṣa*) Cucumis sativus L., **GVDB**: 191: 383

datura (*dhattūra*) Datura metel, L. See **AVS**: 2, 305 (cf. *Abhidhānacarṇī*), **NK**: 1, #796 ff. **Potter<sub>rev</sub>**: 292 f, **ADPS**: 132. See Geeta and Gharaibeh 2007 and related literature for the evidence that all Datura species are originally a New World genus, introduced to S. Asia in pre-Columbian times. Note that *dhattūra* is mentioned three times the *Suśrutasaṃhitā* (4.17.37, 5.7.52, 53) but never in the *Carakasaṃhitā* or the *Bhelasaṃhitā*: 56, 382

datura (*dhuttūrakā*) see **datura** (*dhattūra*): 257

- deodar (*bhadradāru*) Cedrus deodara, (Roxb.ex D.Don) G. Don. See AVS 41, NK: 1, #516 : 50, 161, 166, 207, 260
- deodar (*devadāru*) Cedrus deodara (Roxb.) Loud. GVDB: 206–207 : 103, 162, 262, 368, 382
- deodar (*suradāru*) see deodar (*devadāru*) : 243
- devil's dung (*hīngu*) Ferula foetida Regel., GVDB: 471–472 : 104, 105, 243
- dried ginger (*nāgara*) → dried ginger (*śunṭhi*) GVDB: 221–222 : 105, 244
- dried ginger (*śunṭhi*) Zingiber officinale, Roscoe. See ADPS: 50, NK: 1, #2658, AVS: 5, 435, IGP: 1232 : 161, 382, 398
- dried meat (*vallūra*) MW: 929,
- 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) : 41
- drum-giver (*lambaradā*) unknown; name from etymology. Cf. GVDB: 348 : 199
- durva grass (*dūrvā*) Cynodon dactylon (L.) Pers., GVDB: 205, where some questions are raised about white and green varietals : 283, 386, 397
- eggplant (*vārtāku*) Solanum melongena L., GVDB: 366 : 156
- elixir salve (*rasāñjana*) cf. Indian barberry (*añjana*) : 50, 60, 387
- embelia (*vidaṅga*) Embelia ribes, Burm. f., ADPS: 507, AVS: 2, 368, NK: 1, #929, Potter<sub>rev</sub>: 113. Poisonous to fish and mammals, WEP: 271 : 50, 103, 154, 207, 243, 244, 260
- emblic myrobalan (*āmalaka*) Phyllanthus emblica, L. See AVS: 4, 256 : 104, 163, 165, 280, 281, 300, 398
- emetic nut (*madana*) Randia dumetorum, Lamk., GVDB: 291–292 and NK: 1, #2091 : 189, 370, 392
- false daisy (*bhrīṅga*) Eclipta prostrata (L.) L. See GVDB: 288, but this is a new-world species : 103, 386
- fermented rice-water (*dhānyāmla*) → *kāñjī*, *kāñjikā*, *sauvīra*. GVDB: 458, NK: 2, appendix VI, #18 : 57, 58
- 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 : 192
- fire-flame bush (*dhātakī*) Woodfordia fruticosa (L.) Kurz. See AVS: 5, 412, NK: 1, #2626. Known to ancient Greek authors (Ball 1888: 344) : 104, 189
- five roots (*pañcamūla*) Described at *Suśrutasaṃhitā* 1.38.66–69 (Su 1938: 169). There are two *pañcamūlas*, 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 : 103, 398
- flame-of-the-forest (*kimśuka*) see flame-of-the-forest (*palāśa*), GVDB: 97–98 : 252
- flame-of-the-forest (*palāśa*) Butea monosperma (Lam.) Taub. GVDB: 241. *pālāśa* in some sources : 104, 156, 383
- flax (*atasī*) Linum usitatissimum, L. See NK#1495 : 162
- 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. macrophylla 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* : 50, 207, 215, 243, 244, 284, 300, 383, 386
- foxtail millet (*priyaṅgū*) see foxtail millet (*priyaṅgu*) : 262
- fragrant lotus (*saugandhika*) A type of

- white water-lily (*kumuda*) or blue water-lily (*utpalā*), **GVDB**: 457: 41
- fruit of the marking-nut (*āruṣkara*) see marking-nut tree (*aruṣkara*). “*āruṣkara* = aruṣkara phala” **ADPS**: 23; see also **MW**: 151: 244
- gajpipul (*gajapippalī*) **GVDB**: 469, 132, syn. *hastipippalī*. A controversial plant, but the conjecture of T. B. Singh and Chunekar that *Scindapsus officinalis* (Roxb.) Schott is the more ancient identity is accepted here: 383, 405
- gajpipul (*hastipippalī*) see gajpipul (*gajapippalī*), **GVDB**: 469, 132: 260
- galangal (*galaṅgala*) *Alpinia galanga* (L.) Sw. Identified with grey orchid in Kerala (**ADPS**: 398). The name is borrowed from Chinese, perhaps via Persian or Arabic (**Peter**: 2, 304), and the name does not occur in early āyurvedic literature (**GVDB**): 384
- galls (*karkaṭa*) almost impossible to identify with certainty, **GVDB**: 78–80. Perhaps *Toxicodendron succedaneum* (L.) Kuntze, 1891, see **NK**: 1, #2136. Sometimes identified with cucumber (*trapuṣa*), which however is not toxic: 200, 383
- galls (*karkaṭaka*) see **galls** (*karkaṭa*): 198
- gamboge (*suvarṇakṣīrī*) see gamboge (*svarnakṣīrī*): 154
- gamboge (*svarnakṣīrī*) **GVDB**: 441, 461–462 describes the two varieties mentioned in the *Suśrutasanhitā*, and the three mentioned by Dalhaṇa. Candidates are *Garcinia morella* (Gaertn.) Desr. (gamboge) and *Euphorbia thomsoniana* Boiss. The latter plant is native to Pakistan, Afghanistan and regions north (**POWO**); its latex is toxic on ingestion and dangerously irritant: 383
- garjan oil tree (*aśvakarṇa*) *Dipterocarpus turbinatus* Gaertn. f. See **GVDB**: 28, **Chopra**: 100: 213, 259, 263
- giant potato (*kṣīravidārī*) possibly → *kṣīraśukla*. *Ipomoea mauritiana*, Jacq. See **ADPS**: 510, **AVS**: 3, 222, **AVS**: 3, 1717 ff: 161, 387, 392, 393, 395
- ginger (*mahaūṣadha*) *Zingiber officinale*, Roscoe. See **ADPS**: 50, **NK**: 1, #2658, **IGP**: 1232: 193
- gold and sarsaparilla (*surendragopa*) Unknown. Dalhaṇa on 5.3.15 (**Su** 1938: 568) glossed *surendra* as “gold” and *gopā* as “Indian sarsaparilla.” He also noted other opinions that *surendra* was “Tellicherry bark”: 214
- golden shower tree (*rājadruma*) see **golden shower tree** (*āragvadha*): 214
- golden shower tree (*rājavṛkṣa*) see **golden shower tree** (*āragvadha*): 103
- golden shower tree (*āragvadha*) *Cassia fistula* L. **GVDB**: 37–38, **ADPS**: 48, **AVS**: 2, 11 ff, **AVS**: 2, 854, **IGP**: 215. Known to ancient Greek authors (**Ball** 1888: 343). The plant has many synonyms: 164, 242, 252, 254, 383
- gourd (*alābu*) *Lagenaria siceraria* Standl. **GVDB**: 25. Some say *Lagenaria vulgaris*, Seringe (**NK**: 1, #1419) but this is not appropriate for blood-letting: 37, 38, 189, 240
- gourd (*vallija*) see **gourd** (*vallija*): 199
- gourd (*vallīja*) This is a guess. According to some lexical sources, syn. for black pepper (*marica*) (**MW**: 929). See **NK**: 1, #1929. T. B. Singh and Chunekar (**GVDB**: 362) note that *valliphala* may be wax gourd (*kūṣmāṇḍa*), which I follow. The related spiny bitter gourd has poisonous seeds, but not flowers. Commenting on *Bṛhatsaṃhitā* 8.13ab and 16.24ab, Bhaṭṭotpala glossed it as *mudgādi*, “mung beans etc.”: 199, 384
- grapes (*drākṣā*) *Vitis vinifera* L. **GVDB**: 208–209: 244
- greater five roots (*bṛhatpañcamūla*) described at *Suśrutasanhitā* 1.38.68–69

- (Su 1938: 169). Consists of Bengal quince, headache tree, Indian trumpet tree, crimson trumpet-flower tree, and white teak : 382, 389, 398
- green gram (*māṣa*) *Vigna radiata* (L.) R. Wilcz. See ADPS: 296, IGP 1204: 50, 162, 369
- grey orchid (*rāsnā*) *Vanda tessellata* (Roxb.) Hook. ex G.Don, usually. But *Pluchea lanceolata*, Oliver & Hiern, is a more common identification in Punjab and Gujarat (GVDB: 337–338); *Alpinia galanga* (L.) Sw. is more common in Kerala (ADPS: 398; Peter: 2, 303–318), though this is usually identified with **galangal**. As all authorities note, the identification of this plant is debated. Sivarajan and Balachandran (ADPS: 398–401) note that sources describe it as having leaves like cardamom and sweet-smelling roots and that “there is great confusion with regard to the identity of the drug.”: 103, 161, 162, 243, 283, 383
- gummy gardenia (*pr̥thvīkā*) ← *hiṅupatrikā*, *Gardenia gummiifera* L.f., GVDB: 257, q.v. for discussion : 244, 262
- hairy bergenia (*pāṣāṇabheda*) *Bergenia ligulata* (Wall.) Engl. GVDB: 246–247 : 104
- 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 : 156, 164, 206, 207, 253, 254, 390
- halfa grass (*darbha*) *Desmostachya bipinnata* Stapf. GVDB: 201. Synonym of *kuśa* : 106, 161
- halfa grass (*kuśa*) *Desmostachya bipinnata*, (L.) Stapf. GVDB: 111, AVS: 2, 326 : 161, 237, 260, 283
- hare foot uraria (*kroṣṭakamekhala*) see **hare foot uraria** (*pr̥śniparṇī*)
- Mahākośa*: 1, 246. *kroṣṭaka* can mean “jackal” *śr̥gāla*, as in *śr̥gālavinna*, “a kind of *pr̥śnaparṇī*” *Mahākośa*: 1, 839 : 244
- hare foot uraria (*pr̥thakparṇī*) → **hare foot uraria** (*pr̥śniparṇī*) and **rajmahal hemp** (*mūrvā*) GVDB: 257. A component of **lesser five roots** : 164, 390
- hare foot uraria (*pr̥śnaparṇī*) see **pr̥śniparṇī** : 378
- hare foot uraria (*pr̥śniparṇī*) → *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 *pr̥thakparṇī*. A component of **lesser five roots** : 161, 162, 384
- headache tree (*agnimantha*) *Premna serratifolia* L. See ADPS: 21, NK: 1, #2025, AVS: 4, 348–352; GJM1: 523. Many taxonomic synonyms, including *P. integrifolia*, *corymbosa*, etc. : 206, 384
- headache tree (*vaijayanti*) see **headache tree** (*agnimantha*), GVDB: 382 : 156
- heart-leaf sida (*balā*) *Sida cordifolia*, Linn. See ADPS: 71, NK: 1, #2297. On the various types of **heart-leaf sida** (*balā*), see GVDB: 270–271, who point out that there are several species of *Sida*, e.g., *S. acuta*, *S. rhombifolia*, *S. spinosa* and *S. cordifolia* that may all be types of *balā* : 59, 161, 162, 165, 168, 207, 368, 381, 384
- heart-leaved moonseed (*amṛtā*) *Tinospora cordifolia* (Thunb.) Miers., synonym of *guḍūcī*. See ADPS: 38, NK: 1, #2472, 624, Dastur #229, GVDB: 17–18. Also *amṛta*, m. : 190, 206, 254, 255
- 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). Also commonly called *amṛtā* : 103, 163
- heart-leaved moonseed (*somavallī*) *Tinospora cordifolia* (Thunb.) Miers. *GVDB*: 456. Likely, but uncertain : 190
- heart-leaved moonseed creeper (*amṛtavalli*) See *amṛtā* : 368
- hedge caper (*hiṁsrā*) *Capparis sepiaria* L., *GVDB*: 471, *IHR*: 124, *K&B*: 1, 109 : 385
- hedge caper (*kākādanī*) synonym of hedge caper (*hiṁsrā*), *GVDB*: 88, 471, *IHR*: 124, *K&B*: 1, 109. This name is not used in the *Carakasamhitā*. At 5.7.31 (*Su* 1938: 583), Dalhaṇa glossed *kākādanī* as black Bengal quince (*kṛṣṇaśrīphalikā*). *GVDB*: vi, 471 note that they have identified *kākādanī* as *Cardiospermum halicacabum* L. “balloonvine” : 255
- henna (*madayantikā*) *Lawsonia inermis*, L. See *AVS*: 3, 303, *NK*: 1, #1448, *Potter<sub>rev</sub>*: 151 : 191
- hibiscus (*ambaṣṭhā*) possibly *Hibiscus rosa-sinensis* L. T. B. Singh and Chunekar (*GVDB*: 18–19) discuss the confusions surrounding the identity of this plant, and especially between this plant and velvet-leaf (*pāṭhū*); they must be different items. T. B. Singh and Chunekar propose that *ambaṣṭhā* is either the fruit of *Hibiscus* or the galls of a *Quercus* or *Tamarix* species. According to Meulenbeld 1974b: 599, *vanakārpāśī* is more likely a name for a hibiscus : 245
- Himalayan birch (*bhūja*) see Himalayan birch (*bhūrja*) : 260
- Himalayan birch (*bhūrja*) *Betula utilis* D. Don, *GVDB*: 287 : 385
- Himalayan mayapple (*vakra*) *Podophyllum hexandrum*, Royle (*NK*: #1971), *K&B*: 1, 68. But perhaps a synonym of crape jasmine (*tagara, nata* q.v. (*GVDB*: 354)) : 215, 243, 244, 254, 255, 283
- Himalayan yew (*sthauneya*) see Himalayan yew (*sthauneyaka*) : 262
- Himalayan yew (*sthauneyaka*) T. B. Singh and Chunekar (*GVDB*: 458–459) suggested *Taxus baccata* L., but that tree is endemic to the Mediterraenean and not South Asia. Poudel, Gao, Möller, et al. 2013 show that *T. contorta* Griff., *T. mairei* (Lemée & Lév.) and *T. wallichiana* Zucc. are distributed in the Hindu Kush - Himalaya region. The Nepalese name *Thuñeraka* is etymologically cognate with the Sanskrit name. *T. contorta* is of medicinal importance, so its common name is used here : 243, 385
- hog plum (*āmrātaka*) *Spondias pinnata* (L.f.) Kurz, *GVDB*: 37, *ADPS*: 36–37. A member of the *ambaṣṭhādi* group : 124, 284
- hogweed (*punarnavā*) *Boerhaavia diffusa*, L. See *ADPS*: 387, *AVS*: 1, 281, *NK*: 1, #363 : 164, 191, 206, 245, 385
- hogweed (*punarnavā*) see hogweed (*punarnavā*) : 254
- hogweed (*punarnavā*) see hogweed (*punarnavā*) : 257
- hogweed (*varṣābhū*) see hogweed (*varṣābhū*) : 254
- hogweed (*varṣābhū*) see hogweed (*punarnavā*). According to *GVDB*: 361, it is *Trianthema portulacastrum* L., but this is mainly known from Africa and the new world. The name is often considered a synonym for hogweed (*punarnavā*) : 385
- Holostemma creeper (*jīvantī*) → *sūryavallī*? Holostemma ada-kodien, Schultes. See *ADPS*: 195, *AVS*: 3, 167, 169, *NK*: 1, #1242 : 165, 393
- holy basil (*surasa*) *Ocimum tenuiflorum*, Linn. *GVDB*: 438–439. Not always distinguished from *O. basilicum* L., Watt<sub>Dict</sub>: 5, 443 : 245, 278
- honey (*kṣaudra*) Eight varieties of honey

- are described in the *Suśrutasamhitā* (NK: 2, Appendix 192). *Kṣaudra* is the product of a small bee of tawny colour, called *kṣudra* : 171, 193, 300, 301
- horned pondweed (*śaivāla*) also *śaivāla*, *śevāra*. *Zannichellia palustris* L. The uncertainties of this identification are discussed by T. B. Singh and Chunekar (GVDB: 409). Sometimes identified with *durva* grass (*dūrvā*) (GVDB: 409). Identified as *Ceratophyllum demersum* Linn. ("hornwort") by AVS: 2, 56–57x: 163, 386, 394
- hornwort (*jalaśūka*) → *jalanilikā*. *Ceratophyllum demersum*, L. See AVS: 2, 56, IGP: 232. T. B. Singh and Chunekar (GVDB: 166) suggest horned pondweed. Dalhaṇa noted on 1.16.19 (Su 1938: 79) that some people interpret it as a poisonous, hairy, air-breathing, underwater creature : 59
- horse gram (*kaulattha*) See horse gram (*kulattha*) : 238
- horse gram (*kulattha*) *Macrotyloma uniflorum* (Lam.) Verdcourt, syn. *Dolichos biflorus*, L., D. *uniflorus*, Lam., GVDB: 109, POWO: sub *Macrotyloma uniflorum*: 166, 167, 242, 263, 386
- horseradish tree (*akṣīva*) see horseradish tree (*śigru*). GVDB: 2–3, 27 discusses the contradictions in identifying this plant. I am adopting the most common traditional identification with *śigru* (Meulenbeld 2009: 77, note 12), although *chinaberry tree* (*mahānimba*) is also likely. The suggestion by T. B. Singh and Chunekar about the name being an erroneous reading for *akṣīra*[*aśmantaka*] cannot stand since the name occurs in a ninth-century *Suśrutasamhitā* manuscript. This occurrence in the *Suśrutasamhitā* was not known to the definitive study by Meulenbeld (2009: 77–78) : 284
- horseradish tree (*kṛṣṇagandhā*) see horseradish tree (*śigru*), GVDB: 115: 156
- horseradish tree (*madhukaśigru*) See horseradish tree (*śigru*), GVDB: 398–399: 260
- horseradish tree (*muruṅgī*) see horseradish tree (*śigru*), (GVDB: 311) : 244
- horseradish tree (*śigru*) *Moringa oleifera* Lam. See IGP: 759, GJM1: 603, Dymock: 1, 396, GVDB: 398–399, K&B: 1, 396–399, #336. The definitive study is that by Meulenbeld (2009), who suggested that the name may have denoted pungent, pro-pitta plants, while Spiers (2022) took this further, suggesting that "*śigru*" may historically have referred more generally to plants with a sharp taste, perhaps including garlic : 162, 164, 386
- hyacinth beans (*nispāva*) *Lablab purpureus* (L.) Sweet (1826) GVDB: 228: 151
- Indian aconite (*ativiṣā*) *Aconitum ferox*, Wall. ex Ser., or perhaps A. *heterophyllum* Wall. ex Royle, GVDB: 12, NK: 1, #39. Also called "atis roots" or just *viṣā*. A. *ferox* is also called aconite, monkshood, wolfsbane, etc. A. *ferox* is extremely poisonous. See also Indian aconite (*vatsanābha*). It grows especially in mountainous Sikkim : 152, 191, 193, 215, 260, 262, 386
- Indian aconite (*bhaīngurā*) alternate name of Indian aconite (*ativiṣā*) or foxtail millet (*priyaṅgu*), MW: 744; in SS 5.2.5, I have taken it as the former. GVDB: 288 have *bhaīngurā* as a variant of false daisy (*bhṛīga*), but that is not toxic : 386
- Indian aconite (*subhaīngurā*) see Indian aconite (*bhaīngurā*), it's usual form, without the prefix *su-* "good": 198
- Indian aconite (*vatsanābha*) *Aconitum ferox*, Wall. ex Ser. Cf. AVS: 1, 47 (A. *Napellus*, L., wolfsbane, is European and now taxonomically separated from

- A. ferox), NK: 1, #42, Potter<sub>rev</sub>: 4 f. A. chasmanthum Stapf ex Holmes according to GVDB: 357, but that is distributed in Pakistan, Afghanistan and Tibet, Mongolia and Siberia. "vatsanābha" occurs in only once in the *Carakasamhitā* and thrice in the *Suśrutasamhitā* (4.23.11 (Ca 1941: 571), 5.2-5, 6, 12 (Su 1938: 564)) : 200, 201, 377, 386
- Indian aconite (*viṣā*) see Indian aconite (*ativiṣā*), GVDB: 12, 373: 394
- Indian barberry (*añjana*) see Indian barberry (*dāruharidrā*) Cf. elixir salve (*rasāñjana*) : 60, 192, 382
- Indian barberry (*dāruharidrā*) Berberis holstii Engl., Dymock: 1, 65, NK: 1, #335, #685, GJM1: 562, IGP: 141, GVDB: 203 : 206, 207, 278, 386, 387, 399
- Indian barberry (*dārvī*) see Indian barberry (*dāruharidrā*) : 301
- Indian barberry (*kālīyaka*) see Indian barberry (*dāruharidrā*) : 190
- Indian bat tree (*śūṅgā*) → parkatīvrkṣa according to Śabdasinghu: 1058; idem also suggests *vāṭavṛkṣa*, i.e., *Ficus benghalensis* Linn. and *āmrātaka*, *Spondias pinnata* (L.f.) Kurz. (native to S.E Asia but naturalized in S. Asia). Contrasted with *vāṭa* at *Suśrutasamhitā* 3.2.32. Cf. MW: 1081.: 107
- Indian bdellium-tree (*guggula*) See Indian bdellium-tree (*guggulu*) : 243, 287
- Indian bdellium-tree (*guggulu*) Commiphora wightii (Arn.) Bhandari (GVDB: 140). This is a flowering shrub or small tree that produces a fragrant resin commonly called *guggulu*. The name sometimes refers to the plant and sometimes to the resin. Known to ancient Greek authors (Ball 1888: 340) : 171, 387
- Indian beech (*naktamāla*) Pongamia pinnata, (L.) Pierre. See AVS: 4, 339, NK: 1, #2003: 50, 156
- Indian cherry (*śelu*) Cordia myxa, L. non Forssk. See GJM1: 529 (2), IGP: 291b, cf. AVS: 3, 1677 f; cf. AVS: 2, 180 (C. dichotoma, Forst.f.), NK: 1, #672 (C. latifolia, Roxb.). See Indian cherry (*śleśmātakī*) : 164, 206, 284
- Indian cherry (*śelū*) see Indian cherry (*śleśmātakī*), GVDB: 408: 262
- Indian cherry (*śleśmātaka*) see Indian cherry (*śleśmātakī*) : 284
- Indian cherry (*śleśmātakā*) see Indian cherry (*śleśmātakī*) : 260
- Indian cherry (*śleśmātakī*) Cordia dichotoma G. Forst., AVS: 2, 180–183. See POWO: C. dichotoma; Cordia myxa L., according to T. B. Singh and Chunekar (GVDB: 413–414), although they also suggest C. dichotoma (synonym of C. wallichii G. Don.) and C. rothii (synonym of Cordia sinensis Lam.) : 244, 387
- Indian dill (*śatapuṣpā*) Anethum graveolens L. May also be Foeniculum vulgare Mill. See GVDB: 388 for discussion : 165, 262, 284
- Indian elm (*cirabilva*) Holoptelea integrifolia (Roxb.) Planch. GVDB: 158, who also say that *pūtika* is a synonym; but that must be different than *pūtikā* : 387
- Indian elm (*ciribilva*) see Indian elm (*cirabilva*) : 260
- Indian frankincense (*agamṛttikā*) see Indian frankincense (*śallakī*), according to Dalhaṇa's comment on *Suśrutasamhitā* 5.7.29. A variant form of Indian frankincense (*agavṛttikā*) : 254
- Indian frankincense (*agavṛttikā*) see Indian frankincense (*nagavṛttikā*), GVDB: 3, 392: 387
- Indian frankincense (*gajavṛttikā*) Boswellia serrata Roxb.; equated with Indian frankincense (*śallakī*) by some, GVDB: 392. See also Indian frankincense (*nagavṛttikā*) : 244

- Indian frankincense (*nagavṛttikā*) see **Indian frankincense** (*agavṛttikā*) : 387
- Indian frankincense (*śallakī*) *Boswellia serrata* Roxb., **GVDB**: 392 : 254, 387
- Indian fumitory (*parpāta*) the ancient plant is probably impossible to identify, and many alternatives are used today, including especially *Fumaria* species (**GVDB**: 239–240). I have chosen *Fumaria indica* (Hausskn.) Pugsley, which can be poisonous: 387
- Indian fumitory (*reṇu*) see **Indian fumitory** (*parpāta*), **GVDB**: 339. To be distinguished from **pollen** (*reṇukā*) : 199
- Indian ipecac (*payasyā*) Uncertain. Possibly *Tylophora indica* (Burm.f.) Merr. Perhaps a synonym of *panacea twiner*, giant potato, purple roscoea, and plants like asthma plant and Gulf sandmat (**GVDB**: 237–238). Also “curds” when not a plant: 59, 163, 388, 393
- Indian jujube (*sauvīraka*) *Ziziphus jujuba* Mill., **GVDB**: 458, **MBG**: sub *jujuba* : 161, 238
- Indian kudzu (*vidārī*) see also **Indian ipecac** (*payasyā*). *Pueraria tuberosa* (Willd.) DC. See **ADPS**: 510, **AVS**: 1, 792 f, **AVS**: 4, 391; not **Dymock**: 1, 424 f. See **GJM2**: 444, 451, **AVS**: 1, 187, but **AVS**: 3, 1719 = *Ipomoea mauritiana*, Jacq.: 59, 103
- Indian laurel (*plakṣa*) *Ficus microcarpa*, L. f. See **ADPS**: 377 : 260
- Indian madder (*mañjiṣṭhā*) *Rubia cordifolia*, L. See **IGP**, **Chopra**: 215, **GVDB**: 289 : 55, 207, 243, 244, 253, 260
- Indian mottled eel (*varmimatsya*) Almost certainly the mottled eel. **MW**: 962c noted that the *varmi* fish “is commonly called *vāmi*.” The “vam fish,” or “বান মাছ” (*bān māch*) in Bengal, is a marine and freshwater eel, *Anguilla bengalensis*. It is the most common eel in Indian inland waters and a prized food fish (Froese and Pauly 2022). However, some NIA languages identify the “vam” fish with the Indian Pike Conger, *Congresox talabonides* (Bleeker) (Talwar and Kacker 1984: 235, 236) : 39
- Indian mustard (*sarṣapa*) *Brassica juncea*, Czern. & Coss. See **AVS**: 1, 301, **NK**: 1, #378, **GVDB**: 426–427, without suggestion of any poisonous tuber : 42, 260, 283, 388
- Indian mustard derivative (*sārṣapa*) this would normally mean “derived from **Indian mustard** (*sarṣapa*).” Excessive consumption of mustard oil can be harmful. This seems not to fit in a list of tuber poisons (SS 5.2.11–17). However, the *Sauśrutanighaṇṭu* (156) gives *rakṣoghnā* as a synonym for *sarsapā*. This can be *Semecarpus anacardium*, L.f., which has some poisonous parts (“the black fruit is toxic and produces a severe allergic reaction if it is consumed or its resin comes in contact with the skin” M. Semalty, A. Semalty, Badola, et al. 2010). But this is still not a tuber product: 201
- Indian pennywort (*maṇḍūkaparṇī*) *Centella asiatica* (L.) Urban. See **GVDB**: 290, **ADPS**: 289–291, Emmerick 1984: 104–106 : 245
- Indian sarsaparilla (*sugandhikā*) see **Indian sarsaparilla** (*śvetasārivā*) **GVDB**: 430, 436 : 244, 262
- Indian sarsaparilla (*sārivā*) → *anantā*. The *śveta* variety is *Hemidesmus indicus*, (L.) R. Br. **ADPS**: 434, **AVS**: 3, 141–145, **NK**: 1, #1210, **GVDB**: 430; and the black form, black creeper, *pālindī*. *Ichnocarpus frutescens*, (L.) R.Br. or *Cryptolepis buchanani*, Roemer & Schultes **AVS**: 3, 141, 145, 203, **NK**: 1, #1283, 1210, **ADPS**: 429–430 : 207, 379, 383, 388
- Indian sarsaparilla (*śvetasārivā*) *Hemidesmus indicus*, (L.) R. Br. See **Indian sarsaparilla** (*sārivā*). **ADPS**: 434,

- AVS: 3, 141–145, NK: 1, #1210, GVDB: 430: 388
- Indian snakeroot (*nākulī*) see Indian snakeroot (*sarpagandhā*). See GVDB: 219 for discussion of the difficulties in this identification : 282
- Indian snakeroot (*sarpagandhā*) *Rauvolfia serpentina*, (L.) Benth. ex Kurz. See NK: 1, #2099, ADPS: 439, GVDB: 425; cf. SS 5.5.76–78: 245, 388
- Indian snakeroot (*sarvagandhā*) common spelling in Nepalese MSS for Indian snakeroot (*sarpagandhā*), q.v.: 254
- Indian spinach (*pūtīka*) see Indian spinach (*pūtīkā*) : 156
- Indian spinach (*pūtīkā*) *Basella alba*, L. See NK: 1, #318 (rubra), ADPS: 489, AVS: 1, 253, IGP: 129b: 388
- Indian symphorema (*ananta*) Not in GVDB but MW: 25 says "sinduvāra" on no authority (see Indian symphorema : 260)
- Indian symphorema (*sinduvāra*) T. B. Singh and Chunekar (GVDB: 435) settles on *Sympcorema polyandrum* Wight as the identity of this plant. Other authors choose *Vitex negundo* Linn. See further NK: 1, #2603 (cf. use of leaves), IGP: 1210a, MW: 1088b. Discussion by GVDB: 433–435: 243, 245, 253, 262, 388
- Indian trumpet tree (*śyonāka*) *Oroxylum indicum* (L.) Benth. ex Kurz. GVDB: 172–173. A component of greater five roots : 389
- Indian trumpet tree (*tintuka*) → Indian trumpet tree (*śyonāka*). *Oroxylum indicum* (L.) Benth. ex Kurz. GVDB: 172–173. A component of greater five roots : 384
- Indian trumpet tree (*tuṇṭuka*) see Indian trumpet tree (*śyonāka*), GVDB: 172–173: 260
- Indian willow (*vañjala*) see Indian willow (*vañjula*) : 283

- Indian willow (*vañjula*) see Indian willow (*vetasa*); see GVDB: 356 for discussion. Doubts about this identification go back as far as Jejjāta (Dalhana on 5.8.105 (Su 1938: 592)). T. B. Singh and Chunekar (GVDB: 356) noted that this is a tree in the *nyagrodha* group and has sometimes been equated with Asoka tree (*aśoka*) and sometimes with sandan (*tiniśa*) : 163, 260, 283, 389, 401
- Indian willow (*vetasa*) *Salix tetrasperma* Roxb, GVDB: 380–381, q.v. for the argument that this is not the same as rattan (*vetra*). The identification of *vetasa* with *Salix caprea* L. is unlikely since the distribution of that *S. caprea* does not include S. Asia : 389, 392
- indigo (*nilinī*) *Indigofera tinctoria*, L. See NK: 1, #1309. GVDB: 229–230 propose that this may differ from indigo (*nilī*), and be rather the *Ipomoea hederacea* Jacq., "ivy-leaved morning glory." But that plant is native to the Americas, as are most *Ipomoea* species. *I. tinctoria* was known to ancient Greek authors (Ball 1888: 343) : 255, 389
- indigo (*nilā*) see indigo (*nilinī*). Although T. B. Singh and Chunekar (GVDB: 229) refer to an unidentified creeper mentioned in *Carakasamhitā* Ci.1-4.7, the use in the Nepalese *Suśrutasamhitā* 5.6.24 is likely to refer to indigo (*nilī*) : 254
- indigo (*nilī*) see indigo (*nilinī*) : 262, 389
- Indrajao (*indrayava*) see *vṛkṣaka* (Indrajao) *Holarrhena pubescens* Wall. ex G.Don 1837 GVDB: 376, 45 and 84: 152
- Indrajao (*vṛkṣaka*) → *indrayava*, *indrabīja*, *kaliṅga*, and *kuṭaja*. *Holarrhena pubescens* Wall. ex G.Don 1837 GVDB: 376, 45 and 84: 105, 368, 389
- ironwood tree (*nāgakeśara*) *Mesua ferrea* L. GVDB: 220: 398
- itchytree (*nicula*) *Barringtonia acutangula* (L.) Gaertn., GVDB: 224: 260

- jambul (*jambū*) *Syzygium cumini*, (L.) Skeels. See [ADPS](#): 188, [NK](#): 1, #967, [Potter<sub>rev</sub>](#): 168, Dominik Wujastyk [2003a](#) : 189, 301, 392
- jequirity (*guñjā*) see [jequirity](#) (*kālakūṭā*) : 198, 199
- jequirity (*kālakūṭā*) see [jequirity](#) (*kālakūṭā*) : 201
- jequirity (*kālakūṭā*) possibly *Abrus precatorius*, L. See [AVS](#): 1, 10, [NK](#): 1, #6, [Potter<sub>rev</sub>](#): 168. Jequirity contains a dangerous toxin called Abrin in its seeds and to a lesser extent in its leaves, but apparently not in its roots or bulb. Abrin is not harmful if eaten, but an infusion of the bruised (not boiled) seeds injected or rubbed in the eyes can be fatal ([NK](#): # 6). The dose can be quite small. The Nepalese witnesses agree on the feminine form, *kālakūṭā*, while the more normal gender is masculine. The etymology of the name *kāla-kūṭā*, “black-top,” fits with the striking appearance of jequirity seeds. [GVDB](#): 93 does not attempt to identify the plant. The *Rasaratnasamuccaya* of pseudo-Vāgbhaṭa (21.14) says that the *kālakūṭā* poison is similar to “crow’s beak” (*kākacañcu*), which is a more certain name for jequirity. The *Rājanighaṇṭupariśiṣṭā* (9.35) gives *kālakūṭaka* as a synonym for *kāraskara*, or *Strychnos nux-vomica*, L., whose seeds are notoriously poisonous. Another hypothesis for the name, which could be translated “time/death-peak” might connect it with Sandakphu mountain, whose name is Lepcha for “the height of the poisonous plant” because of the abundance of *Aconitum ferox* on the mountain : [200](#), 389
- kadam flowers (*kādamba*) conjectural, based on [burflower tree](#) (*kadamba*). *kādamba* is a hapax, “a kind of flower poison” [GVDB](#): 90. Kadam flowers are not reported to be toxic : 199
- koda millet (*kodrava*) *Paspalum scrobiculatum* L., [GVDB](#): 119 : 171
- kumkum tree (*kampillaka*) *Mallotus philippensis* (Lam.) Muell.Arg., [GVDB](#): 74. [AVS](#): 3, 375–379 describes the different plant used in Kerala, with the variant name *kampippāla* and and [ADPS](#): 203–205 cites this as a good example of how Sanskrit plant identities can be misinterpreted in Kerala : 390
- kumkum tree (*kampilya*) see [kumkum tree](#) (*kampillaka*) : 154, 283
- kutki (*kaṭukā*) *Picrorhiza kurroa* Royle ex Benth. ([GVDB](#): 64–65) : 152, 171, 390, 392
- kutki (*kaṭurohaṇī*) → [kutki](#) (*kaṭukā*), [GVDB](#): 66, 64–65: 243
- kutki (*kaṭurohiṇī*) see [kutki](#) (*kaṭukā*), [GVDB](#): 66, 64–65: 262
- leadwort (*citraka*) *Plumbago zeylanica* (or *indica?* rosea?), L. The roots of both rose and white leadwort are very toxic. Cf., *Rājanighaṇṭu* 6.124 and see [ADPS](#): 119, [NK](#): 1, #1966, 1967 : 50, 104, 152, 156, 170, 243, 390
- leadwort (*pālaka*) see [leadwort](#) (*citraka*) : 200, 201
- leadwort (*vidyutśikhā*) see [leadwort](#) (*citraka*) : 198
- lemongrass (*lāmajja*) *Cymbopogon iwarancusa* (Jones ex Roxb.) Schult. See [NK](#): 1, #176, [POWO](#): <https://poto.science.kew.org/taxon/396948-1>. [GVDB](#): 350 points out that the identity of this grass remains uncertain, though it one of the two *uśīras*. The Linnean name C. iwarancusa derives from William Jones’ use of the Sanskrit name *jvarānikuśa* for this plant : 187, 390, 400
- lemongrass (*lāmajjaka*) see [lemongrass](#) (*lāmajja*) : 283, 284
- lemongrass (*uśīrabheda*) see [lemongrass](#)

- (*lāmajja*) : 400
- lesser five roots (*laghupañcamūla*) Described at *Suśrutasamhitā* 1.38.66–67 (Su 1938: 169). Consists of bull's head, hairy-fruited eggplant, yellow-berried nightshade, hare foot uraria, and beggarweed : 379, 382, 384, 398, 402
- liquorice (*klītaka*) *Glycyrrhiza glabra*, L. GVDB: 123–124 discuss the many difficulties in identifying this plant, and suggest *Hygrophila auriculata*, Schumach (marsh barbel) and *Sesbania bispinosa* (Jacq.) W.Wight (prickly sesban), neither of which is noted for toxic roots (as mentioned in SS 5.2.5). Lüde, Vecchio, Sinno-Tellier, et al. 2016 identify *G. glabra* as a cause of poisoning, sometimes severe, when used as a food, but do not specifically mention the root : 198
- liquorice (*madhuka*) also *yasti(ka/kā)*, *yaṣṭīmadhuka*, *Glycyrrhiza glabra*, L. AVS: 3, 84, NK: 1, #1136, GVDB: 329 f. : 59, 103, 161, 163–165, 167, 169, 193, 205, 207, 243, 260, 262, 284, 301, 390
- liquorice (*yaṣṭīmadhu*) see liquorice (*madhuka*) : 380
- liquorice (*yaṣṭī*) see liquorice (*madhuka*) : 244
- liquorice (*yaṣṭīmadhuka*) see liquorice (*madhuka*) : 60
- lodh tree (*lodhra*) *Symplocos racemosa*, Roxb. See GJM1: 597, ADPS: 279 f., NK: 1, #2420. T. B. Singh and Chunekar (GVDB: 351–352) notes that there are two varieties, *S. racemosa*, qualified as śāvara, and *S. crataegoides* Buch.-Ham. for *paṭṭikā lodhra* : 50, 207, 243, 301
- long pepper (*kṛṣṇā*) see long pepper (*pippalī*) : 300
- long pepper (*māgadha*) see long pepper (*pippalī*) : 192
- long pepper (*pippali*) see long pepper (*pippalī*) : 243
- long pepper (*pippalī*) *Piper longum*, L. See ADPS: 374, NK: 1, #1928, GVDB: 249–250, but cf. AVS: 3, 245: 103, 104, 156, 164, 169–171, 193, 207, 260, 263, 300, 368, 390, 391, 398
- long pepper root (*pippalīmūla*) see long pepper (*pippalī*) : 260
- long-stamen *Wendlandia* (?) (*tilaka*) see climbing diamond flower (*prapañḍarīka*), GVDB: 183–184. Sometimes thought to be a synonym of viburnum (*tilvaka*), q.v., but this is probably erroneous : 262, 400
- lotus (*nalina*) see sacred lotus (*kamala*), GVDB: 218 : 300, 301
- lotus stalk (*mr̥ṇāla*) "Leaf stalk of sacred lotus" GVDB: 318 : 163
- luffa (*jālinī*) see luffa (*koṣātakī*), GVDB: 168 : 200, 252, 253
- luffa (*koṣavatī*) see luffa (*koṣātakī*) : 206
- luffa (*koṣātakī*) *Luffa cylindrica*, (L.) M. J. Roem. or *L. acutangula*, (L.) Roxb. ADPS: 252–253, NK: 1, #1514 etc. "Koṣātakī appears to be used in a general way for all the fruit drugs of the family Cucurbitaceae which have a net-like structure of fibres in the pulp. It thus includes nearly all *Luffa* species..." GVDB: 121 : 391
- mahua (*madhūka*) *Madhuca longifolia*, (J. Koenig) J. F. Macbride. See AVS: 3, 362 f. Known to ancient Greek authors (Ball 1888: 339–340) : 103, 304–306
- maidenhair fern (*haṁsāhvayā*) *Adiantum lunluatum* Burm f. GVDB: 463 : 368
- Malabar nut (*atarūṣaka*) *Justicia adhatoda* L. GVDB: 34, 367 : 156
- malabathrum (*patra*) *Cinnamomum tamala*, (Buch.-Ham.) Nees. See AVS: 2, 84, NK: 1, #589. Other common names include Indian bay leaf etc., but the plant has an ancient history in the classical world as "malabathrum." See Ball 1888: 341, who also suggests that the chief source of the plant in India is Assam. See also Wikipedia contributors

- 2025d.** Kokoszko and Rzeźnicka (2018: 581) discuss the abbreviations “leaf” (*φύλλα, folium*) in the Mediterranean world that parallels the Sanskrit usage. Kokoszko and Rzeźnicka 2018: 584 note that Dioscorides (fl. 1st cent. CE) stated that malabathrum came from India, although Dioscorides’ description of malabathrum is of a plant like a *Nymphoides indica* (L.) Kuntze, not a tree (Osbaldeston and Wood 2000: 17) : 154, 163, 190, 207, 252, 262, 398
- Malay beechwood (*śriparnī*) → *kāśmarī*. *Gmelina arborea* Linn., GVDB: 412, 96–97 : 103
- maloo creeper (*aśmantaka*) T. B. Singh and Chunekar (GVDB: 27) note that this is the name of two different drugs, *Piliostigma malabaricum* (Roxb.) Benth. or *Phanera vahlii* (Wight & Arn., 1834) Benth. (non-lactiferous), and *Ficus cordifolia* Roxb. (lactiferous). I have selected *P. vahlii* in this context because of its abundance in S. Asia and its Himalayan and Nepalese distribution : 245, 260
- mango (*āmra*) *Mangifera indica* Linn. GVDB: 37 : 124, 189, 245, 260, 300, 301
- mangosteen (*amla*) *Garcinia pedunculata* Roxb. ex Buch.-Ham. See GVDB: 20–21 : 155, 242, 278
- marking-nut tree (*aruṣkara*) see marking-nut tree (*bhallātaka*) : 199, 383
- marking-nut tree (*bhallātaka*) *Semecarpus anacarium*, L. See NK: 1, #2269, AVS: 5, 98, ADPS: 85–86, GVDB: 23, 283 : 156, 192, 391
- marsh barbel (*ikṣuraka*) *Hygrophila auriculata*, Schumach. (multiple synonyms, including *Asteracantha longifolia* (L.) Nees), GVDB: 42–43. See marsh barbel (*nādeyī*) : 260, 392
- marsh barbel (*kokilākṣa*) *Hygrophila auriculata*, Schumach., ADPS: 249; see marsh barbel (*nādeyī*) : 392
- marsh barbel (*nādeyī*) *Hygrophila auriculata*, Schumach. Only occurs at *Suśrutasāṃhitā* 4.4.32 and not in the *Carakasāṃhitā*. In the *Mahākośa*: 441, later sources are cited that identify it with “a kind of Indian willow (*vetasa*),” “a kind of *jambul* (*jambū*)” “nutgrass (*mustā*),” and so on. ADPS: 249 identifies it with marsh barbel (*kokilākṣa*) because it grows in marshy ground. See marsh barbel (*ikṣuraka*) : 156, 391
- medhshingi (*vijayā-poison*) *Dolichandrone falcata* (Wall. ex DC.) Seem. This identification is tenuous. The *Sauśrutanighanṭu* gives a number of synonyms for *vijayā* (Suvedī and Tīvārī 2000: 5.77, 10.143). But one of them, *viśāṇī* (also *meśāśringī*), is sometimes equated with *Dolichandrone falcata* (DC.) Seemann, GVDB: 373 f; ADPS: 518, a plant used as an abortifacient and fish poison (NK: #862) : 198, 199
- milk-white (*ksīraśuklā*) An unidentified plant. GVDB: 126: see purple roscoeia and giant potato : 59, 395
- monkey (*markaṭa*) name from etymology. T. B. Singh and Chunekar (GVDB: 299) said of *markaṭa*, “an unidentified vegetable poison.” Cf. Suvedī and Tīvārī 2000: v.36 for synonyms that lead to the non-toxic jujube tree : 202
- mountain gardenia (*karaghāṭa*) synonym for mountain gardenia (*karaghāṭaka*) and probably mountain gardenia (*karahāṭa*), q.v., GVDB: 74 : 198, 392
- mountain gardenia (*karaghāṭaka*) see mountain gardenia (*karahāṭa*) : 199, 259, 392
- mountain gardenia (*karahāṭa*) *Ceriscoides turgida* (Roxb.) Tirveng. (syn. *Gardenia turgida*), following the suggestion of GVDB: vi, 77 made partly

on the basis of local knowledge in U. P. The ripe fruit of *C. turgida* is poisonous. Other authors suggest identity with *emetic nut* (*madana*), q.v. T. B. Singh and Chunekar (GVDB: 74, 77–78) noted that *karahāṭa* may be a synonym for *mountain gardenia* (*karaghāṭa*) : 198, 392

*mountain gardenia* (*karaṭā*) see *mountain gardenia* (*karaghāṭa*), as read for *karaṭā* in the vulgate text of SS 5.2.5. Not in GVDB as such. This poisonous root cannot at present be securely identified, although *mountain gardenia* has poisonous fruits. Monier-Williams, Leumann, Cappeller, et al. (MW: 255) cite an unknown lexical source that equates *karaṭa* (mn.) with safflower (*Carthamus tinctorius*, L.), but this plant does not have a poisonous root either: 198

*muddy-bulb* (*kardamaka*) unknown; name from etymology. MW: 258 records variously, a kind of “rice, poisonous bulb, snake or erysipelas” with references to *Suśrutasamhitā* and *Carakasamhitā* : 200, 201

*mulberry* (*kramuka*) probably the *mulberry* (*tūda*); see discussion by T. B. Singh and Chunekar (GVDB: 122) : 244

*mulberry* (*tūda*) *Morus indica* L., GVDB: 189 : 392

*mung beans* (*mudga*) *Phaseolus radiatus* L. GVDB: 310–311 : 162, 165, 307

*mung beans* (*māṣaka*) *Phaseolus mungo* Linn. GVDB: 308 : 190

*munj grass* (*nārācaka*) *Saccharum bengalense*, Retz.? See NK: 1, #2184 : 199

*munj sweetcane* (*muñja*) *Tripidium bengalense* (Retz.) H.Scholz., GVDB: 309, 391. Synonym of *munj sweetcane* (*śara*) : 283

*munj sweetcane* (*śara*) *Tripidium bengalense* (Retz.) H.Scholz.,

GVDB: 309, 391 : 392

*musk mallow* (*latākastūrikā*) *Abelmoschus moschatus* Medik., GVDB: 348 : 392

*musk mallow* (*ullaka*) *kutki* (*kaṭukā*) or *musk mallow* (*latākastūrikā*), according to GVDB: 54; I have chosen the latter identity since *A. moschatus* can cause phototoxic dermatitis (Diedrich, Zweerink, and Elder 2024: 621) : 392

*musk mallow* (*ullika*) see *musk mallow* (*ullaka*) : 199

*myrobalan* (*abhayā*) *Terminalia chebula*, Retz. See ADPS: 172, NK: 1, #2451, Potter<sub>rev</sub>: 214 : 152, 206, 215

*myrobalans* (*pathyā*) *Terminalia chebula* Retz. See NK: 1, #2451 : 300

*natron* (*suvarcikā*) Sodium carbonate. NK: 2, #45. Dalhaṇa identifies *suvarcikā* with *svarjiksāra* 4.8.50 (Su 1938: 441) : 170, 207, 243

*neem* (*picumarda*) see *neem tree* (*nimba*), GVDB: 247–248 : 259

*neem tree* (*nimba*) *Azadirachta indica* A. Juss., GVDB: 226 : 56, 368, 393

*nutgrass* (*kuruvinda*) Unknown. Dalhaṇa on 5.3.15 (Su 1938: 568) glossed the term as *nutgrass*, but noted other opinions that it was a whetstone or a very special metallic gem. T. B. Singh and Chunekar (GVDB: 108) added that it could be a variety of rice, *śaṣṭika dhānya* : 214

*nutgrass* (*mustaka*) *Cyperus rotundus*, L., GVDB: 313–314, ADPS: 316, AVS: 2, 296, NK: 1, #782. The root is commonly used in āyurveda and is not poisonous. However some dictionaries list *mustaka* amongst serious poisons, for example *Rājanighaṇṭu* (22 v. 42) and *Rasaratnasamuccaya* 16, v. 80. Its ancient identity as a poison is still in doubt (see GVDB: 314) : 200, 201

*nutgrass* (*mustā*) *Cyperus rotundus*, L. See ADPS: 316, AVS: 2, 296, NK: 1, #782 : 392, 393

- odal oil plant (*iṅgudi*) see **odal oil plant**: 252
- odal oil plant (*iṅgudi*) Kirtikar, Basu, and an I.C.S (K&B: 5, 79) also firmly identify *iṅgudi* as *Sarcostigma kleinii* Wight & Arn., a liana well known in the Western Ghats and widely used in āyurveda, including for skin diseases. *Balanites aegyptiaca* (L.) Delile, GVDB: 43 is an African plant and unlikely to be the original āyurvedic *iṅgudi*.: 393
- oleander spurge (*mahāvṛkṣa*) see **oleander spurge** (*snuhī*), GVDB: 302-303: 260
- oleander spurge (*nandā*) see **oleander spurge** (*snuhī*), GVDB: 215: 398
- oleander spurge (*snuhā*) see **oleander spurge** (*snuhī*): 156, 200, 253
- oleander spurge (*snuhī*) *Euphorbia neriifolia*, L., or *E. antiquorum*, L. See ADPS: 448, AVS: 2, 388, AVS: 3, 1, NK: 1, #988, IGP: 457b. T. B. Singh and Chunekar (GVDB: 459) discuss the two varieties distinguished by Caraka on the basis of their spines. *Euphorbia* all share the feature of having a poisonous, latex-like sap: 393, 398
- orchid tree (*kovidāra*) *Bauhinia purpurea* Linn. or *B. variegata* Linn. (probably the former), GVDB: 120, AVS: 1, 256-260. The fruit of *kovidāra* is contrasted with the mango in Patañjali's *Mahābhāṣya* (on P1.2.45, varttika 8): 238
- paddy rice (*śāli*) *Oryza sativa*, Linn. GVDB: 395-396 mentioning 33 Sanskrit sub-variety names; AVS: 4, 193: 43, 396
- painted uraria (*pr̥ṣṇaparṇikā*) see **painted uraria** (*pr̥ṣṇaparṇī*): 282
- painted uraria (*pr̥ṣṇaparṇī*) *Uraria picta* (Jacq.) Desv. ex DC. and *U. lagopoides* DC are both to be used for this plant according to GVDB: 257-258. See also IHR: 188-190: 254, 393
- pale Java tea (*arjaka*) *Orthosiphon pallidus* Royle ex Benth., GVDB: 24, based on Dalhaṇa's descriptions, and by P. V. Sharma 1982: 127, #60. But *Ocimum basilicum* L., according to AVS: 4, 160: 262
- panacea twiner (*arkapuṣṭī*) → *arkaparṇī*, *Tylophora indica* (Burm. f.) Merr. GVDB: 23-24. Maybe identical to Indian ipecac, giant potato and similar sweet, milky plants. See GVDB: 24, 127, 238, 441, 443 for discussion. For discussion in the context of **Holostemma creeper**, see ADPS: 195 and AVS: 3, 171. The etymology of the name suggests *Helianthus annus* Linn., but this plant is native to the Americas: 206, 387
- peas (*harenu*) *Pisum sativum*, L. T. B. Singh and Chunekar (GVDB: 419-420, 467-468) note that two plants are usually meant under this name, but there is no agreement on the identity of the second. Synonym of **peas** (*satīna*). GVDB: 468 make an argument for *Sympcorema polyandrum* Wight: 162, 206, 207, 215, 244, 283, 300, 301, 394
- peas (*hareṇukā*) see **peas** (*harenu*): 262
- peas (*satīna*) see **peas** (*harenu*), GVDB: 419-420: 393
- peepul tree (*aśvattha*) *Ficus religiosa*, L. See ADPS: 63. Known to ancient Greek authors (Ball 1888: 338-339): 217
- periploca of the woods (*meṣāśrīga*) *Gymnema sylvestre* (Retz.) R. Br. See AVS: 3, 107, NK: 1, #1173: 192
- phalsa (*parūṣaka*) *Grewia asiatica* Linn., GVDB: 238: 104
- plants like asthma plant and Gulf sandmat (*dugdhikā*) synonym of **plants like asthma plant and Gulf sandmat** (*kṣīriṇī*), GVDB: 204-205, 127: 394
- plants like asthma plant and Gulf sandmat (*kṣīriṇī*) various milky plants, perhaps including *Euphorbia hirta* Linn.

(asthma plant) and *E. microphylla* Heyne (Gulf sandmat) (GVDB: 127) : 387, 394

plants like asthma plant and Gulf sandmat (*yavaphalā*) synonym of plants like **asthma plant and Gulf sandmat** (*dugdhikā*), and **plants like asthma plant and Gulf sandmat** (*kṣīriṇī*), q.v., GVDB: 327, 127 : 262

plumed cockscomb (*indīvara*) Uncertain; possibly *Celosia argentea* Linn. (which is not toxic). But see the useful discussion in GVDB: 44–45. Possibly another name for **an aroid** (*karambha*), q.v. : 377

pointed gourd (*paṭola*) *Trichosanthes dioica*, Roxb., GVDB: 232–233 : 163, 206, 378

poison-bench (*viṣavedikā*) unknown; name from etymology. Perhaps syn. **strychnine tree** (*viṣamuṣṭika*) or **Indian aconite** (*viṣā*) (GVDB: 373) : 199

poison-leaf (*viṣapatrikā*) Name from etymology. Perhaps the “leaf of **Indian aconite** (*viṣā*)” (but that is feminine). Cf. GVDB: 373, “unidentified” : 199

pollen (*reṇukā*) An unidentifiable plant. Perhaps a misreading for **peas** (*hareṇu*), although this is a long shot. T. B. Singh and Chunekar (GVDB: 339) suggest, on no authority, the synonyms *vṛkṣaruhā*, *māṇisarohiṇī*, or *durvā*, none of which help : 199, 387

pomegranate (*dādima*) *Punica granatum* Linn. GVDB: 201–202 : 103, 104, 169, 170, 245, 254

pondweed (*paripelavā*) Normally a neuter noun. T. B. Singh and Chunekar (GVDB: 238, 264–265, 409) argued that *plava* and *śaivāla* are the same thing, and may be either *Zannichellia palustris*, L., or *Potamogeton pectinatus*, L. : 207

pondweed (*śeṇāla*) *Zannichellia palustris* L. See **horned pondweed** : 41

pongame oiltree (*karañja*) see **pongame**

**oiltree** (*karañjikā*) : 171, 254, 283

pongame oiltree (*karañjikā*) T. B. Singh and Chunekar (GVDB: 74–76) discuss complications, but probably *Pongamia pinnata* (L.) Pierre in *Suśrutasaṅhitā* 5.6.3 : 260, 394

powdered ruffle lichen (*śaileya*) *Parmotrema perlatum* (Huds.) M.Choisy (1952), although there are some inconsistencies in groups and synonyms. See GVDB: 408–409, AVS: 4, 222–225. The plant has a notably complex taxonomic history : 262, 394

powdered ruffle lichen (*śaileyaka*) see **powdered ruffle lichen** (*śaileya*) : 243

prickly amaranth (*tanḍulīyaka*) *Amaranthus spinosus* L. See GVDB: 174, Dutt: 321, NK: 1, #144, Potter<sub>rev</sub>: 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 *tanḍulīyaka*, but A. *spinosus* L. is better known and attested in S. Asia in the first millennium BCE (Saraswat 1991). See also WEP: 45 : 190, 252, 255, 260, 377

prickly chaff-flower (*apāmārga*) *Achyranthes aspera*, L. See GVDB: 14, GJM1: 524 f, AVS: 1, 39, ADPS: 44 f, AVS: 3, 2066 f, Dymock: 3, 135 : 56, 59, 156, 161, 262, 283, 394

prickly chaff-flower (*vasira*) also *vaśīra*. Perhaps *Achyranthes aspera*, L. GVDB: 362 describes several possible identities, including *sūryāvara*, **prickly chaff-flower** and *markaṭatṛṇa*. See also *vasukavasira* (GVDB: 363) : 104

prickly-leaved elephant’s foot (*gojihvā*) syn. *gojī*. *Elephantopus scaber*, L. See AVS: 2, 357. T. B. Singh and Chunekar (GVDB: 145–146) argue that *gojihvā* *śāka* is *Launaea asplenifolia* (Willd) Hook. f. (creeping Launaea), a plant

with Himalayan to SE Asian distribution : 395

prickly-leaved elephant's foot (*gojī*) T. B. Singh and Chunekar (GVDB: 145–146) observe that this plant name is unique to the *Suśrutasamhitā*. Since the usage is similar to that of prickly-leaved elephant's foot (*gojihvā*), q.v., it is almost certain to be the same plant. : 260

products of the wood-apple (*kāpitta*) a reading in the Nepalese MSS for products of the wood-apple (*kāpittha*), q.v.: 255

products of the wood-apple (*kāpittha*) relating to or derived from the wood-apple (*kapittha*) : 395

purging nut (*dravantī*) *Jatropha curcas*, L. See AVS: 3, 261, NK: 1, #1374. A.k.a. *mūṣikaparṇī*. But J. curcas is a New World species : 395

purging nut (*mūṣikā*) *Jatropha curcas*, L. See AVS: 3, 261, NK: 1, #1374: 192

purging nut (*putraśrenī*) Commonly identified as croton tree (*nāgadantī*), GVDB: 253 “a variety of red physic nut (*dantī*).” But it appears in a list with *nāgadantī* at *Suśrutasamhitā* 5.6.3, and Dalhana identified it there as purging nut (*dravantī*) : 260

purging nut tree (*mūṣikakarnī*) *Jatropha curcas*, L. AVS: 3, 261, NK: 1, #1374, GVDB: 317. GVDB: 317; ADPS: 23–25 discuss this issue well : 190, 191

purple calotropis (*arka*) *Calotropis gigantea*, (L.) R. Br. See ADPS: 52, AVS: 1, 341, NK: 1, #427, Potter<sub>rev</sub>: 57, Chopra IDG: 305–308: 50, 59, 156, 198, 238, 257, 260, 282

purple fleabane (*bākucī*) Identified as *Cullen corylifolia* (L.) Medik. ADPS: 69–70, GVDB: 272. Synonym *Psoralea corylifolia* L. This plant is reported to have hepatotoxic effects (Philips and Theruvath 2024: §3.4) :

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purple fleabane (*somarājī*) see purple fleabane (*bākucī*), but GVDB: 455–456 note that two areas of therapy (antitoxin, antileucoderma) may point to two plants being used under this name or a different plant with two active ingredients. A particular alternate candidate is *Baccharoides anthelmintica* (L.) Moench. : 262

purple roscoea (*kṣirakākoli*) GVDB: 89 notes that many physicians use *Roscoea procera* Wall. in this context. But the identification is uncertain. Possibly connected to milk-white or giant potato : 162, 387, 392

radish (*mūlaka*) *Raphanus sativus*, L. See NK: 1, #2098 : 167, 200, 202

rajmahal hemp (*moraṭa*) see rajmahal hemp (*mūrvī*). Good discussion at GVDB: 314–316, 324: 206, 401

rajmahal hemp (*mūrvā*) *Gongronemopsis tenacissima* (Roxb.) S.Reuss, Liede & Meve (syn. *Marsdenia tenacissima* (Roxb.) Moon), GVDB: 314–316, 324. One of the twenty-two drugs in the group *madanādi*. T. B. Singh and Chunekar and ADPS: 310–313 discuss the long controversy about the identity of this plant. *Sansevieria roxburghiana* Schult. & Schult.f. (“Indian bowstring hemp”) was preferred by Meulenbeld (GJM1: 590) and the sources he cited, including NK: 1, #2216, K&B: 4, 2457; ADPS: 310 mention this identity as being local to Bengal, but note that that plant is not a creeper, as *mūrvā* should be : 165, 384

rajmahal hemp (*mūrvī*) *Gongronemopsis tenacissima* (Roxb.) S.Reuss, Liede & Meve (syn. *Marsdenia tenacissima* (Roxb.) Wight et Arn.) Good discussion at GVDB: 314–316, 324. See rajmahal hemp (*mūrvī*) : 395, 396

rajmahal hemp (*nirdahanī*) see rajmahal

- hemp (*mūrvī*), GVDB: 227 : 396
- rajmahal hemp (*nirdahyānya*) the variant of rajmahal hemp (*nirdahani*) appearing in the Nepalese version of the *Suśrutasanhitā*. The term does not appear in the *Sauśrutanighaṇṭu* (Suvedī and Tīvārī 2000). See rajmahal hemp (*mūrvī*) : 156
- rattan (*vetra*) Calamus rotang, L. See AVS: 1, 330, NK: 1, #413. T. B. Singh and Chunekar (GVDB: 381) prefer C. tenuis, Roxb., which is also native to S. and S.E. Asia : 199, 389
- red gourd (*bimbī*) Coccinia indica, W. & A. See PVS 1994.4.715; NK: 1, #534 : 189
- red physic nut (*dantī*) Baliospermum solanifolium (Burm.) Suresh, GVDB: 200 : 154, 200, 255, 260, 395
- resin of white dammer tree (*sarjarasa*) GVDB: 424–425. See white dammer tree (*sarja*) : 165, 262
- rice grains (*taṇḍula*) Oryza sativa, Linn. Same as paddy rice (*śāli*) GVDB: 174; or just "grains" : 43
- rice-grain chaff (*śālitāṇḍulakāṇḍana*) See chaff : 42
- rosha grass (*dhyāmaka*) Cymbopogon martinii (Roxb.) Wats. See AVS: 2, 285, NK: 1, #177 : 207, 243, 262
- royal jasmine (*mālatī*) Jasminium grandiflorum, L. See NK: 1, #1364, ADPS: 285–288 : 190, 396
- royal jasmine (*sumanā*) see royal jasmine (*mālatī*), GVDB: 437 : 262
- sacred fig (*pippala*) Ficus religiosa L., GVDB: 248 etc. : 284
- sacred lotus (*kamala*) Nelumbo nucifera, Gaertn., GVDB: 73–74, Dutt: 110, NK: 1, #1698 : 391, 396
- sacred lotus (*padma*) see sacred lotus (*kamala*), GVDB: 235–236 : 41, 124, 163, 190, 262, 283, 401
- safflower (*kusumbha*) Carthamus tinctorius L. GVDB: 113 : 278, 286
- saffron (*bāhlīka*) syn. of saffron (*kuñkuma*), q.v., GVDB: 273–274 : 260
- saffron (*kuñkuma*) Crocus sativus Linn., GVDB: 100. On the history of confusions between saffron and turmeric, see Cox 2011 : 255, 396
- sage-leaved alangium (*aṅkolla*) Alangium salvifolium (Linn. f.) Wang., GVDB: 5–6. See also AVS: 1, 77; cf. NK: 1, #88 : 190, 245, 252, 255, 396
- sage-leaved alangium (*aṅkotha*) see sage-leaved alangium (*aṅkolla*) : 260
- sal group of trees (*śālasārādi*) śālasārādi is a group (*gaṇa*) of twenty-three trees listed at 1.38.8–9 (Su 1938: 165), Mahākośa: 1, 898 : 104
- sal tree (*śālā*) Shorea robusta, Gaertn.f. See AVS: 5, 124 : 300
- sandalwood (*candana*) Santalum album, L. See ADPS: 111, NK: 1, #2217. See GVDB: 152–153 for discussion of types, including white and red (Pterocarpus santalinus (L.f.)) : 105, 163, 165, 207, 238, 244, 262, 283, 284, 401
- sandan (*tiniśa*) Ougeinia oojeinensis (Roxb.) Hochr. GVDB: 181, q.v. for discussion about whether *tiniśa* and *syandana* are to be separated. If other trees are in the frame for either name, T. B. Singh and Chunekar (GVDB) suggest Lagerstroemeia parviflora Roxb. (*sidhraka/siddhaka*) and L. flos-reginae Retz. (*jārula* by some). See GVDB: 432 : 259, 263, 389
- sappanwood (*pattāṅga*) Also *pattāṅga*. Caesalpinia sappan, L. AVS: 1, 323, K&B: 2, 847 f, GVDB: 234 : 50, 60
- scarlet mallow (*bandhūjīva*) Pentapetes phoenicea, L. NK: #1836, GVDB: 268 : 191
- scented pavonia (*bālaka*) Pavonia odorata, Willd. See ADPS: 498, NK: 1, #1822. But GVDB: 273 argue for Coleus vettiveroides K.C.Jacob; see coleus (*hrīvera*) : 207, 381
- scented pavonia (*toya*) → bālaka? Pavonia

- odorata, Willd. ADPS: 498, NK: 1, #1822 : 262
- scramberry (*tālisapatra*) see scramberry (*tālīśa*) : 262
- scramberry (*tālīśa*) T. B. Singh and Chunekar (GVDB: 179, 458–459) discusses the several identifications and regional differences in identifying this plant. *Taxus baccata* Linn. is a common candidate, as is *Flacourtie jangomas* (Lour.) Raeusch. (scramberry) : 163, 301, 396
- screw-pine (*ketaka*) *Pandanus odorifer* (Forssk.) Kuntze, GVDB: 116 (not *P. tectorius* that is from eastern Indonesia–PNG–Australia) : 377
- scutch grass (*granthilā*) see durva grass (*dūrvā*), *Mahākośa*: 1, 303, citing the *Rājanighāṇṭu*. It should be an aromatic in this context. Monier-Williams, Leumann, Cappeller, et al.: 371 said “two kinds of Dūrvā grass and of a kind of Cyperus” on lexical authority, perhaps also the *Rājanighāṇṭu* where it is listed amongst sweet-smelling plants. Other sources identify it as *Cissus quadrangularis*, L., i.e., Veldt grape (Ś. Gupta 1887: 272), or Bengal quince (*bilva*) : 262
- sedge (*kuṭannaṭa*) → *plava*, *tagara*, or *śyonāka*, according to commentators (GVDB: 102–103). T. B. Singh and Chunekar leans towards the *plava*, but that plant too is difficult to identify. Various sources identify *kuṭannaṭa* as *Cyperus rotundus* L., C, *scariosus* R. Br., *Oroxylum indicum* (L.) Benth. ex Kurz (= *Bignonia Indica* L.) or even *Cinnamomum verum* J.Presl. The *Cyperus* genus comprises about 700 species of sedges, and I have chosen “sedge” as a generic indication of the likely identity of this plant: 243, 397
- sedge (*kuṭannaṭa*) see sedge (*kuṭannaṭa*) : 262
- sesame (*tila*) *Sesamum indicum* L. GVDB: 183. Known to ancient Greek authors (Ball 1888: 344) : 262, 263
- sesame oil (*taila*) *Sesamum indicum* L. GVDB: 183 : 59, 238
- shami tree (*śamī*) *Prosopis cineraria* (L.) Druce GVDB: 390 : 260, 379
- sickle senna (*cakramarda*) *Senna tora* (L.) Roxb., GVDB: 150. See a useful discussion of the taxonomic issues surrounding this plant in Wikipedia contributors 2025g : 278
- silk-cotton tree (*śālmalī*) *Bombax malabarica*. See Issar: 152 : 262
- silky Dalbergia (*gandīra*) GVDB: 133–135 gives a long discussion, asserting that this name refers to at least three plant species, including plants like *siris* (*śirīṣa*) like *Albizia julibrissin* Durazz., 1772 non sensu Baker, 1876 (originally from Persia) or *Dalbergia sericea* G.Don. Other possibilities include *Coleus amboinicus* Lour, or a *Mentha* variety. I have chosen *D. sericea* because it is strongly distributed in S. Asia : 156
- siris (*śirīṣa*) *Albizia lebbeck*, Benth. See AVS: 1, 81, NK: 1, #91, GVDB: 399–400. Cf. white siris : 206, 238, 252, 253, 255, 262, 278, 283, 300, 397, 401
- siris seeds (*śirīṣamāṣaka*) *Albizia lebbeck*, Benth. See AVS: 1, 81, NK: 1, #91 : 190, 253
- small-flowered crape myrtle (*sidhraka*) *Lagerstroemia parviflora* Roxb., GVDB: 432 : 213
- smooth angelica (*coraka*) *Angelica glauca* Edgw. GVDB: 161. Distribution: Afghanistan, Himalaya, western Tibet (POWO). Edgeworth even recorded the indigenous name “chura” (Edgeworth 1851: 53) : 245, 260, 397
- smooth angelica (*taskara*) see smooth angelica (*coraka*), GVDB: 176 : 262
- snake mallow (*nāgabala*) perhaps *Sida*

- veronicaefolia Lam.; see **GVDB**: 221 for discussion : 161
- snakeroot (*sugandhā*) → *sarpagandhā*  
*Rauvolfia serpentina* Benth. ex. Kurz.  
 See *sarpagandhā*. But may be  
*Aristolochia indica* Linn. Has been  
 identified with *nākulī*, or *gandhanākulī*.  
 See (**GVDB**: 219, 436) : 198
- spikenard (*jaṭā*) see spikenard  
 (*jaṭāmāṇsi*) : 253, 262
- spikenard (*jaṭāmāṇsi*) *Nardostachys jatamansi* (D.Don) DC, **GVDB**: 163. See also **NK**: 1, #1691. Known to ancient Greek authors (Ball 1888: 343–344) : 397, 398
- spikenard (*māṇsi*) see spikenard  
 (*jaṭāmāṇsi*) : 207, 244, 262
- spikenard (*nalada*) see spikenard  
 (*jaṭāmāṇsi*) : 187, 244, 262, 283
- spiny bitter gourd (*karkāruka*) *Momordica cochinchinensis* (Lour.) Spreng., (Thunb.) Cogn. See **AVS**: 2, 1135, **IGP** 754 (or *Benincasa hispida*? **AVS**: 2, 1127; cf. **AVS**: 1, 261). M *cochinchinensis* has poisonous seeds (**NEH**: 279) : 384
- spurge (*nandānā*) an unknown poisonous plant, a.k.a. (equally obscurely) *udīmānaka*, **GVDB**: 215 (where it is m.). Perhaps a synonym of *oleander* *spurge* (*snuhī*), like *oleander* *spurge* (*nandā*) : 199
- spurge (*saptalā*) T. B. Singh and Chunekar (**GVDB**: 421–422) discuss the four candidates for this plant, three of which are *Euphorbias* : 167, 245
- strychnine tree (*viṣamuṣṭika*) *Strychnos nux vomica* Linn., **GVDB**: 373 : 394
- sugar (*sitā*) Ḏalhaṇa makes this equation at 1.37.25 (**Su** 1938: 162) : 207, 244
- sugar (*śarkara*) *Saccharum officinarum*, Linn. **NK**: #2182 : 193
- sugar cane (*ikṣu*) *Saccharum officinarum*, Linn. **NK**: #2182 : 193
- sunflower (*sūryavallī*) → *ādityavallī*, *sūryamukhī*, *Helianthus annūs* Linn.
- GVDB**: 35, 443 : 206
- sweet flag (*vacā*) *Acorus calamus* Linn. See **GVDB**: 352–355 : 161, 162, 170, 260, 398
- sweet flag and white clitoria (*haimavata*) probably a collective noun for sweet flag (*vacā*) and white clitoria (*śvetā*), **GVDB**: 474 : 156
- sweet plants (*madhuravarga*) The sweet plants are enumerated at *Suśrutasamhitā* 1.42.11. See also **GVDB**: 127 : 59
- sweet-scented oleander (*aśvamāraka*) *Nerium oleander*, L. See **ADPS**: 223, **NK**: 1, #1709, **GVDB**: 77, which discusses the white and red forms. The roots are highly toxic, as are most parts of the plant, (Vijay V. Pillay and Sasidharan 2019) : 198
- tall reed (*nala*) *Phragmites karka* (Retz.) Trin. ex Steud, **GVDB**: [217] : 161, 163, 283
- taro (*piṇḍāluka*) conjecturally *Colocasia esculenta* (Linn.), **GVDB**: 248. A member of the *āluka* group, ibid. : 377
- teak (*śāka*) *Tectona grandis*, L.f. See **AVS**: 5, 245, (**MW**: 1061) : 260
- Tellicherry bark (*kuṭaja*) *Holarrhena pubescens* Wall. ex G.Don, with *Wrightia tinctoria* and *W. arborea* considered **GVDB**: 101–102, **ADPS**: 267–270 : 156, 260, 383
- ten roots (*daśamūla*) Described at *Suśrutasamhitā* 1.38.70–71 (**Su** 1938: 169) as a combination of the lesser five roots and the greater five roots : 382
- the four *jāta* drugs (*caturjāta*) a group of four drugs, *cinnamon* (*tvac*), *malabathrum* (*patra*), *cardamom* (*elā*), and *ironwood tree* (*nāgakeśara*) **GVDB**: 152 : 398
- the four *jāta* drugs (*caturjātaka*) see the four *jāta* drugs (*caturjāta*) : 278
- the greater five roots (*mahāpañcamūlī*) see greater five roots (*bṛhatpañcamūlā*) : 155
- the lesser five roots (*pañcamūlī*)

- Mahākośa*: 1, 468. See **five roots**  
*pañcamūla* : 153
- the three myrobalans (*triphalā*) chebulic myrobalan beleric myrobalan and emblic myrobalan (*harītakī bibhītaka* and *āmalaka*) One of the most-often mentioned drugs in the *Bṛhatīrayī* *GVDB*: 194–196 : 154, 243, 244, 253, 255, 378
- the three pungent drugs (*katutrika*) see **the three pungent drugs (*trikātu*)** : 255, 262
- the three pungent drugs (*trikātu*) dried ginger, long pepper, and black pepper (*śunṭhī*, *pippalī*, and *marica*) *GVDB*: 193 : 243, 398
- the three pungent drugs (*vyosa*) see **the three pungent drugs (*trikātu*)**, *GVDB*: 382–383 : 254, 278
- the two types of clitoria (*śvete*) see **white clitoria (*śvetā*)** : 262
- the two types of turmeric (*haridre*) see **turmeric (*haridrā*)** and **Indian barberry (*dāruharidrā*)**, *GVDB*: 465–466 : 262
- three heating spices (*tryūṣāṇa*) *śunṭhī* (Dried ginger) *Zingiber officinale*, Roscoe. *ADPS*: 50, *NK*: 1, #2658, *AVS*: 5, 435, *IGP* 1232, *pippalī* (long pepper) *Piper longum*, L. *ADPS*: 374, *NK*: 1, #1928, and *marica* (black pepper) *Piper nigrum*, L. *ADPS*: 294, *NK*: 1, #1929 : 105, 206
- three-leaved caper (*varuṇa*) *Crataeva magna* (Lour.) DC. See **AVS**: 2, 202; cf. *NK*: 1, #696 : 192, 245, 260, 399
- three-leaved caper (*varuṇaka*) see **three-leaved caper (*varuṇa*)** : 262
- toothbrush tree (*pīlu*) *Salvadora oleoides* Dcne. *GVDB*: 251. T. B. Singh and Chunekar also mention *S. persica* L., but that is native to Africa, Syria and the Arabian peninsula  
(*POWO*: taxon/urn:lsid:ipni.org:names:7791818). Also commonly called Vann : 161, 280, 281
- toothed-leaf limonia (*surasī*) *Naringi crenulata* (Roxb.) Nicolson (formerly *Limonia crenulata* Roxb.), *GVDB*: 439 : 244, 262
- top layer of fermented liquor (*surāmaṇḍa*) *K&B*: 2, 502, *NK*: 2, appendix VI, #49, *McHugh 2021*: 39 : 57, 58
- tree cotton (*kārpāsa*) *Gossypium arboreum* L. *ADPS*: 231, *pace* the identifications of T. B. Singh and Chunekar (*GVDB*: 92, 247), since *G. barbadense* L. is native to South America and *G. herbaceum* L. is native to Africa : 56, 399
- tree cotton (*picu*) See **tree cotton (*kārpāsa*)** : 58, 61
- tree of heaven (*arala*) probably *Alianthus excelsa* Roxb., *GVDB*: 21–22 : 260
- turmeric (*gaurī*) *Curcuma longa*, L. See *ADPS*: 169, *AVS*: 2, 259, *NK*: 1, #750 : 163
- turmeric (*haridrā*) *Curcuma longa* Linn. *GVDB*: 465. On the history of confusions between saffron and turmeric, see *Cox 2011*: 163, 206, 215, 243, 399
- turmeric (*rajanī*) *Curcuma longa*, L. *ADPS*: 169, *AVS*: 2, 259, *NK*: 1, #750 : 42, 207, 244, 255, 278, 282
- turpeth (*trivṛt*) → *trvṛtā*. *Operculina turpethum* (Linn.) *Silva Manso* = *Ipomoea turpethum* R. Br. *GVDB*: 197. : 154, 193, 243, 370, 379
- turpeth (*trvṛt*) The common spelling in Nepalese MSS of *trivṛt* : 254, 255
- two kinds of salt (*vasukavasira*) See the discussion by T. B. Singh and Chunekar (*GVDB*: 362–363), who note that when *vasuka* is mentioned together with *vasira*, two varieties of salt are often meant (see *vasukavasirā*) : 103
- unknown fruit poison (*veṇuka*) see **unknown fruit poison (*veṇukā*)** : 199
- own fruit poison (*veṇukā*) *Bambusa bambos*, Druce?. See *NK*: 1, #307, *GVDB*: 380. The Nepalese transmission has the m. *veṇuka*, not the f. *veṇukā*

T. B. Singh and Chunekar (GVDB: 380) note that this is an unknown fruit-poison: 399

velvet bean (*svayamguptā*) Mucuna pruriens (L.) DC., GVDB: 461, who say that the plant is known in the *Carakasamhitā* but not the *Suśrutasamhitā*. Watt (WattDict: 5, 286) noted that the English names Cowhage or Cowitch are derived from the Hindi name of M. pruriens, *Kivach*, Skt. *kapikacchu*, supported by Yule and Burnell (1903: 268) : 300, 399

velvet bean (*ārsabhi*) see velvet bean (*r̥ṣabhi*) and velvet bean (*svayamguptā*). *Mahākośa*: 1, 94, citing the *Rājanighaṇṭu* 3-50, 201: 253

velvet bean (*r̥ṣabhi*) see velvet bean (*svayamguptā*), MW: 226, GVDB: 56: 399

velvet-leaf (*pāthā*) Cissampelos pariera, L. See ADPS: 366, NK: 1, #592, GJM1: 573, AVS: 1, 95; cf. AVS: 2, 277: 50, 105, 152, 170, 206, 243, 244, 385

velvet-mite (*indragopa*) Kerria lacca (Kerr.). Lienhard 1978: 188

verbena (*bhārgī*) see verbena (*bhārigī*): 244, 262

verbena (*bhārigī*) → phañjī.

Clerodendrum serratum (L.) Moon or C. serratum; see AVS: 2, 121, ADPS: 87: 399

verbena (*phañjī*) Clerodendrum serratum, L. See AVS: 2, 121, ADPS: 87: 191

vetiver (*uśīra*) Chrysopogon zizanioides (L.) Roberty, also called "khus." NK: 1, #180, GVDB: 54 identify it as vetiver. Commentators normally identify two types of *uśīra*, the other being the same as lemongrass (*lāmajja*): 104, 190, 238, 283, 284, 400

vetiver and lemon grass (?) (*uśīre*) "the two uśīras," perhaps vetiver (*uśīra*) and lemongrass (*uśīrabheda*): 262

viburnum (*tilva*) see viburnum (*tilvaka*):

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viburnum (*tilvaka*) Viburnum nervosum D.Don. In their thoughtful article, T. B. Singh and Chunekar (GVDB: 185–186) separate *tilvaka* from *lodhra*, a conflation they attribute to Dr̥ḍhabala. They identify V. nervosum because of its use under a similar local name in Garhawal and Gangotri and the match with its purging properties mentioned in ayurvedic literature. AVS: 5, 219 makes the same separation, noting that in Kerala the plant Jatropha curcas L. is used. But that is a native of the new world. Cf. many Viburnum varieties listed by Griffiths (IGP: 1200 ff.). POWO confirms that V. nervosum has an appropriate Himalayan distribution. *Tilvaka* is also sometimes wrongly considered to be a synonym of long-stamen *Wendlandia* (?) (*tilaka*), GVDB: 185–186: 154, 155, 260, 391, 400

viburnum extract (*tailvaka*) see viburnum (*tilvaka*), GVDB: 185, also a ghee compound of viburnum (*tilvaka*): 300

'Virāta's plant' (*vairātaka*) unknown plant with a poisonous tuber, GVDB: 382. The Virātas are tribal peoples: 200, 201

water hyssop (*brāhma*) Bacopa monnieri (L.) Pennel, GVDB: 281, who describe the substitutes that are mistakenly used in some places: 283

water snowflake (*kumudavati*) see water snowflake (*kumudavati*): 199

water snowflake (*kumudavatī*) This is an unidentifiable plant whose name means, etymologically, "with lilies." MW: 292 gives *Nymphoides indica* (L.) Kuntze (formerly *Villarsia indica*) on no authority; I have used the common name of *N. indica* as a possibility, but this is not known to be poisonous; on the contrary, it is used medicinally (Khan et al. 2018). *N. indica* is

- illustrated on p. 6 of the Voynich manuscript. Khan et al. (2018) assert that this is the same plant as *tagara*, although this is not a widely-held view (see *crape jasmine* (*tagara*)) : 199, 381, 400
- watered buttermilk (*udaśvit*) MW: 183 : 189
- wax gourd (*kūṣmāṇḍa*) *Benincasa hispida*, (Thunb.) Cogn. See AVS: 2, 1127; cf. AVS: 1, 261 : 384
- weaver's beam tree (*mokṣaka*) see **weaver's beam tree** (*muṣkaka*) : 400
- weaver's beam tree (*muṣkaka*) Schrebera swietenioides, Roxb. See AVS: 5, 88, Lord, NK: 1, #2246, GVDB: 242–243 : 156, 213, 400
- weaver's beam tree (*pāṭalī*) usually a synonym for **crimson trumpet-flower tree** (*pāṭalā*), but T. B. Singh and Chunekar (GVDB: 242–243) argue that it is **weaver's beam tree** (*mokṣaka*) because some authors distinguish two colours (unlike *pāṭalā*) : 156, 259, 262
- weaver's beam tree (*viśalyā*) Schrebera swietenioides Roxb. ← *kuberākṣī*. T. B. Singh and Chunekar (GVDB: 371) notes that this name is a synonym for many other plants, including *lāṅgālī*, *indravārunī*, *guḍūcī* etc. Dalhaṇa identified it with *pāṭalā*, *kāṣṭhapāṭalā*, and *agniśikhā* tree, all of which may be called *śvetamokṣaka* or *kuberākṣī* : 243
- weevil wort (*tālamūlikā*) GVDB: 178–179 : 400
- weevil wort (*tālapatrī*) → *tālamūlikā*, **weevil wort**, q.v. GVDB: 178 : 245
- white calotropis (*alarka*) Calotropis procera, (Ait.) R. Br. See NK: 1, #428, Chopra: 46b, Chopra IDG: 305–308 : 59
- white clitoria (*śvetā*) *Clitoria ternatea*, L. See AVS: 2, 129, NK: 1, #621.
- GVDB: 416–417 notes that there are two types, *kṣudrā* (white, according to Dalhaṇa) and *mahā* (blue, according to Dalhaṇa). Sometimes given as a synonym for **winged-stem canscora**, but sometimes as a contrasting plant : 190, 244, 245, 254, 257, 262, 398
- white cutch tree (*somavalka*) *Acacia polyacantha*, Willd. See AVS: 1, 30, IGP 7, GJM1: 602, AVS: 2, 935; pace NK: 1, #1038 : 191, 214
- white dammer tree (*sarja*) *Vateria indica*, L. See NK: 1, #2571, AVS: 5, 349 f, AVS: 1, 292 f, Chopra: 253a. T. B. Singh and Chunekar (GVDB: 424) discussed whether this term might be broadened to any resinous tree and decided against : 50, 103, 396, 401
- white dammer tree (*sarja*) see **white dammer tree** (*sarja*) : 259
- white lotus (*puṇḍarīka*) see **sacred lotus** (*padma*), GVDB: 252 : 202
- white sandalwood (*bhadraśriya*) *Santanum album* Linn. See **white sandalwood** (*bhadraśrī*) : 163, 262
- white sandalwood (*bhadraśrī*) *Santanum album* Linn. see **sandalwood** (*candana*) GVDB: 152, 282 and *Carakasāñhitā* ci.4.102 (Ca 1941: 434) where it is contrasted with *lohitacandana* : 105, 401
- white siris (*jalavetasa*) Dalhaṇa (5.8.105 (Su 1938: 592)) thought that this was **Indian willow** (*vañjula*), but he noted that Jejāṭa thought it was *kambukā*, an unidentified plant he interpreted as **white siris** (*kiñihī*). AVS: 3, 172–174 identify *jalavetasa* as *Homonoia riparia* Lour., willow-leaved water croton, and include a survey of the confusions about this plant in various texts; they make their judgment about *H. riparia* on the basis of its medical effects. See **siris** (*śiriṣa*) : 283
- white siris (?) (*kapītana*) T. B. Singh and Chunekar (GVDB: 72–73) note that this stands for at least two plants, milky and non-milky. For the latter type, they propose *Albizia procera* (Roxb.) Benth., *Thespisia* (hibiscus-like, but

not endemic to S. Asia) or *Spondias* (cashew). Six different identifications are made by Monier-Williams, Leumann, Cappeller, et al. (MW: 251), without authority : 260

white siris (*kaṭabhī*) *Albizia procera* (Roxb.) Benth. or *A. lebbeck* (Linn.) Benth. GVDB: 63–64, AVS: 1, 81–84. See *siris* (*śiriṣa*) : 238, 397

white siris (*kiniḥī*) *Albizia procera* (Roxb.) Benth., GVDB: 98, which also discusses past confusions; NK: 1, #93. See *siris* (*śiriṣa*) : 206, 244, 283, 401

white teak (*kāśmarī*) see white teak (*kāśmarī*) : 301

white teak (*kāśmarya*) see white teak (*kāśmarī*) : 262

white teak (*kāśmaryā*) see white teak (*kāśmarī*) : 104

white teak (*kāśmarī*) also *kāśmarya*, *kāśmarī*, *madhuparṇī*. *Gmelina arborea*, Roxb. See GJM1: 543, Trees: 51, ADPS: 240, GVDB: 96–97 : 163, 165, 384, 401

white teak (*madhuparṇī*) see white teak (*kāśmarī*) : 103

white water-lily (*kumuda*) *Nymphaea alba*, Linn., GVDB: 105 : 41, 124, 262, 383

white-bark acacia (*arimeda*) *Vachellia leucophloea* (Roxb.) Maslin, Seigler & Ebinger. See AVS: 1, 23, T. B. Singh and Chunekar (GVDB: 22, 33) : 50, 260

wild asparagus (*bahuputrā*) *Asparagus racemosus*, Willd. See further wild asparagus (*śatāvarī*) Possibly a syn. for *nandana*. The bark of wild asparagus is toxic : 191

wild asparagus (*śatāvarī*) *Asparagus racemosus*, Willd. See ADPS: 441, AVS: 1, 218, NK: 1, #264, IGP: 103, AVS: 4, 249 ff, Dymock: 3, 482 ff : 161, 163, 165, 306, 401

wild celery (*agnika*) → may be *bhallātaka*, *lāṅgali*, *ajamodā*, *moraṭa*, or *agnimantha*, GVDB: 4. Uncertain A plant often cited

in *Suśrutasaṃhitā*, but rarely in *Carakasaṃhitā* (GVDB: 4). Dalhaṇa glossed it at 5.2.45 (Su 1938: 566) as wild celery (*ajamodā*) but noted that others consider it to be rajmahal hemp (*moraṭa*). There is considerable complexity surrounding the identification of *moraṭa/mūrvā* itself and related synonyms (GVDB: 314–316) : 206, 402

wild celery (*ajamodā*) *Apium graveolens*, L. Sometimes identified with *agnika* (wild celery), q.v. : 206, 243, 401

wild Himalayan cherry (*padmaka*) *Prunus cerasoides* D.Don, GVDB: 236, AVS: 4, 353–355. MW: 585 is wide of the mark : 163–165, 243, 244, 262, 283, 284

wild spider flower (*ajagandhā*) possibly *Cleome gynandra* L. (syn. *Gynandropis gynandra* L.); possibly also Basil (*Ocimum basilicum* Linn. or Crested Late Summer Mint (*Elsholtzia ciliata* Willd.) (GVDB: 6). But E. ciliata is not native to South Asia : 170

wild spider flower (*tailaparṇika*) see wild spider flower : 262

wild spider flower (*tilaparṇī*) *Cleome gynandra* L., GVDB: 184–185, but see the discussion of the other drug plants sometimes intended by this name : 402

wild sugar cane (*kāṇḍekṣu*) *Saccharum spontaneum* L., GVDB: 90 : 103

wild sugarcane (*kāśa*) *Saccharum spontaneum* L. GVDB: 96 : 161, 283

winged-stem canscora (*girihvā*) see winged-stem canscora (*girikarṇikā*) : 244

winged-stem canscora (*girikarnikā*) sometimes → *śvetā*, in which case possibly *Clitoria ternatea*, L., see AVS: 2, 129, NK: 1, #621. GVDB: 41, 138–139 argued against the identification with *C. ternatea* L. Since *śvetā* and *girihvā* are cited as separate constituents of one formula (e.g.,

- Suśrutasanhitā* 5.5.75 (Su 1938: 579) they cannot be the same plant.  
**GVDB:** 138–139 argued for *Sympcorema polyandrum* Wight, which they also assigned to *sinduvāra*. When discussing *śārikhapuṣṭī*, 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: 402  
 winged-stem canscora (*giryāhvā*) see **winged-stem canscora** (*girikarṇikā*): 400  
*Withania (aśvagandhā)* *Withania somnifera* (L.) Dunal. See AVS: 5, 409 f.,  
**Dymock:** 2, 566 f., 150, **GVDB:** 29,  
**Chevillard:** 152 : 59, 156, 164, 244  
*wood-apple (kapittha)* *Limonia acidissima*, L. See AVS: 3, 327, NK: 1, #1021 : 164, 190, 192, 245, 254, 255, 260, 300, 395  
 woody turmeric (*kāleyaka*) *Coscinium fenestratum* (Goetgh.) Colebr.,  
**GVDB:** 95. See V. K. Gupta, Tuohy, O'Donovan, and Lohani 2015: 173–175 : 262  
 woody-fruit jujube (*ghoṇṭā*) *Ziziphus xylopyrus* (Retz.) Willd., **GVDB:** 149 : 402  
 woody-fruit jujube (*gopaghōṇṭā*) see **woody-fruit jujube** (*ghoṇṭā*): 260  
*yeast (kiṇva)* MW: 282, EWA: 1, 350 : 287  
 yellow-berried nightshade (*kaṇṭakārīkā*) see **yellow-berried nightshade** (*kaṇṭakārī*): 156  
 yellow-berried nightshade (*kaṇṭakārī*) *Solanum virginianum* L. (syn. *Solanum surattense* Burm. f. and *Solanum xanthocarpum*, Schrad. & Wendl.)  
**GVDB:** 68–69. See also IHR: 430. A component of **lesser five roots**: 390, 402  
 yellow-berried nightshade (*ksudrā*) see **yellow-berried nightshade** (*kaṇṭakārī*), ADPS: 100, NK: 1, #2329, AVS: 5, 164 : 206, 207

## Fauna

- ant (*pipilika*) MW: 627 : 273  
 arala rat (*arala-animal*) a hapax legomenon in Sanskrit, probably a Dravidian loan word or cognate from forms like Pengo, Manda, Kuwi etc., *orli*, *urli*, etc., **DED<sub>2</sub>**: #994 : 250, 253  
 arrow-coloured (*śaravarṇa*) unknown frog, name from etymology : 272  
*aṭakī* (*aṭakī*) unknown : 269  
 bad-marked rat (*kuliṅga*) etymologically, “having bad-marks” MW: 286, but unidentifiable : 250, 253  
 beaked (*tūṇḍikerī*) neologism insect-name based on the etymology of *tūṇḍa*. Probably *tūṇḍikera* and *tūṇḍicela* are variants of the same lexeme. *tūṇḍa* 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 *√tud* “peck”: 268, 408  
 bee (*bhramara*) bee or bumble-bee, MW: 769, etc. : 213, 269  
 bee (*makṣikā*) MW: 771. May sometimes refer to a fly : 213, 274  
 bee (*śilīmukha*) MW: 1073 : 407  
*bhaṭābha* (*bhaṭābha*) unknown : 269  
 black (*kṛṣṇa-maśaka*) unknown; name based on etymology : 274  
 black drongo (*dhūmyāṭa*) *Dicrurus adsimilis*, Bechstein, Dave 1985: 63, 65, 199 : 187

- black monitor lizard (*kṛṣṇagodhā*)  
    unknown, name from etymology : 269
- black rat (*kṛṣṇa*) perhaps the widespread  
    Black Rat or Common House Rat,  
    *Rattus Rattus* L., **BIA**: 210 : 250, 252
- black scorpion (*kṛṣṇa-vṛścīka*) unknown;  
    name from etymology. Possibly a  
    Heterometrus, since they are large,  
    black and have low toxicity : 275
- black-beak (*kṛṣṇatūṇḍa*) unknown insect,  
    name based on etymology; **MW**: 307.  
    But possibly “black-belly” based on the  
    lexeme *tūṇḍa*, **CDIAL**: 1, #5858 : 269
- black-coloured (*kṛṣṇavarna*) unknown  
    frog, name from etymology : 272
- black-face (*kṛṣṇamukhā*) an unidentified  
    spider : 282, 285
- brahman woman ant (*brāhmaṇī*) unknown;  
    meaning from etymology : 273
- brown (*kapilā*) unknown; meaning from  
    etymology : 274
- brown rat (*kapila-animal*) name from  
    etymology; unidentified; see **tawny rat**  
    (*aruṇa*) : 250, 253, 408
- brown scorpion (*śyāva-vṛścīka*) unknown;  
    name from etymology : 275
- brown spider (*kapilā-spider*) an  
    unidentified spider : 282, 283
- bull (*vṛṣabha*) **MW**: 1012, etc. *Bos taurus*,  
    Linn. : 187
- cat (*bidāla*) normally the house cat, *Felis*  
    *catus* L. On Indian cats in general, see  
    **BIA**: ch. 3 : 154
- cavity (*kuhara*) unknown frog, name from  
    etymology : 272
- celestial (*svarga-insect*) unknown insect,  
    name based on etymology : 269
- centipede (*śatapadi*) see **centipede**  
    (*śatapādaka*) : 213
- centipede (*śatapāda*) see **centipede**  
    (*śatapādaka*) : 272
- centipede (*śatapādaka*) the name’s meaning  
    is, “hundred-foot” **MW**: 1049,  
    **CDIAL**: 1, #12281 : 269, 403
- chital deer (*prṣata*) *Axis axis*, Erxleben.
- BIA**: 295–296. In *Suśrutasaṅghitā* 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 *prṣata* may also be  
    simply Chital or Spotted Deer. See also  
    **IW**: 93 : 187, 193, 244
- chukar partridge (*cakora*) *Alectoris chukar*,  
    J. E. Gray, Woodcock 1980: 45,  
    distributed from NW India to Nepal  
    and Assam : 187
- civet (*mārjāra*) **BIA**: ch. 4 *et passim*,  
    McHugh 2012 : 244
- colourless (*vivarnā*) unknown; meaning  
    from etymology : 274
- common crane (*kroñca*) *Grus grus*, Linn.,  
    Woodcock 1980: 47, Dave 1985: ch. 62 :  
    187
- common myna (*sārikā*) see **common myna**  
    (*śārikā*) : 187
- common myna (*śārikā*) *Acridotheres tristis*  
    *tristis*, L., etc. See Salim Ali and Ripley  
    1983: #1006, Dave (1985: 28 ff.),  
    Woodcock (1980: 119) : 213, 404
- cone snail (*śambuka*) a bivalve or snail  
    (**MW**: 1055), but presumably a  
    poisonous one such as the cone-snail :  
    212
- cook-fish insect (*pākamatsya*) unknown  
    insect, name based on etymology. A  
    kind of fiery insect according to  
    Dalhana on 5.3.5 (**Su** 1938: 567) :  
    212, 269
- cough-spider (*kasānā-spider*) an  
    unidentified spider : 282, 284
- cricket (*uccītiṅga*) The suggestion “cricket”  
    is from Assamese *usaṅgā* and Bengali  
    *cuiṅgā*, *ucuṅgā*, **CDIAL**: 1, #1645,  
    although they are not venomous.  
    Unlikely: a crab, **MW**: 173. The cricket  
    may appear to have a sting, although it  
    does not Maxwell-Lefroy 1909: 102 :  
    212, 213, 268
- crow-egg (*kākāṇḍā*) an unidentified spider :

- 282, 285**
- dark blue scorpion (*mecaka*) unknown; name from etymology : 276
- deer (*myga*) on the various Indian deer, see **BIA**: ch. 20. Sometimes any wild forest animal (**MW**: 828) : 154
- deer-foot (*enīpadī*) an unidentified spider : 282, 285
- devout (*brahmaṇikā*) unknown insect, name based on etymology : 269
- dish-creeper (*śarāvakurdi*) unknown insect, name based on etymology. See *śarāvakurda* “creeping among dishes” (**MW**: 1057), (apparently also the name of a snake) : 213
- district (*maṇḍala*) unknown; name based on etymology : 274
- droplet (*bindula*) unknown insect, name based on etymology. Dalhaṇa on 5.8.9 (**Su 1938**: 586) noted that some people read *viliṭa* instead of *bindula* : 269
- 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” : 269
- elephant (*hastin*) unknown; name based on etymology : 274
- 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, 269
- 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<sub>2</sub>**: #2675 : 250, 253
- fierce-purple scorpion (*ugradhūmra*) unknown; name from etymology : 276
- fiery insect (*agnikīṭa*) see **fire centipede** (*agni-centipede*) : 269, 404
- finger-ant (*aṅgulikā*) unknown; meaning from etymology : 274
- fire centipede (*agni-centipede*) unknown insect, name based on etymology. Cf. Marāṭhī āghī “a kind of stinging fly” **CDIAL**: 1, #57 : 268, 404
- fire-centipede (*agniprabhā*) uncertain; same as the **fire centipede** (*agni-centipede*) and cf. fiery insect (*agnikīṭa*) : 274
- fire-face (*agnimukhā*) an unidentified spider : 282, 284, 285
- fish-bone (*kaṇṭaka*) **MW**: 245; cf. *Manu* 8.95 (Olivelle 2005: 172, 677) : 213
- five-black (*pañcakṛṣṇa*) unknown, etymologically “five-black” : 269
- five-venom (*pañcālaka*) unknown insect, name based on etymology : 269
- five-white (*pañcaśukla*) unknown, etymologically “five-white” : 269
- fondling rat (*lālana*) based on etymology. An unknown rat or mouse : 250, 252
- frog (*dardura*) frog. **CDIAL**: 6198 also gives “lizard, chameleon” for Khotanese *dodór*, though this may be <*dardru*-> : 272
- frown (*bhṛkuṭī*) unknown frog, name from etymology : 272, 274
- 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 *Suśrutasamhitā* reads *hamṣira* as the name of this rat : 250, 252
- garland-virtue (*mālāguṇī*) an unidentified spider : 282, 285
- goldie (*sauvarṇikā*) an unidentified spider : 282, 284, 285
- grain-coloured (*lājavarnā*) an unidentified spider : 282, 285
- greenish (*harita-frog*) unknown frog, name from etymology : 272
- grey peacock-pheasant (*jīvajīwaka*) *Polyplectron bicalcaratum*, Linn., Dave

- 1985: 270, 273, 274, 281: 187  
 hairy scorpion (*romaśa*) unknown; name from etymology : 275  
 hairy-head scorpion (*romaśīṣa*) unknown; name from etymology : 276  
 horn (*śrīga*) see **horned** (*śrīgī*). Unknown insect : 213  
 horned (*śrīgī*) unknown, based on etymology : 268, 405  
 hornet (*kayaabha*) Possibly connected with *kaya* "grain of corn or rice" (MW: 245), but more likely a loan word from Dravidian *kaṭampai* etc., "a kind of hornet, wasp" DED<sub>2</sub>: #1117: 213, 269  
 house gecko (*gr̥hagolikā*) see **house gecko** (*gr̥hagodikā*) : 271  
 house gecko (*gr̥hagoḍikā*) MW: 362, CDIAL: 1, #4324. Hemacandra's *Abhidhānacintāmaṇi* (4.364) mentions that *gr̥hagodhikā* and *gr̥hagolikā* are synonyms (Rādhākāntā Deva 1876: 691a, sub *māṇikyā*) : 212, 405  
 house shrew (*chuchundara*) Suncus murinus (Linnaeus, 1766), Wikipedia, BIA: 168–169 and plate 38. Probably a Dravidian loan word related to Tamil *cுஞ்சன்*, "grey musk shrew," see DED<sub>2</sub>: #2661 and CDIAL: 1, #5053: 250, 253  
 hundred-creeper (*śatakurda*) unknown insect, name based on etymology. Cf. *śarāvakurda* "creeping among dishes" (MW: 1057), apparently also the name of a snake. : 268  
 hundred-kulimbhaka (*śatakulimbhaka*) unknown insect class. Perhaps centipedes : 268  
 hundred-woody (*śatadārukā*) see **woody** (*dāruka*). MW: 1049: 213, 409  
 iguana (*godheraka*) The गौधेरक is described in the *Carakasaṃhitā* as a four-legged snake born of a **Indian monitor lizard** that is similar to a black snake and has several species (6.23.134 (Ca 1941: 577)). CDIAL: 1, #4286 identifies this as an iguana : 271, 274, 406  
 Indian monitor lizard (*godhā*) **Varanus bengalensis** (Daudin, 1802), Reptiles: 58–60, ill. : 59, 121, 193, 405  
 Indian peafowl (*mayūra*) *Pavo cristatus*, Linn., Woodcock 1980: 39 : 187  
 Indian red scorpion (*rakta-vṛścika*) name from etymology. Likely to be the *Hottentotta tamulus* (Fabricius, 1798); see Wikipedia contributors 2025a : 276  
 invincible rat (*ajita*) etymological meaning; unidentifiable : 250, 253  
 kitibha (*kitibha*) unknown : 269  
 koel (*kokila*) *Eudynamys scolopaceus*, Linn., Wikipedia contributors 2025b, Woodcock 1980: 66 : 187  
 kokila-insect (*kokila-insect*) unknown : 269  
 konṭāgīrī (*konṭāgīrī*) unknown : 269  
 krimikara (*krimikara*) unknown : 269  
 kuṣṭa-insect (*kuṣṭa-insect*) unknown : 269  
 lac (*lākṣā*) *Kerria lacca* (Kerr.). See GJM1: 445, NK: 2, #32, Varshney 2000. Watt (Watt<sub>Comm</sub>: 1053–1066) is characteristically informative, and is definite about the antiquity of lac in India. See also Bellini 2025: 135–138: 215, 244, 262  
 large Brown rat (*mahākapila*) from the etymology of the name, "large brown," perhaps a bandicoot : 254  
 large gecko (*galagoḍikā*) A poisonous insect, amphibian or reptile described in *Suśrutasaṃhitā* 5.8.29 (Su 1938: 588) as a biting creature that may be white, black, with red stripes or rings or spotted. It is described just after the *iguanas* (*godheraka*) and before centipedes. The name is unstable, e.g., गलगोळिका, गलदेखी, गलगोली. Cf. the remarks on geckos in note 630, p. 212. The similarity of names suggests that a गलगोळिका may be a non-domestic creature that looks similar to a domestic gecko. Cf. other IA parallels

- at CDIAL: 1, #4324, 4431, which point to a Dravidian origin for the lexeme (DED<sub>2</sub>: #1125) and suggests “iguana.” The tokay gecko (*Gekko gecko* (Linnaeus, 1758)) is a large gecko endemic to South Asia having a blue-gray skin with red or orange spots and speckles that may change according to its environment like a chameleon. Tokay geckos, especially males, are aggressive and territorial and can inflict a strong bite. However, many agamids and skinks are also endemic to South Asia, and have markings that could match the description of the *Suśrutasañhitā*. See further IW: 40, 135–136; Deuti 2020: 108
- legume-insect (*vaidala*) unknown insect, name based on etymology : 268
- lentil insect (*masūrika-insect*) usually the name of a lentil or the “lentil disease,” namely smallpox. But here, an insect : 268
- little point (*kotika*) unknown frog, name from etymology : 272, 275
- little rat (*cikkira*) likely related to the Tuļu “cikkeli, a small variety of mouse,” and other Dravidian words related to Tamil *cikka* “small,” DED<sub>2</sub>: #2495. See also CDIAL: 1, #4779 on *cikka* “mouse or muskrat,” from lexical sources, and #4781 *cikkā* “small” from Drav., Burrow 1948: #141: 250, 252, 253
- little-voice (*alpavāca*) unidentified insect; possibly a wrong reading : 268
- lotus-insect (*padmakīṭa*) unknown insect, name based on etymology : 269
- maggot (*kīra-insect*) unknown insect. See Lahndā, Panjābī, Bengali, Oriya *kīrā*, etc., CDIAL: 1, #3193 and similar forms in Bihārī, Maithilī Bhojpurī, etc. Obviously a variant of *kīṭa* : 269
- maṇḍalapuṣpaka (*maṇḍalapuṣpaka*) unknown : 269
- massage-ant (*samvāhikā*) unknown; translation based on etymology : 273
- matt (*aprabha*) unknown frog, name from etymology : 272
- 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<sub>2</sub>: 2030. This is possibly supported by Kannada *kok* and Telugu *golatta*, *goku* for the mole-rat, reported by Prater (BIA: 205) : 250, 254
- mongoose (*nakula*) Urva edwardsii or the often sympatric U. europunctatus (small Indian mongoose, usually an eater of smaller creatures than snakes) (BIA: ch. 5), On mongooses and snakes, see IW: 112; BIA: 98–99 : 154, 193, 244
- mosquito (*maśaka*) a mosquito, gnat, gadfly or any stinging fly, MW: 793, CDIAL: 1, #9917 : 269, 274
- mountainous (*pārvata*) unknown; name based on etymology : 274
- mudfish (*śakalimatsya*) part of a group of similar fish names, including *śākali*, *śakulī*, *śakula*, etc. CDIAL: #133 “śakula” says that the cognate Assamese *xāl* is the fish *Ophiocephalus striatus* (now *Channa striata* (Bloch)), which is native<sup>4</sup> to India and SE Asia, and we have followed that suggestion for want of better clues : 213
- myna-face (*śārikāmukha*) unknown insect, name based on etymology, cf. *śāra* etc., MW: 1066; perhaps also cf. bee (*śilīmukha*) : 268
- nāhana (*nāhana*) unknown : 269
- needle-beak (*sūcītūṇḍa*) unknown insect or gnat, MW: 1240 : 408
- needle-mouth (*sucīmukha*) unknown, etymologically “needle-mouth” : 269
- noseless (*vināsikā*) unknown insect, name based on etymology : 269

- oceanic (*sāmudra*) unknown; name based on etymology : 274
- otter (*udra*) sometimes *undra*, which Dalhaṇa glossed as “aquatic cat” (Su 1938: 421). The Sanskrit term is cognate with the English “otter” (Burrow 1977: 121 et passim); cf. CDIAL: 96. On Indian otters, see BIA: 131, 151–154 : 154
- outsider (*bāhyaka*) unknown insect, name based on etymology : 269
- parakeet (*śuka*) Psittacula krameri, Scopoli (or P. eupatria or cyanocephala), See Woodcock 1980: 64 : 187, 255
- piccitā (*piccitā*) unknown insect; etymologically perhaps similar to *piccaṭa* “squashed flat” (MW: 624) : 269
- pigeon rat (*kapota-animal*) a rat “like a pigeon;” presumably of grey colour : 250, 254
- pitcher-like (*kaundinya-insect*) unknown insect, name based on etymology : 269
- 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” : 409
- pot-turd (*kumbhīvarcas*) unknown insect, name based on etymology (on -*varcas*, see Mahākoṣa: 1, 725 : 269)
- pravalāka (*pravalāka*) unknown : 269
- racket-tailed drongo (*bhringarāja*) Dicrurus paradiseus, Linn., Woodcock 1980: 123 : 187
- 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 mouse” : 250, 254
- red spider (*raktā-spider*) an unidentified spider : 282, 284
- red-dweller (*kaṣāyavāsika*) unknown, name from etymology : 269
- red-stripe (*raktarājī*) an unknown venomous insect, MW: 862 : 213
- red-toothed shrew (*kaṣāyadanta*) see red-toothed shrew (*kaṣāyadaśana*) : 253
- red-toothed shrew (*kaṣāyadaśana*) from the etymology of the word. Shrews in the genus Sorex (as well as others in the subfamily Soricinae) have red-pigmented teeth. Species in South Asia include Hodgson’s brown-toothed shrew (*Episoriculus caudatus*), the Himalayan water shrew (*Chimarrogale himalayica*), the Assam mole shrew (*Anourosoricini assamensis*) and the Giant mole shrew (*A. schmidti*) : 250, 407
- revolver (*āvarttaka*) unidentified insect : 268
- river dolphin (*śiśumāra*) Platanista gangetica (Lebeck), BIA: 313–314, plate on p. 289, MW: 1076 : 263
- rock dove (*pārāvata*) Columba livia Gmelin, JF, Dave 1985: 255–256 : 287
- round-bristle (*vṛttaśūka*) unknown; name based on etymology : 273
- śairyaka-insect (*śairyaka-insect*) unknown : 269
- śambuka (*śambuka*) unknown : 269
- sarṣapaka (*sarṣapaka*) unknown : 200, 269
- scorpion (*vrścika*) MW: 1011, etc. : 212, 275
- scorpion the colour of cow’s urine (*gomūtrābha*) unknown; name from etymology : 275
- scorpion-fish (*varakimatsya*) *varaki* in the Nepalese MSS may possibly be an alternant of *wasp* (*varaṭī*). Dalhaṇa on 5.3.5 (Su 1938: 568) remarked that some interpreted *varakimatsya* as two items, “wasp and fish,” others as a single one, “wasp-fish”; I have here taken the latter option because the terms always seem to appear together. See also HIML: 1B, 396, note 62 : 212, 213, 409

- she-ass insect (*gardabhi-insect*) unknown insect, name based on etymology : 269
- sheep-insect (*urabhra-insect*) unidentified insect : 268
- slimy (*slešmaka-insect*) unknown insect, name based on etymology : 269
- snake-sore (*ahikuttha*) unknown; name based on etymology : 273
- sonny rat (*putraka*) unidentified mouse or rat. Perhaps related to Dravidian forms like Pengo *puṭki*, DED<sub>2</sub>: #4257 (itself perhaps just a form related to Tamil *poṭi* “little”) : 250, 252
- sore-maker (*kutthuka*) unknown; name based on etymology : 273
- speckle-head (*citraśīrṣa*) see speckle-head (*citraśīrṣaka*) : 209, 213
- speckle-head (*citraśīrṣaka*) unknown insect, name based on etymology : 268, 408
- spoṭaka (*spoṭaka*) unknown : 269
- spotted (*paruṣa*) unknown insect, name based on etymology, which could be anything from dirty-coloured, stiff, or rough to shaggy : 268
- spotted scorpion (*paruṣa-vṛścika*) unknown; name from etymology : 276
- stench (*sthālakā*) unknown; translation based on *sthālīka*, MW: 1262 : 274
- sting-poison (*alaviṣa*) an unidentified spider : 282, 283
- stripy (*abhirājī*) unknown insect, name based on etymology : 268
- swan (*haṃsa*) Cygnus olor, Gmelin, Dave 1985: ch. 84. As Dave says, “a generic term for a large part of the Anatidae family” including Swans, Geese, Ducks and Teals. The term needs to be translated variously according to the geographical context of the usage. In the Himalayan region, “swan” is appropriate, but in more southerly peninsular India, “goose” is more likely. The dogmatism of J. Vogel 1962 is based on mainly southern observations and temple carvings. The discussion by Dave 1985 is nuanced and accurate : 187
- sweet hoof (*nakha*) *Unguis odoratus* or *Onycha*, McHugh 2013, from which I adopt the name “sweet hoof.” See especially McHugh’s very interesting discussion about translating this term, pp. 56 ff. See also MW: 524 (on no authority) : 262
- tawny rat (*aruṇa*) from the etymology of the word, perhaps *Rattus norvegicus* (Berkenhout, 1769), which is large, brown and common (it originated in central Asia and (likely) China, not Norway), and perhaps distinguishing it from the “large” brown rat : 250, 254, 255, 403
- thick-head (*sthūlaśīrṣā*) unknown; meaning from etymology : 273
- thin-beak (*sūkṣmatuṇḍa*) an unknown insect; c.f., beaked (*tunḍikerī*), needle-beak (*sūcītuṇḍa*). MW: 1240 : 213
- three-ring (*trimāṇḍalā*) an unidentified spider : 282
- tick-navel (*uṇḍunābha*) unknown insect; name based on etymology. Etymologically, an insect with an *uṇḍu* for a navel. Conjecturally, perhaps *uṇḍu* is a loan from Tamil *antu* “small grey-winged insect found in stored paddy” (DED<sub>2</sub>: #150). Possibly remotely related to Dravidian lexemes for “tick,” *ulūṅgu*, *udum*, *urūm*, *uṇṇi*, etc. DED<sub>2</sub>: #591, #604. The vulgate of the *Suśrutasāṃhitā* reads pot-nose wasp (?) (*kumbhīnāsa*) “pot-nose” in place of this lexeme, q.v. : 268
- tolaka (*tolaka*) unknown : 269
- tortoise (*kürma*) Perhaps *Geochelone elegans* (Schoepff), Reptiles: 30 and plate, MW: 1076 : 263
- tunḍavakra (*tunḍavakra*) unknown : 269
- tūṅgīnāsa (*tūṅgīnāsa*) unknown : 269
- urine-poison (*mūtravīṣa*) an unidentified

- spider : 282, 284  
 vaki fish (*vakimatsya*) an unknown fish.  
 Possibly a lexical variant of  
**scorpion-fish** (*varakimatsya*), q.v. : 213  
 valabhika (*valabhika*) unknown poisonous  
 insect. Some similar lexemes mean  
 "ridge of a roof, veranda",  
**CDIAL**: #11220, which is probably  
 irrelevant : 213, 269  
 variegated scorpion (*karbura*) unknown;  
 name from etymology. Possibly  
*Isometrus maculatus* (De Geer, 1778),  
 which is brown and spotty : 275  
 vicitīṅga (*vicitīṅga*) unidentified insect  
 (not in MW) : 268  
 warding off (*vāraṇī*) unknown insect,  
 name based on etymology. Cf. Ṣrīyā  
*bāraṇī* "charm against wild animals or  
 noxious insects" **CDIAL**: 1, #11553 : 269  
 wasp (*vaiśvambhara*) A variant of **wasp**  
 (*viśvambhara*), q.v. : 269  
 wasp (*varaṭī*) see **wasp** (*varaṭī*) : 409  
 wasp (*varaṭī*) MW: 923, **CDIAL**: #11313,  
 11330, etc. : 408, 409  
 wasp (*viśvambhara*) said to be a synonym  
 of *gandholī*, q.v. (HIML: 1B, 395, note  
 59) : 212, 273, 409  
 wasp (*vāraṇī*) see **wasp** (*varaṭī*) : 213  
 webby spider (*jālinī-spider*) an unidentified  
 spider : 282, 285  
 white frog (*śveta-dardura*) uncertain; name  
 based on etymology : 272  
 white gecko (*śvetā-ghagolikā*) unknown;  
 name based on etymology : 274  
 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 : 250, 254  
 white scorpion (*śveta-vṛścika*) unknown;  
 name from etymology : 276  
 white spider (*śveta-spider*) an unidentified  
 spider : 282, 283  
 wing-scorpion (*patravṛścika*) unknown  
 insect, name based on etymology :  
 212, 269  
 woody (*dāruka*) an unknown insect;  
 translation based on etymology. See  
**hundred-woody** (*śatadārukā*),  
MW: 1049 : 405  
 worm-dish (*krimisarāvī*) unknown insect,  
 name based on etymology. *śarāva*  
 "dish, plate, etc." (MW: 1057) : 269  
 yellow spider (*pītikā-spider*) an  
 unidentified spider : 282, 283

## Minerals

- ashes (*bhasma*) ashes, corrosive when wet :  
 200  
 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. :  
 200  
 gypsum (*godanta*) **NK**: 2, 46, #20 : 287  
 orpiment (*haritāla*) Arsenii trisulphidum.  
 See **NK** v. 2, p. 20 ff : 200  
 realgar (*manahśilā*) Arsenii disulphidum  
**NK**: 2, #11 : 284, 300  
 red ochre (*gairika*) Hellwig 2009: 140–141.  
**NK**: 2, #40; the same source, at #6,  
 gives kaolinum or china clay : 207,  
 243, 245, 262, 300, 301  
 rock salt (*saindhava*) See **NK**: 2, M#48,  
 Watt<sub>Comm</sub>: 963–971 : 42, 103, 170, 243,  
 278, 286, 300, 379  
 vermillion (*rakta*) speculative, based on  
*Mahākośa*: 1, 667, under *raktadhātu*,  
 citing the *Dhanvantarīyanighaṇṭu* : 200

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## Glossary

'angry beetles' - *toṭaka*: 214  
 'flat insects' - *picciṭā*: 214  
 'mustard snakes' - *sarṣapaka*: 214  
 'orange-dwellers' - *kaṣāyavāsika*: 214  
 'pot insects' - *kauṇḍinya*: 214  
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# Todo list

■ Cite Paul Courtright, Ganesha book.	23
■ Can't be "sedation"	51
■ complete this thought	71
■ add footnote here	72
■ add refs to Divodāsa as king.	72
■ PYS 3.44?	99
■ find out about uttarabasti	103
■ Add tr. of 3.2.10.add5–3.2.10.add11	105
■ 29, 30 missing?	107
■ Problematic passage in the edition.	107
■ unsolved problem	112
■ The webpage <a href="https://hindi.shabd.in/vairagya-shatakam-bhag-acharya-arjun-tiwari/post/117629">https://hindi.shabd.in/vairagya-shatakam-bhag-acharya-arjun-tiwari/post/117629</a> says that this verse belongs to the <i>Nītratna</i> . I could not find this text.	162
■ The provisional edition should be modified accordingly.	164
■ There, Dalhaṇa commented that deliberation on <i>avapīḍa</i> had been done earlier when it was mentioned. Find that description to know more details.	166
■ Search for the section where the treatment of <i>ākṣepaka</i> is described.	168
■ Make the first letter of sentence capital.	168
■ ?	174
■ ?	174
■ ?	174
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■ Is Dh. the teacher of Su. elsewhere?	185
■ Cf. Arthaśāstra 1.21.8.	186
■ I'm still unhappy about this verse.	189

■ Mention this in the introduction as an example of the scribe knowing the vulgate. . . . .	189
■ fn about sadyas+ . . . . .	189
■ Bear's bile instead of deer's bile. . . . .	190
■ punarṇavā in the N & K MSS . . . . .	191
■ śrīta for śrīta . . . . .	191
■ Medical difference from Sharma. . . . .	192
■ example where the vulgate clarifies that these should be used separately; appears to be a gloss inserted into the vulgate text. . . . .	192
■ The two uses of prāpta are hard to translate. prāptāḥ → kṣipram is an example of the vulgate banalizing the Sanskrit text to make sense of a difficult passage. . . . .	192
■ ✓ vyadh not ✓ vedh (also elsewhere and for the ears), causative optative. . . . .	192
■ write footnote: don't repeat ativiśā; vulgate similar to H. . . . .	215
■ Clarify. . . . .	218
■ Or "There are 20 phaṇins and 6 maṇḍalins. The same number are known. There are 13 Rājimats." Or even, "there are 20 Phaṇins and six of them are Maṇḍalins." Are phaṇins really the same as darvīkaras? . . . . .	223
■ grammar . . . . .	224
■ ri- ṛ-? . . . . .	227
■ varṇa means "colour" elsewhere? . . . . .	228
■ write note on pariṣekān pradehāṁś . . . . .	240
■ where is cutting with a knife related to removing bile or phlegm. . . . .	300
■ maṣī burned charcoal. Find refs. . . . .	300
■ find ref. . . . .	306
■ Check out these refs. . . . .	306
■ meaning of kalpa . . . . .	306
■ or a dual? . . . . .	311
■ See chapter 40 of Sūtrasthāna. . . . .	370
■ vasā / medas / majjan . . . . .	370
■ Does bhūtādi a compound or it means ahaṅkāra or ego? . . . . .	371
■ triad? –DW . . . . .	371

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