

A Translation of the Nepalese Text of the  
*Suśrutasamhitā*

Dominik Wujastyk    Jason Birch    Andrey Klebanov  
Lisa A. Brooks    Paras Mehta    Madhusudan Rimal  
Deepro Chakraborty    Harshal Bhatt    Jane Allred  
et alii

Draft of 11th July 2024  
© The Authors



# Contents

<b>Part 1. Sūtrasthāna</b>	<b>11</b>
<b>Sūtrasthāna 1: The Origin of Medical Knowledge</b>	<b>13</b>
Literature . . . . .	13
Translation . . . . .	13
<b>Sūtrasthāna 2: The Initiation of a Student</b>	<b>21</b>
Literature . . . . .	21
Translation . . . . .	21
<b>Sūtrasthāna 3: The Table of Contents</b>	<b>23</b>
Literature . . . . .	23
Translation . . . . .	23
<b>Sūtrasthāna 13: On Leeches</b>	<b>25</b>
Literature . . . . .	25
Translation . . . . .	25
<b>Sūtrasthāna 14: On Blood</b>	<b>33</b>
Previous scholarship . . . . .	33
Translation . . . . .	33
<b>Sūtrasthāna 16: Repairing Pierced Ears</b>	<b>41</b>
Previous literature . . . . .	41
Translation . . . . .	41
<b>Sūtrasthāna 28: Unfavourable Prognosis in Patients with Sores</b>	<b>51</b>
Literature . . . . .	51
Translation . . . . .	51

<b>Sūtrasthāna 46: The Rules about Food and Drink</b>	<b>53</b>
Introduction . . . . .	53
 <b>Part 2. Nidānasthāna</b>	 <b>55</b>
<b>Nidānasthāna 1: The Diagnosis of Diseases Caused by Wind</b>	<b>57</b>
Literature . . . . .	57
Subject matter . . . . .	57
Translation . . . . .	57
 <b>Part 3. Śārīrasthāna</b>	 <b>67</b>
<b>Śārīrasthāna 2: On Semen and Menstrual Fluid</b>	<b>69</b>
Literature . . . . .	69
Translation . . . . .	69
Diagnosis by humours . . . . .	70
Therapies for menstrual blood . . . . .	73
During menstruation . . . . .	74
 <b>Śārīrasthāna 3: On Conception and the Development of the Embryo</b>	 <b>79</b>
Literature . . . . .	79
Translation . . . . .	79
 <b>Part 4. Cikitsāsthāna</b>	 <b>87</b>
<b>Cikitsāsthāna 4: On the Treatment of Wind Diseases</b>	<b>89</b>
Literature . . . . .	89
Translation . . . . .	89
 <b>Cikitsāsthāna 5: On the Treatment of Serious Wind Diseases</b>	 <b>97</b>
Literature . . . . .	97
Translation . . . . .	97
 <b>Cikitsāsthāna 15: On Difficult Delivery</b>	 <b>109</b>
Literature . . . . .	109
Translation . . . . .	109

**Part 5. Kalpasthāna 113****Kalpasthāna 1: Protecting the King from Poison 115**

Introduction . . . . . 115

Literature . . . . . 116

Manuscript notes . . . . . 116

Translation . . . . . 117

[Threats to the king] . . . . . 117

**Kalpasthāna 2: Poisonous Plants 125**

Introduction . . . . . 125

Literature . . . . . 126

Translation . . . . . 126

Hello world.

## **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>1</sup>

## Translation

- 1 Now I shall narrate the chapter on the origin of this knowledge.<sup>2</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>3</sup>

---

<sup>1</sup> [HIML](#): IA, 203–204.

<sup>2</sup> Ḍalhaṇa 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 *Suśrutasaṃhitā* (Wujastyk 2013b: 148; Klebanov 2021a: § 3.1.2; Rai 2019; Birch, Wujastyk, Klebanov, Parameswaran, et al. 2021). On the figure of Dhanvatari in medical literature, see [HIML](#): IA 358–361.

<sup>3</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 *Suśrutasaṃhitā*.” 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 *Suśrutasaṃhitā* 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 (*vedanābhighāta*), 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. 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>4</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 “Now, a collection of the characteristics of each component of *Āyurveda*.
- 9 “Among them, [the component] called surgery has the goal of extracting various grasses, wood, stone, dust, iron (?), 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.
- 10 “[The component] 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.
- 11 “[The component] 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.
- 12 “[The component] called knowledge of spirits is for appeasing demons by pacification rites and making food offerings for those whose minds

---

4 Svayambhū is another name for Brahṃā, the creator.

- have been possessed by gods, their enemies,<sup>5</sup> Gandharvas, Yakṣas, demons, deceased ancestors, Piśācas, Vināyakas,<sup>6</sup> Nāgas and evil spirits that possess children.
- 13 “[The component] 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.
- 14 “[The component] 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>7</sup>
- 15 “[The component] called the discipline of rejuvenation is maintaining youth, bringing about a long life and mental vigour and for curing diseases.
- 16 “[The component] 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.
- 17 “Thus, this Āyurveda is taught with eight components.”  
“Among these [components], tell us which is for whom.”
- 18 They said, “After you have conveyed the knowledge of surgery, teach us everything.”
- 19 He said, “So be it.”
- 20 They then said, “Having considered the view of all of us, when we are unanimous, Suśruta will question you. We too will learn what is being taught to him.”
- 21 He said, “So be it.”
- 22 “Now, as is well-known, the aim of Āyurveda is eliminating the disease of one who have been assailed by disease and protecting the healthy; Āyurveda is [that knowledge] in which they find a long life, or that by which long life is known. Learn its best component (i.e., surgery),

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

6 The vulgate doesn’t have *vināyakas* but does add *asuras*, probably under the influence of Ḍaḷhaṇa. Cite Paul Courtwright, Ganesha book.

7 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 (*sarīṣṛpa*) in the list, it does seem that MS K had a shorter list, and the vulgate edition adds rodents (*mūṣika*).

which is being taught in accordance with tradition, perception, inference and analogy.

23 "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.'

24 "And also, of the eight disciplines of Āyurveda, [surgery] 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.

25 "Therefore, [surgery] is eternal, meritorious, leads to heaven, brings renown, bestows a long life, and affords a livelihood.

26 "Brahmā said this, 'Prajāpati learned it. From him, the Aśvins. From the Aśvins, Indra. From Indra, I. In this world, I will transmit to those who desire it for the benefit of people.'  
[There a verse about this].<sup>8</sup>

27 *For, I (i.e., Brahmā) 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>9</sup>

28 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>10</sup> Alternatively, it can be considered as being fivefold. The multitude of beings in it are fourfold: they are termed "sweat-born, stone-born, caul-born and egg-born".<sup>11</sup> Where they are concerned, the human being is the main thing; others are his

8 This is an expansion of the scribe's abbreviation *bha* for *bhavati cātra ślokaḥ* "There is a verse about this" (sometimes plural).

9 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.

10 See Wujastyk 2004.

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

- support. Therefore, the human being (*puruṣa*) is the locus.
- 29 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 (*vaiṣamya*) in wind, bile, phlegm and blood.<sup>12</sup>
- The mental (*mānasa*) ones, caused by desire (*icchā*) and hatred (*dveṣa*), include: anger (*krodha*), grief (*āśoka*), misery (*dainya*), overexcitement (*harṣa*), lust (*kāma*), depression (*viṣāda*), 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 (*adhiṣṭhāna*) in the mind and body.
- Scarification (*lekhana*), nourishment (*bṛṇhaṇa*), purification (*saṃśodhana*), pacification (*saṃśamana*), diet (*āhāra*) and regimen (*ācāra*), properly employed, bring about their cure.
- 30 Furthermore, food is the root (*mūla*) of living beings as well as of strength (*bala*), complexion (*varṇa*) and vital energy (*ojas*). It depends on (*āyatta*) the six flavours (*rasa*). Flavours, furthermore, have substances as their substrate (*āśrayin*). And substances are remedies (*oṣadhī*).<sup>13</sup> There are two types: stationary (*sthāvara*) and moving (*jaṅgama*).
- 31 Of these, there are four types of stationary ones: fruit trees (*vanaspati*), flowering trees (*vrkṣa*), herbs (*oṣadhi*) and shrubs (*vīrudh*).<sup>14</sup> Amongst these, the “fruit trees” have fruit but no flowers.<sup>15</sup> The “flowering trees” have flowers and fruit. The “herbs” die when the fruit is ripe. “Shrubs”

<sup>12</sup> Note that four humoral substances are assumed here.

<sup>13</sup> Pāṇini 6.3.132 provides that the final vowel of the noun *oṣadhi* may be lengthened (→*oṣadhī*) 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 *oṣadhī*. This form is in fact not uncommon in medical literature as well as in epics, purāṇas, smṛtis, and other parts of Sanskrit literature.

<sup>14</sup> Ca.sū.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, *vanaspati* is a tree with fruit, and *vānaspatya* is a tree with fruit and flowers.

<sup>15</sup> The MSS agree in reading *phalavantyaḥ* “having flowers” which is grammatically non-standard. This form is also found in the *Viṣṇudharmottarapurāṇa* (1.92.27, 1.92.27 *Viṣṇudh.*: 56r).

put out shoots.

- 32 As is well known, moving remedies are also of four types: those born in in a caul (*jarāyujā*), those born from eggs (*aṇḍajā*), those born of sweat (*svedajā*), and shoots (*udbhīd*). Amongst these, those born in a caul include animals (*paśu*), humans, and wild animals (*vyāla*). Birds, creepy-crawlies (*sarīsrpa*) and snakes are “born of eggs.” Worms (*kṛmi*), small insects (*kunta*) and ants (*pipīlika*) and others are born of sweat.<sup>16</sup> Shoots include red velvet mites (*indragopa*) and frogs (*maṇḍūka*).<sup>17</sup>
- 33 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>18</sup> are useful; among the moving remedies pelt (*carman*), hair, nails, and blood (*rudhira*) and so forth.
- 34 And earth products (*pārthiva*) include gold and silver.<sup>19</sup>
- 35 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 (*varṣā*) 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>20</sup>
- 36 These naturally cause accumulation (*sañcaya*), irritation (*prakopa*), pacification (*upaśama*) and alleviation (*pratīkāra*) of the humours (*doṣa*). And they have practical purposes (*prayojanavat*).

[There are verses about this:]<sup>21</sup>

- 37 *This fourfold category is taught by physicians as a cause for the agitation and quelling of bodily diseases.*<sup>22</sup>

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

17 On *indragopa*, see Lienhard 1978.

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

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

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

21 See footnote 8.

22 On the topic of the “group of four,” the commentator Ḍalhaṇa considers them to be “food, behaviour, earthen products and items created by time.” He refers to

- 38      *There are two kinds of invasive diseases. Some certainly<sup>23</sup> affect (ni√pat) the mind, others the body. Their treatment (kriyā) is of two kinds too.*
- 39      *For those that affect the body there is physical (śārīravād) therapy, whereas for those that affect the mind there is the collection (varga) of desirable sensory experiences like sound that bring comfort (sukha ).*
- 40      *Along these lines (evam), this brief explanation of the four factors (catuṣṭaya) is given:*
- human being (*puruṣa*),
  - disease (*vyādhi*),
  - 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 (*āgantū*) 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.
- From the mention of the word “time,” every single teaching about the times for procedures is meant.

[There is a verse about this:]<sup>24</sup>

---

the author of the lost commentary entitled *Pañjikā*, and to Jejjāṭa (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).

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

24 See footnote 8.

- 41        *This seed of medicine has been declared in brief. Its explanation will be given in one hundred and twenty chapters.*<sup>25</sup>
- 42        There are one hundred and twenty chapters in five sections (*adhyāya*).<sup>26</sup> In that regard, having divided them, according to their subject matter, into the Ślokaśthāna, the Nidāna, the Śārīra, the Cikitsita and the Kalpa, we shall mention this in the Uttaratantra.<sup>27</sup>
- [There is a verse about this:]<sup>28</sup>
- 43        *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.*

25 This is the number of chapters in the first five sections of the work, namely the *Sūtra*-, *Nidāna*-, *Śārīra*-, *Cikitsā*- and *Kalpa-sthānas*. These have 46, 16, 10, 40 and 8 chapters respectively. The *Uttaratantra* has 66 chapters.

26 On *viṃśa* in the sense of “greater by 20” see P.5.2.46 *śadantaviṃśateś ca*.

27 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 *Uttaratantra* (Su 1938: 1.3–4ab) there is indeed a statement that picks up the point about there being 120 chapters.

28 See footnote 8.



# Sūtrasthāna 2: The Initiation of a Student

## Literature

[HIML](#): IA, 204; Preisendanz [2007](#); Wujastyk [2012](#): 82–83, *et passim*.

## Translation



# Sūtrasthāna 3: The Table of Contents

Literature

Translation

1  
54 <sup>29</sup>



# Sūtrasthāna 13: On Leeches

a

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of studies on Indian leeches and their application.<sup>30</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>31</sup>

More recently, Brooks has explored the sense of touch in relation to leeching and patient-physician interactions.<sup>32</sup>

## Translation

- 1 And now we shall explain **the chapter** about leeches.
- 2 [3] 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.
- 4 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>33</sup>

---

<sup>30</sup> [HIML](#): IA, 209; IB, 324, n. 131.

<sup>31</sup> Siddiqi 1959: 96–109; Azeez Pasha 1971; Storey 1971: 231–232; [HIML](#): IB, 324, n. 128; Speziale 2019: 8–9.

<sup>32</sup> Brooks 2020a,b; 2021a,b.

<sup>33</sup> This sentence is hard to construe grammatically, although its meaning seems clear. In place of विशेषस्तु, Cakrapāṇidatta and Ḍalhaṇa both read विशेषतस्, which helps in-

5 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>34</sup>

5a *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>35</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>36</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>37</sup>

9 Leeches are called “*jala-āyu-ka*” because their life (*āyu-*) is in water (*jala*).<sup>38</sup> “Home” (*okas*) means “dwelling;” their home is water, so they are called “water-dwellers (*jalaukas*).”

terpretation (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 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 विस्राव्यं शृङ्गजलौकालाबुभिर्गृहीयात्. This insertion is not included in the earlier edition of the vulgate, but is replaced by स्निग्धशीतरूक्षत्वात् (Su 1931: 54). Ḍalhaṇa noted that, “this reading is discussed to some extent by some compilers (निबन्धकार), but it is definitely rejected by most of them, including Jejjhaṭa.”

34 The vulgate replaced “smooth” with “hot.”

35 This passage is not found in the vulgate, but it is similar to the passage cited by Ḍalhaṇa 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).

36 Note that the particular qualities (*guṇas*) of the leech in this and the following verses counteract the quality of the affliction. See Brooks 2018: 113, table 1.

37 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.

38 The lexeme *-āyu-* is known almost exclusively from the *R̥gveda*.

- 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>39</sup>
  - Rainbow (*indrāyudhā*)
  - Oceanic (*sāmudrikā*)
  - Cow-praising (*govandanā*)<sup>40</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>41</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>42</sup>

<sup>39</sup> Treating गर्दा as गल्दा and translating as in RV 8.1.20, with Jamison and Brereton (2014: 1023, verse 20 and cf. commentary). But if गर्द is to be taken from √गर्द् then we might have "crying from the sting."

<sup>40</sup> The manuscripts all read गोवन्दना against the vulgate's गोचन्दना.

<sup>41</sup> Ḍalhaṇa and the vulgate included errhines in the list of therapies, and Ḍalhaṇa 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>42</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 (*puṇḍarikamukhī*)
- 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>43</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>44</sup> Those in

43 The compound *सिग्धमुद्गवर्णा* is supported by all the manuscript witnesses and is translated here. Nevertheless, the reading of the vulgate, that separates *सिग्धा*, f., “slimy” as an adjective for the leech, seems more plausible: “it is slimy and the colour of a mung bean.”

44 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 toponym. 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>45</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>46</sup>

- 16 They can be caught with a fresh hide or one may catch them by other means.<sup>47</sup>

---

1971: 189; Schwartzberg, Bajpai, et al. 1978: E6, p. 14, 140 *et passim*; Sen 1988: 102), 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.”

Ḍalhaṇa on 1.13.13 (Su 1938: 57) anachronistically identified “Yavana” as the land of the Turks (तुरुष्क) and “Pautana” as the Mathurā region. He also noted, as did Cakrapāṇidatta (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.

- 45 The vulgate on 4.13.14 (Su 1938: 57) includes fish in this list.

- 46 Ḍalhaṇa 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.” (विषादिविरुद्धाहारभुजः). On the use of the term विरुद्ध in the sense of “incompatible,” see 4.23.4 (Su 1938: 485). Ḍalhaṇa there noted that such foods are explained in the chapter on wholesome and unwholesome foods (हिताहिताध्याय, 1.20 (Su 1938: 94–99)).

- 47 “Fresh hide” (आर्द्रचर्मन्) may suggest that the animal skin still includes meat or blood that is attractive to a leech.

Ḍalhaṇa on 1.13.15 (Su 1938: 57) quoted “another treatise” (तन्त्रान्तरवचनात्) 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 गृहीयात् “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>48</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 diseased opening with powders of earth and cow-dung.<sup>49</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 (*śas-trapada*).<sup>50</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.

48 Pace Ḍalhaṇa on 1.13.18 (Su 1938: 57) who glossed परिक्लिष्ट "injured" as अमनोज्ञदर्शन "disagreeable looking."

49 Ḍalhaṇa on 1.13.19 (Su 1938: 57) read अरुजम् (n.), against the vulgate's अरुजः; Cakra-pāṇidatta on this verse (Su 1939: 98) read अरुजः. 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 dessicating powders should be applied to a diseased wound.

50 On पद as a "mark," "imprint," or "place of application," cf. 4.1.29 (Su 1938: 399), 5.4.15 (Su 1938: 571), etc. See footnote 467.

- 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>51</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>52</sup>

*One that protects its deflated head with its body, suddenly curls up and makes the water warm is traditionally said to have Indrapada.<sup>53</sup>*

Thus, one should keep such a one as before.<sup>54</sup>

- 23 After observing the proper or improper flow of the blood, one should rub the opening made by the leech with honey.<sup>55</sup> Alternatively, one may bind it up and smear it with ointments that are astringent, sweet, oily and cold.

- 24 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.*

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

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

52 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 Brooks forthcoming.

53 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 l-मद confusion about the name of this condition.

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

55 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 Blood

## Previous scholarship

Meulenbeld offered both an annotated summary of this chapter as well as a study specifically on the place of blood in Ayurvedic theory.<sup>56</sup>

## Translation

- 1 Now we shall declare the chapter about blood.
- 2
- 3 Food is of four types.<sup>57</sup> It is endowed with six tastes and is made of the five elements.<sup>58</sup> It has either two or eight potencies, and is endowed with many qualities. <sup>59</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

---

56 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.

57 Ḍalhaṇa on 1.14.3 (Su 1938: 59) said that the four types of food are those that can be drunk, licked, eaten and chewed (पेयलेह्यभोज्यभक्ष्य). The main text of the *Carakasamhitā* is explicit about these categories at 4.3.4(1) (Ca 1941: 308): पानाशनभक्ष्यलेह्य । “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) is a treatise on food in āyurveda.

58 *Idem*, Earth, water, fire, air, space

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

sideways—and doing so day after day owing to the reaction of past activities that are caused by the invisible,<sup>60</sup> it satisfies the entire body, enlivens it, prolongs it,<sup>61</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>62</sup> and due to attributes such as mobility, lubrication, enlivening, satisfaction, and supporting.<sup>63</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>64</sup> That is due to the embryo being fiery and moist.<sup>65</sup>
- 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.*

- 60 अदृष्ट (unseen): Doing any righteous or unrighteous action produces good merit and demerit respectively. This good merit and demerit are called अदृष्ट (invisible) because it cannot be directly known but can only be assumed through logical deduction.
- 61 In the sense of prolonging its lifespan
- 62 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.”
- 63 The duality being discussed here is that of the essential qualities of Fire and of Soma (agni and soma). See further discussion by Wujastyk (2004) and Angermeier (2021).
- 64 Ḍalhaṇa commented that this is to distinguish the menstrual blood from regular blood that is gentle.
- 65 Ḍalhaṇa commented here that the embryo is called such because the menstrual blood is fiery and the semen is gentle (सौम्य). On the fiery/moist distinction (आग्नेय/सौम्य), see Wujastyk 2004; Angermeier 2021.

- 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>66</sup> chyle by administering food and drink, being nicely disciplined with food<sup>67</sup>.*

- 13 The verbal root *rasa* means movement.<sup>68</sup> Because it keeps moving day after day, it is called *rasa* (chyle).<sup>69</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>70</sup> is 18,090.*

*This is the particular transformation period regarding chyle that lasts for a person with mild fire<sup>71</sup>. For a person with developed fire, one should know it to last for the exact same time<sup>72</sup>*

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

67 आहारेण - 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.

68 **kunj-1907**

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

70 duration of chyle in all the body tissues as a whole

71 Perhaps this refers to the digestive fire.

72 Although the vulgate does not have this verse, there is an argument presented in Ḍalhaṇa'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. Ḍalhaṇa said that this opinion is refuted by Gayadāsa Ācārya in many different ways. Ḍalhaṇa 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.

- 16 Resembling the expanse of sound, flame, and water, that entity moves along in a minute manner throughout the entire body<sup>73</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>74</sup>, it,<sup>75</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>76</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>77</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, 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>78</sup> just as bile. The blood that has the combined characteristics of vitiations of two humours is vitiated by two humours.

73 Ḍalhaṇa 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.

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

75 fragrance

76 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.

77 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.

78 Y. T. 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."



- 
- 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 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, [fox-tail 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 babool](#), [granthi](#), [axlewood](#), and *dhanvana* (Camelthorn), or a linen cloth<sup>79</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 soup<sup>80</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>81</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.*

79 [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.

80 Based on Ḍalhaṇa's comment as found in [Su 1938](#): 66

81 This refers to the digestive fire.

- 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>82</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"

82 Ḍalhaṇa comments (Su 1938: 66) that one should purify the blood again by sedation, etc.



# Sūtrasthāna 16: Repairing Pierced Ears

## Previous literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>83</sup> A book on this topic, arising out of the present project, with edition, translation and discussion of the Nepalese transmission is published by Wujastyk, Birch, Klebanov, et al. 2023.

## Translation

1 Now we shall expound the method for piercing the ear.<sup>84</sup>

---

83 [HIML](#): IA, 211–212317.

84 The topic of piercing the ear (*kaṇavyadha*) is not discussed in the *Carakasamhitā* ([HIML](#): IB, 326, n. 175), but it is mentioned in some texts that followed the *Suśrutasamhitā*, such as the *Kaśāpyasamhitā* ([HIML](#): IIA, 30). Also, the instrument for piercing the ear is described in the *Aṣṭāṅgaśāstrīdayasamhitā* 1.26.26 ([Ah 1939](#): 321). In the versions of the text known to Ḍalhaṇa ([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, Wujastyk, Klebanov, Parameswaran, et al. 2021.

When commenting on this statement, Ḍalhaṇa ([Su 1938](#): 76) and Cakrapāṇidatta ([Su 1939](#): 125) observed that only the ears of healthy people should be pierced, and they quoted the lost authority Bhoja to affirm this: “When piercing the ears of chil-

- 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>85</sup> on the lap of a wet-nurse.<sup>86</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>87</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>88</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 been pierced in the right place.<sup>89</sup>

dren 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-वेधनी rather than व्यधनी.

- 85 The causative form व्यधयेत् 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.
- 86 The versions of 1.16.3 known to Cakrapāṇidatta (Su 1939: 126) and Ḍalhaṇa (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 Ḍalhaṇa's gloss "a man who holds the child." Also, both versions add बालक्रीडनकैः 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 Ḍalhaṇa on 1.16.3 (Su 1938: 76), the toys include replica elephants, horses, bulls and parrots. Ḍalhaṇa further mentions that others read भक्ष्यविशेषैर्वा ("or by special treats") before बालक्रीडनकैः, but we see no trace of these small kindnesses in our witnesses.
- 87 The versions of 1.16.3 of Cakrapāṇidatta (Su 1939: 126) and Ḍalhaṇa (Su 1938: 76) add that this naturally-occurring cleft is illuminated by a ray of sunshine (आदित्यकरावभासिते). 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 absolutes.
- 88 Ḍalhaṇa 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" (Lakṣmaṇa-ṭippanāka) 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 Suśrutasamhitā that was available to Ḍalhaṇa in twelfth-century Bengal. See Meulenbeld (HIML: IA, 386).
- 89 At this point, MS Kathmandu KL 699 is missing a folio, so the rest of this chapter is

- 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>90</sup>
- 5 Having removed the wick (*vartti*) because of the accumulation of humours or an unsatisfactory piercing at that location,<sup>91</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>92</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>93</sup>
- 7 Once the ear is free from humours or side-effects, one should put in a light dilator (*pravardhanaka*) in order to enlarge it enough.<sup>94</sup>

---

constructed on the basis of witnesses MS Kathmandu NAK 5-333 and MS Kathmandu NAK 1-1079.

- 90 This passage is significantly augmented in Cakrapāṇidatta's and Ḍalhaṇa'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.'
- 91 In addition to these reasons, Ḍalhaṇa at 1.16.6 (Su 1938: 77) added "because of piercing with a painful, crooked and unsatisfactory needle" (क्लिष्टजिह्वाप्रशस्तसूचीव्यधात्) and "because of a wick that is too thick" (गाढतरवर्तित्वात्). Ḍalhaṇa 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).
- 92 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.
- 93 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).
- 94 Cakrapāṇidatta on 1.16.6 (Su 1939: 127) and Ḍalhaṇa 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*,

- 8 A person's ear enlarged in this way can split in two, either as a result of the humours<sup>95</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>96</sup> They are as follows: Rim-join (*nemīsandhānaka*), Lotus-splittable (*utpalabhedyaka*), 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 (*saṃkṣipta*), Reduced-ear (*hīnakarṇa*), Creeper-ear (*vallīkarṇa*), Stick-ear (*yaṣṭīkarṇa*), and Crow's lip (*kākauṣṭha*).<sup>97</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>98</sup>
Take-away:	the flaps are missing, in fact, on both sides.
Ready-split:	the flaps are like a dais ( <i>pīṭha</i> ).
Multi-joins:	one flap is small, the other thick, one flap is equal, the other unequal.
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.

the *neem tree* and *tree cotton*. Ḍalhaṇa added that it can also be made of lead and should have the shape of the *datura* flower. The manuscripts have variant readings for लघुप्रवर्धनकमामुञ्चेत् 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.

- 95 Ḍalhaṇa 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.
- 96 The Nepalese version uses the word सन्धान 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 Ḍalhaṇa'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.
- 97 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 Wujastyk 2003b: 154).
- 98 For an artist's impression of this join, see Majno 1975: 291 (reproduced as Figure 3.3 in Wujastyk 2003b: 155).



These ten options for joins of the ear should be bound. They can mostly be explained as resembling their names.<sup>99</sup> The five from compressed (*saṃkṣipta*) on are incurable.<sup>100</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>101</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>102</sup> And in this regard, he should particularly gather<sup>103</sup> top layer of fermented liquor, milk, water, fermented rice-water, and powdered earthenware crockery (*kapālacūrṇa*).<sup>104</sup>

99 Cakrapāṇidatta on 1.16.9–13 (Su 1939: 128–129) and Ḍalhaṇa 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*).

100 Ḍalhaṇa 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.

101 The version of 1.16.11–13 known to Ḍalhaṇa (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 *Suśrutasaṃhitā* 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 Ḍalhaṇa (Su 1938), even in instances like this where Cakrapāṇidatta’s commentary indicates that he was reading a different version of the *Suśrutasaṃhitā*. See further the discussion on p. ?? above.

102 *Suśrutasaṃhitā* 1.5 (Su 1938: 18–23), probably verse 6 especially, that lists the equipment and medications that a surgeon should have ready.

103 The reading in the Nepalese manuscripts of विशेषतश्चाग्नोपहरणीयात् has been emended to विशेषतश्चाग्नोपहरेत् to make sense of the list of ingredients, which is in the accusative case. Also, the repetition of अग्नोपहरणीयात् in the Nepalese version suggests that its second occurrence, which does not make good sense here, is a dittographic error.

104 The term कपालचूर्ण is unusual. Ḍalhaṇa (Su 1938: 79) defines it as the powder of fragments of fresh earthen pots and Cakrapāṇidatta (Su 1939: 129) as the powder of earth-

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>105</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>106</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>107</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>108</sup>*
- 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*

enware vessels.

<sup>105</sup> There are syntactic difficulties in this sentence. We have adopted the reading in Ḍalhaṇa’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>106</sup> *Suśrutasaṃhitā* 4.1 (Su 1938: 396–408).

<sup>107</sup> 1.16.17 of Ḍalhaṇa’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 Ḍalhaṇa’s version.

<sup>108</sup> In his edition of *Suśrutasaṃhitā*, 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 three days and one should renew the cotton bandage after three days’ (आमतैलेन त्रिरात्रं परिषेचयेत्त्रिरात्राच्च पिचुं परिवर्तयेत्).

- (*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 ??, scavenging and seed-eating birds, and creatures that live in marshes or water,<sup>109</sup> fat, marrow, milk, and sesame oil, and white mustard oil.<sup>110</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>111</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>112</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>113</sup>
- 17 *In this tradition, experts know countless repairs to ears. So a physician who is very intent on working in this way may repair them.*<sup>114</sup>

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

110 Ḍalhaṇa's version of 1.16.19 (Su 1938: 79) includes ghee. However, Ḍalhaṇa'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. Ḍalhaṇa 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.

111 The version of of this verse known to Ḍalhaṇa (vulgate (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, Ḍalhaṇa (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.

112 For these aims (i.e., healing and enlarging the ear), the text known to Ḍalhaṇa (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 *Suśrutasaṃhitā* known to him may not have included them.

113 Ḍalhaṇa'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.

114 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 Ḍalhaṇa (Su 1938: 80) stated that some read

- 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>115</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>116</sup> with the same measurements, off the cheek, the end of the nose is then scarified.<sup>117</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>118</sup> Having caused it to be raised,<sup>119</sup> the powder of sappanwood,<sup>120</sup> liquorice and Indian barberry should be sprinkled on it.<sup>121</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

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. Ḍalhaṇa went on to say that some believe that these verses were not composed by sages and, therefore, do not read them.

- 115 The order of verses 17 and 18 is reversed in Ḍalhaṇa's version (Su 1938: 80).
- 116 The version of 1.16.28b known to Ḍalhaṇa (Su 1938: 81) reads "bound, connected (*bad-dham*)" instead of "slice of flesh (*vadhra*)."<sup>116</sup> 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 Wujastyk 2003b: 67–70).
- 117 Or 1.16.20 could be mean, '... 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, Ḍalhaṇa (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.
- 118 Ḍalhaṇa 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.
- 119 The Sanskrit term उन्नामयित्वा in 1.16.21 is non-Pāṇinian.
- 120 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 Ḍalhaṇa has पत्तङ्ग (1.16.29 (Su 1938: 81)) and this term is propagated in modern dictionaries.
- 121 Ḍalhaṇa glossed अञ्जन as रसाञ्जन, elixir salve (Su 1938: 81).

- instructions specific to him.*<sup>122</sup>
- 23 *And once healed and really come together, what is left of that slice of flesh (vadhra) should then be trimmed.*<sup>123</sup> *If it is reduced, however, one should make an effort to stretch it, and one should make its overgrown flesh smooth.*<sup>124</sup>

---

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

123 The vulgate transmission has lost the word वध्र and replaced it with अर्ध "half," which makes little sense in this surgical context.

124 Ḍalhaṇa 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, Gayadāsa 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>125</sup>

Goswami studied the commentaries of Ḍalhaṇa 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 Indriyasthāna of the *Carakasamhitā* in their commentaries on this topic.<sup>126</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>127</sup>

---

<sup>125</sup> HIML: IA, 219.

<sup>126</sup> Goswami 2011.

<sup>127</sup> 1.1.28 (Su 1938: 7), tr. P. V. Sharma 1999–2001: 1, 21.





# Sūtrasthāna 46: The Rules about Food and Drink

## Introduction

•  
83 <sup>128</sup>

---

<sup>128</sup> This is the first place at which the term दूषीविष occurs in the *Suśrutasamhitā*. The term दोष was given important discussion by **meul**; Meulenbeld 1991; 1992; 2011. See also Das 2003: 548–550.



## **Part 2. Nidānasthāna**



# Nidānasthāna 1: The Diagnosis of Diseases Caused by Wind

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>129</sup>

## Subject matter

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.

## Translation

- 1 And now we shall explain the chapter about the aetiology of wind diseases.
- 3 After holding the feet of Dhanvantari, the foremost of the upholders of righteousness who emerged out of nectar, Suśruta makes this enquiry.<sup>130</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>131</sup>

<sup>129</sup> HIML: IA, 234. (Ruben 1954b) studied the wind doctrines in the *Carakasaṃhitā*.

<sup>130</sup> Explain the nectar myth.

<sup>131</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

add foot-note here

add refs to Divodāsa as king.

- 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>132</sup> It has inconceivable power. It is the leader of the humours<sup>133</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>134</sup>
- 9cd Now, learn from me the characteristics of wind as it moves inside the body.<sup>135</sup>
- 10 Wind connects the senses and the sense objects. Unvitiated, it maintains a state of equality between the humours (*doṣa*), the bodily tissues (*dhātu*) and heat (*agni*) and the rightness (*ānulomya*) of actions.<sup>136</sup>
- 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:

Suśruta asking about कर्म, whereas in the Nepalese version he asks only about the types of diseases. Note that Dhanvantari is here addressed as king, a title associated elsewhere with Divosdāsa.

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

133 Ḍalhaṇa on 2.1.8 (Su 1938: 257) interpreted नेता “leader” as प्रेरक “impeller.”

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

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

136 According to Ḍalhaṇa on 1.6.3 (Su 1938: 23), सम्पत्तिः=सम्पन्नता. According to Ḍalhaṇa, Gayadāsa read इन्द्रियार्थोपसंप्राप्ति but Ḍalhaṇa 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.

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 *Aṣṭāṅgahṛdayasaṃhitā* 1.1.20 (Ah 1939: 14) make abundantly clear, the expression *doṣasāmya* means “equality of humours,” as in *quantitative* equality, not balance.

1. Vital wind (*prāṇa*)
2. *udāna*
3. *samāna*
4. *vyāna*
5. *apāna*

above five types of wind remain in their state of equality and hold the body<sup>137</sup>.

- 13–14ab The wind that flows through the mouth is called the vital wind (*prāṇa*). It propels down food inside and hold the breath of life.<sup>138</sup> Vitiating Vital wind mostly causes hiccups, asthma etc. diseases.
- 14cd–15 The wind which flows upwards inside the body, which is the best among all five winds is called *udāna*. Singing, speech etc. individual things done by the same wind. Vitiating *udāna* wind mostly causes diseases above the collar bone e.g., nose, eyes, head and ears<sup>139</sup>.
- 16–17ab The *samāna* wind flows in stomach and duodenum. It helps in the digestion of food and separates the substances produced from it e.g., chyle, impurities, urine and feces. Vitiating *samāna* wind causes diseases like a chronic enlargement of spleen (*gulma*) with अग्निसङ्ग, and diarrhea etc.
- 17cd–18 The *vyāna* wind moves inside the whole body and circulates chyle and expels sweat and blood outside the body. It helps in the movements of limbs in every way. Contaminated *vyāna* wind causes all terrible diseases related to abdomen and anus.
- 19–20ab Staying in the abdomen, the *apāna* wind propels wind of body, feces, urine, semen, womb and menstruation to come out of the body at their proper time. Contaminated *apāna* wind causes terrible diseases that occur in the bladder and anus.

<sup>137</sup> According to Ḍalhaṇa स्थान=साम्य, यापयन्ति=धारयन्ति at 2.1.12 (Su1938:259). (All the manuscripts read प्राणोदानः समानश्च व्यानोपानस्तथैव च . against the vulgate's प्राणोदानौ समानश्च व्यानश्चापान एव च . हेरे, थे wओर्दस् प्राणः अन्द् उदानः हवे उन्देर्गोने दोउब्ले सन्धि.सेए (ओबे-र्लिस् २००३:पर१.८.४) )

<sup>138</sup> According to Ḍalhaṇa, प्राण stays in head, chest, throat and nose. (Su1938:259) Gaya-dāsa reads अग्नि for प्राण.

<sup>139</sup> Ḍalhaṇa suggests it also causes diseases like cough etc. (चकारादन्यादपि प्राणोदानौ, व्यानापानौ कासादीन् करोति .)

- 20cd–21ab Contaminated vyāna and apāna wind causes defect of semen and gonorrhea, while simultaneous contamination of all the five winds surely leads to death.
- 21cd–22ab I shall therefore describe all the diseases caused by the contamination of winds staying in the various places of the body.
- 22cd–24ab Contaminated wind in the stomach causes disease like vomiting, loss of consciousness, fainting, thirst, heart-seizure, pain in lateral sides of stomach. It also causes rumbling of the bowels, acute pain, inflated belly, pain while discharging urine and feces, suppression of urine and pain in the loins.
- 24cd Contaminated wind residing in the ear causes loss of function of the Newa senses.
- 25–29 Residing in the skin,<sup>140</sup> contaminated wind causes discoloration of skin, throbbing of parts of the body, dryness, numbness, itching, pricking pain, swelling. It being inherent in the flesh of body causes swelling with pain and being inherent with the fat of the body causes swelling with slight pain but do not become wound.<sup>141</sup>
- Residing in the artery it causes acute pain, contraction and filling up of the artery.<sup>142</sup> It stuns, vibrates and destroys<sup>143</sup> the muscle tissues by residing in the muscle. Residing in the joints it causes pain and swelling. Residing in the bone it causes fracture and dryness of bones which also cause to acute pain and, in the marrow, it dries up marrow which may never be cured. Residing in the semen it causes non-production and distorted production of semen.<sup>144</sup>
- 30–31ab Contaminated wind moves from the hand, foot, head, then it may be omnipresent or pervade the entire body of men and causes stiffness, convulsion, numbness and acute pain.
- 31cd–32ab Wind (5 types) mixed with other doṣas (bile etc.) in the places men-

<sup>140</sup> Ḍalhaṇa and Gayadāsa both suggest त्वक्=रस. Gayadāsa explained that chyle stays in the skin and therefore, in the verse त्वक्स्थ should be read as रसस्थ as we read secondary meaning in the sentences like गङ्गायां घोषः.

<sup>141</sup> The MS H does not read व्रणांश्च रक्तगो ग्रन्थीन् सशूलान् मांससंश्रितः . against the vulgate. (Su 1938: 261).

<sup>142</sup> According to Ḍalhaṇa सिराकुञ्चनं is also known as कुटिला सिरा (Su 1938: 262)

<sup>143</sup> Ḍalhaṇa and Gayadāsa both suggest the meaning of हन्ति for being not capable of both stretching and contraction. सन्धिगतः संधीन् हन्ति प्रसारणाकुञ्चनयोरसामर्थ्यं करोति (Su 1938: 262) ...

<sup>144</sup> Ḍalhaṇa and Gayadāsa both suggest that a distorted production विकृतां प्रवृत्तिम् is too fast, too slow, knotty and discolored.



- tioned above produces mixed types of pains.
- 34cd–35ab Prāṇa wind surrounded by bile causes vomiting and burning sensation, by phlegm it causes weakness, exhaustion, laziness and bad taste.
- 35cd–36ab Udāna wind surrounded by bile causes loss of consciousness, stupor, dizziness and fatigue, by phlegm it causes absence of perspiration, slowness of digestion, sensation of coldness.
- 36cd–37ab Samāna wind surrounded by bile causes perspiration, a burning sensation, heat and stupor, association with phlegm it causes erection in urine, feces and limbs.
- 37cd–38ab Apāna wind associated with bile causes a burning sensation, heat and the voiding of blood with urine, with phlegm it causes a feeling of heaviness in the lower part of the body and coldness.
- 38cd–39ab Vyāna wind surrounded by bile causes a burning sensation, tossing of the limbs and fatigue, by phlegm it causes stiffening limbs, uddanḍaka? and pain in the swelling.
- 40–41 Persons who are of delicate nature, follow faulty diet and lifestyle, ? also afflicted with intoxicating drinks, sexual enjoyment, exercise causes vitiation of wind and blood.??
- 42 Riding elephant, horse and camel, lifting great weights, consuming vegetables which are pungent, hot, sour, alkali and being frequently distressed situation causes contamination of wind.
- 43–44 Blood flowing in the body blocks the passage of contaminated wind which moves quickly in the body. Excessively irritated wind–being contaminated by wind and dominance of wind, it is called वातरक्त Gout<sup>145</sup>.
- 45–46 Vātarakta causes – pricking pain, dryness, loos of sensation in the feet. Contaminated Bile mixed with blood causes sharp burning sensation, excessive heat and soft swelling with red color in the feet. Contaminated Phlegm mixed with the blood causes itching in the feet. It makes feet white, cold, dry, thick and hard. All defects <sup>146</sup> in the blood contaminated by humours (wind, bile, phlegm) manifest their symptoms in the feet.
- 48 This disease spreads all over the body like rat poison by staying in feet or sometimes hands.

<sup>145</sup> In the medical term वातरक्त is known as Gout. Cakrapāṇi called it आढ्यरोगः Caraka-saṃhitā sū.14.18 and ci.28.66

<sup>146</sup> Gayadāsa suggests सर्वे दुष्टाः शोणितं चापि nominative plural instead of locative singular.

- 49 Gout spreads in the knee and the skin bursts and starts bleeding makes it incurable. It is mitigatable if it is of a year's old.
- 50-51 When vitiated wind enters in the all arteries it causes quickly convulsions again and again and because of frequent contractions (*ākṣepa*) it is called convulsions (*ākṣepaka*).
- 52-56 Because in this situation a person often sees darkness and fall, it calls spasmodic contraction (*apatānaka*) <sup>147</sup>. If wind mixed with phlegm stays excessively in the arteries, it stiffens body like a staff and it is called दण्डापतानकः epilepsy with convulsions. Vitiating wind entered in the arteries and bends the body like a bow, it is called धनुस्तम्भ Tetanus. When vitiated wind accumulated in the regions of finger, ankle, abdomen, heart, chest, and throat swiftly attack on the group of vein and ligaments, it gets a person's eyes stuck, chin stuns, side breaks and vomiting phlegm he moves inwards like a bow and this situation is known as emprosthotonos (*antarāyāma*). When vitiated wind attacks on outside ligaments, body of a person will stretch forward like a bow. In this situation, if the chest, hip or thigh break, wise men call it incurable.
- 58 Aggravated phlegm and bile mixed with wind or only vitiated wind causes fourth convulsive disease due to trauma.
- 59 Convulsions due to miscarriage, excessive bleeding, and injury are incurable <sup>148</sup>.
- 60-62 When excessively agitated and strong wind flows in the arteries which spread downward, upward, and sideways, it loses the joints and kills the other side of body. The best of physicians calls it paralysis (*pakṣāṅghāta*). <sup>149</sup> Then half of his entire body becomes inefficient and unconscious. Afflicted by wind he suddenly falls or dies.
- 62.1 Bile integrates with wind causes burning sensation, affliction, and infatuation. When it integrates with phlegm causes coldness, morbid swelling, and heaviness. <sup>150</sup>.

<sup>147</sup> Gayadāsa accepted the Nepalese reading ताम्यते which vulgate does not read. Gayadāsa gives definition of अपतानक as येनापताम्यते means a situation in that a person sees the dark.

<sup>148</sup> According to Ḍalhaṇa convulsion (*ākṣepaka*) is also known as अपतानक (Su 1938:266). He further mentions that even if fortunately, it is cured, it cripples the limb.

<sup>149</sup> In the ca.6.28.55 पक्षाघात is described as monoplegia (*ekāṅgaroga*). In that case it damages one of the limbs. In the medical terms paralysis (*apakṣāṅghāta*) is known as hemiplegia.

<sup>150</sup> This verse is not available in vulgate. It deals with the symptoms when bile and

- 63 A paralysis (*pakṣāghāta*) caused by wind <sup>151</sup> is curable with most difficulty. It becomes curable when caused by bile and phlegm mix with the wind. It becomes incurable when caused by the loss of bodily constituents.
- 64–66 Verses from 64–66 are not found in the Nepalese manuscripts. These verses discuss the term spasmodic contradiction (*āpatantraka*) which is the same as अपतानक. Ḍalhaṇa commented on ni.1.64-66 (Su 1938:267) that because of having the similar condition in both situations, some scholars do not read the अपतन्त्रक. In the verse ni.1.59 Ḍalhaṇa commented that the आक्षेपक and अपतानक is same (Su 1938:266) and again he suggested that the अपतानक and अपतन्त्रक both are similar condition. Therefore, आक्षेपक, अपतानक and अपतन्त्रक should be the same. Gaya-dāsa further commented that the Caraka has not read आक्षेपक as अपतानक and therefore described the अपतन्त्रक separately (Su 1938:267).
- 67 This verse also not found in the Nepalese Manuscripts. The verse describes rigidity of neck (*manyāsthambha*). According to Ḍalhaṇa, rigidity of neck is a prior symptom of spasmodic contradiction.
- 68–72 By speaking very loudly, eating hard foods, excessively laughing and yawning, lifting heavy loads and sleeping in an awkward position, vitiated wind lodges into face painfully and produces paralysis of the jaw-bones (*ardita*) disease. In that case, half of the face and neck become curved, head trembles, speech hindrances, deformity occurs in the eyes, eyebrows and cheeks.<sup>152</sup> Experts in diseases call this disease spasm of the jaw-bones (*ardita*).
- 73 Spasm of the jawbones cannot be cured when it stays in a person for three years, who is very weak, stays without blinking, trembles, and constantly speaks gibberish.
- 74 Arteries of Heel and toes stricken by vitiated wind prevents stretching of thighs. This disease is known as sciatica (*gṛdhrasī*).
- 75 Arteries which run to the tips of fingers from behind the roots of the upper arm affected by vitiated wind terminates all activities of arms and back. This disease is called paralysis of arms and back (*viśvañci*).

<sup>153</sup>

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

<sup>151</sup> Here the term शुद्धवात suggests the meaning of the wind that is devoid of bile and phlegm.

<sup>152</sup> Ḍalhaṇa suggests नेत्रादीनाम् इत्यादि शब्दात् भूगण्डादि उपसङ्ग्रहः

<sup>153</sup> Both the MSS N and H read विश्वञ्चि instead of the vulgate reading विश्वाची. There is no

- 76 Vitiated wind and blood in the joint of knee causes synovitis of knee joint (*kroṣṭukaśīrṣa*). In this extremely painful situation, the shape of swelling in knee joints seems like a head of Jackal.
- 77 Vitiated wind resides in the waist attacks on the arteries of thigh causes limpness (*khañja*) and when it attacks on both the thighs a person becomes lame (*paṅgu*).
- 78 A person who trembles at the beginning of walking or walks limping and whose foot joint has become loose is called lathyrism (*kalāyakhāñja*).
- 79 Vitiated wind residing in the ankle-joint causes pain when one steps on uneven ground. This disease occurs is called वातकण्टक.
- 80 Vitiated wind mixed with bile and blood cause burning sensation in feet. It should be declared as burning sensation in feet (*pādadaḥa*).
- 81 A person whose feet tingle and become insensible due to vitiation of phlegm and wind is called पादहर्ष.
- 82 Vitiated wind lying in the shoulder dries the shoulder joints and it is called अंसशोष. It also bends the arteries of shoulder, and this disease is called अवबाहुक.<sup>154</sup>
- 83 Vitiated wind singly or mixed with phlegm cover the channel of ears causes deafness.
- 84 Vitiated wind saturated with phlegm covering the arteries which conduct the sound of speech makes a person inactive (*akriya*), dumb (*mūka*). He mumbles (*mimmira*) through the nose and stammers (*gadgad*).<sup>155</sup>
- 85 Vitiated wind penetrating into the cheekbones, temporal bones, head and neck causes piercing pain in the ears. It is called ear-ache (*karṇaśūla*).<sup>156</sup>
- 86–87 The pain that arises from the bladder or feces goes down as if it were breaking the rectum and..... ? is called तूनी, whereas the pain, rising upward from the rectum extending up to the region of the intestines, is called प्रतितूनी.

such word found in other Āyurveda texts.

154 Dāhāṇa and Gayadāsa both have defined two diseases i.e., अंसशोष and अवबाहुक respectively.

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

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

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

<sup>157</sup>

- 90–91 A knotty stone-like tumour caused by wind appearing in the stomach having an elevated shape and stretched upward direction which obstructing the passage of faeces and urine should be known as वाताष्टीला. A tumour of similar shape rose obliquely in the abdomen obstructing the passage of wind, faeces and urine should be known as प्रत्यष्टीला.

Names of diseases discussed in the chapter 2.1

Gout (*vātarakta*) convulsion (*ākṣepaka*) paralysis of one side (*pakṣāghāta*) paralysis of the jaw-bones (*ardita*) sciatica (*grdhrasī*) paralysis of arms and back (*viśvañci*) synovitis of knee join (*kroṣṭukaśīrṣa*) lathyrism (*kalāyakhañja*) (*vātakaṇṭaka*) (*avabāhuka*) (*tūnī*) (*pratitūnī*) tympanites (*ādhmāna*) (*pratyādhmāna*) (*vātāṣṭhīlā*) (*pratyāṣṭhīlā*)

<sup>157</sup> There's an addition in MS N. नाभेरधस्तात् संजातः संचारी यदि वाऽचलः



## Part 3. Śārīrasthāna





# 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>158</sup> 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 anatomy that is the purification of sperm (*śukra*) and blood (*śoṇita*).
- 3 Semen (*retas*)<sup>159</sup> is incompetent to produce offspring if it is [characterized by] wind, bile, phlegm, blood (*śoṇita*),<sup>160</sup> decomposition (*kunāpa*), clumps (*granthi*),<sup>161</sup> stinking pus (*pūtipūya*), low volume (*kṣīṇa*), urine, or feces.

---

<sup>158</sup> [HIML](#): IA, 244–246.

<sup>159</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>160</sup> Note that the list begins with the four entities, wind, bile, phlegm and blood, hinting at a four-humour system (see Wujastyk 2000: 485–486).

<sup>161</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 (*kuṇapa*).<sup>162</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 feces.<sup>163</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>164</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>165</sup>

This can also be known by means of the humour, colour and pain.

In these cases, that which displays decomposition (*kuṇapa*), 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 pu-

162 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.

163 The expression “humoral colligation,” translating

- सन्निपात, refers to the simultaneous
- disorder of three humors at the same time, a condition that is difficult to treat (see Wujastyk 2016: 38 *et passim*).

164 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.

165 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.

trid pus is incurable. The other types, however, can be treated.

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>166</sup>

find out  
about ut-  
tarabasti

### Therapies 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>167</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>168</sup>
- 6.2 When the sperm is of the nature of bile, there is an enema of milk cooked with curds, **Malay beechwood** and **liquorice**. 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>169</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>166</sup> Ḍalhaṇa on 3.2.6 (**Su 1938**: 345) noted that “unction and sweating” indicates the “five treatments”: वमन, विरेचन, अनिरूह, 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>167</sup> These three recipes are not present in the vulgate text of the *Suśrutasaṃhitā*.

<sup>168</sup> -विपक्व “well cooked with...” might be interpreted as “with ripe...”.

<sup>169</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.

3.2.7 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.*

3.2.8 *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>170</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>171</sup>*

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

10.1 *In these six cases, a wise person should carry out the sequence that starts with oleation.<sup>172</sup>*

10.2–3 *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>173</sup>*

to what?

<sup>170</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 ऽपि भस्मनि “If clumps appear, it is cooked with śaṭī or in ash from a palāśa.” The vulgate edition notes in a footnote that some vulgate manuscripts add an extra line, स्नेहादिश्च क्रमः षट्प्रेतासु विजानता. The Nepalese manuscripts read this line two verses further down.

<sup>171</sup> Dalhaṇa on 3.2.9 (Su 1938: 345) noted that “what was stated before” refers to the स्व-योनिवर्धन section, i.e., Suśrutasaṃhitā 1.15.10 (Su 1938: 69), and that “what will be described” refers to Suśrutasaṃhitā 4.26 (Su 1938: 496), the chapter on weakness and strength (क्षीणबलीय).

<sup>172</sup> It is difficult to know which six cases the author intended. Dalhaṇa on 3.2.10 (Su 1938)

<sup>173</sup> This passage is hard to interpret and there are no parallels, commentary or meaningful alternate readings.

- 10.4      *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.*

10.5

10.6

10.7

10.8

10.9

10.10

10.11

10.12      And there is a verse about this@

*To purify the menstrual blood (ārtava), one should apply the procedure that finishes with a urethral installation.*

From

## Therapies for menstrual blood

- 12cd      For purifying the menstrual blood one should follow the procedure, the last of which is a urethral instillation (*uttarabasti*).<sup>174</sup>
- 13      One should use a paste (*kalka*) as well as cloths and a salutary lavages (*ācamana*).<sup>175</sup>
- 14      In case of a bad smell and the appearance of pus, or the appearance of marrow in the blood.
- 15      He should drink a decoction (*kvātha*) of **white sandalwood** or a decoction of red **sandalwood**.<sup>176</sup>

<sup>174</sup> The “procedure ending with a urethral instillation” probably refers to verse 6 above (see page 71).

<sup>175</sup> The word आचमन, normally “sipping water from the palm” is here translated “lavage” following the context and Ḍalhaṇa 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>176</sup> The name चन्दन 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-śloka here.

- 14ab When clumps (*granthi*) appear, he should drink velvet-leaf, three heating spices, and Indrajao.<sup>177</sup>
- 14a He should drink a decoction (*niḥkvātha*) that is the extracted juice (*surasa*) of a caustic (*kṣāra*), dried ginger, and devil's dung.
- ...
- 24 Thus a man has unblemished semen and a woman has pure menstrual blood.

### During menstruation

- 25 During the season (*ṛtu*), starting from the first day onwards, the chaste woman (*brahmacārīṇī*) foregoes bathing, anointments, ornaments and grooming (*vilekhana*).<sup>178</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>179</sup>

For what reason? By sleeping during the day, the fetus becomes deaf.<sup>180</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>181</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 (*√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>182</sup>

<sup>177</sup> On ग्रन्थि, see note 161.

<sup>178</sup> 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 (Das 2003: 15 ff., note 27, *et passim*). Ḍalhana on 3.2.25 (Su 1938: 347) noted that the woman's abstention should last three days from the first appearance of her menses.

<sup>179</sup> 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).

<sup>180</sup> Here, the vulgate reads स्वप्नशीलः "he tends to sleep."

<sup>181</sup> On translating कुष्ठ in Āyurvedic texts, see Emmerick 1984: 96 ff.

<sup>182</sup> This sentence is hard to construe because हविष्यं "ritual food" cannot agree with - भोजिनीं.

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 who has chanted a benediction and recited a blessing.<sup>183</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 (vicakṣaṇa) 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>184</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*, *ban-yan*, *Indian bat tree*, *country mallow*, *carray cheddie*. 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>185</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*

29, 30 missing?

Problematic passage in the edition.

<sup>183</sup> See Wujastyk, Birch, Klebanov, et al. 2023: 58 and fn. 167.

<sup>184</sup> 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.

<sup>185</sup> There is a textual problem at the start of this passage.



of field, seed, water and grass.<sup>186</sup>

- 34 Children born in this manner are beautiful, of noble character and enjoy long lives.<sup>187</sup> They provide release from obligation (*r̥ṇa*) and they themselves have children, benefitting their parents.<sup>188</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>189</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>190</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>191</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

186 The Nepalese version reads क्षेत्रबीजोदकतृणाम् “of field, seed, water and grass” in contrast to the vulgate’s ऋतुक्षेत्रामुबीजानाम् “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 cheddie*. Then the author presents a 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 Ḍalhaṇa interpreted the verse.

187 We translate महासत्त्वाः as “noble character;” Ḍalhaṇa, commenting on the vulgate reading सत्त्ववन्तः, refers to the गुणस्, interpreting the expression as “not strongly influenced by रजस् and तमस्.”

188 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 Ḍalhaṇa’s phrasing is odd in that he says पितृणामृणत्रयमोक्षणशीलाः “behaving so as to provide release from the three debts to the ancestors.”

189 The food of the mother, that is.

190 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.

191 Cf. also n., p. 177. 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 *ṭikṭikī*, *jyeṣṭhi*, *jyaisṭhi*, *gīrgiṭ*.



of phlegm, yellow eyes are a consequence of bile, and misaligned eyes  
(*vikṛtākṣa*) are a consequence of wind.



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

First draft, by Jan Gerris, 2023-12-19.

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>192</sup> Das (2003: ch 8) also studied topics of this chapter.

## Translation

- 1 We are now about to begin to explain how the embryo is conceived, nestles and develops\* once it arrives in the body.
- 3 Sperm from the male absorbs heat whereas eggs from the female release heat. With respect to this aspect, the way the different basic elements of matter behave depends on how the elements specifically react with one another and how they form bonds with one another.
- 4 The wind aggravates the heat caused by the bodily frictions during sexual intercourse between husband and wife. Hence heat and wind colligate and displace the sperm towards the

---

<sup>192</sup> [HIML](#): IA, 247–247.

vagina. There it gets combined with the female element, thanks to the matrimonial fusion of agni and saumya, and is confined towards the uterus, its new realm where it is respectfully known by many names and synonymous descriptions such as he who touches, smells, looks and sees, hears, tastes, as the animating principle of all living beings, as he who wanders, observes and witnesses, the creator, he who remains incomprehensible even though eternal. So it claimed. Because of the connection with the divine, the conceptus subsequently makes its entry into the reproductive organs, where it remains exempt from decay, imperishable and to be meditated upon, the soul of all beings that exist, marked by the concomitance of the three states-of-mind, the sattvic, the rajasic and the tamasic, and of the different Devas and Asuras, enraptured as it is by Vāyu.

- 5 When there is an excess of male sperm, boys originate. When there is an excess of the female element, girls. And when there is a balance between both, the sex of the child remains unclear.\*
- 6 A boy is conceived when on the first day of the period of twelve days of the cycle\* the desire for sexual intercourse is not endlessly postponed. It should not be disregarded that a woman who is definitely pregnant may suffer a miscarriage; a second pregnancy can miscarry as well and even in a third gestation, the body can be incomplete either in form or in number of limbs, and both the strength and the life expectancy can be limited. This is the reason why one should avoid three-nightly intervals. There are also patients who do not exhibit produce menstrual periods or have no sperm production and who do not return to normality.\* For that reason, if sperm production has to be observed, a man should avoid the habit of three-nightly advances. In such cases, even after having observed there periods of twelve nights, yet there is no ovulation proper.\*\* Some state that these are amenorrhoeic.\*\*\*
- 7 Here are some more verses.
- 8 Lacking
- 9 As surely as by rule of nature the night-lotus folds its

- leaves, so truly a woman's yoni by law of nature is also closing\*.
- 9A The face of a woman becomes swollen, lively and because of transudation moist like that of an elephant, she longs for intimate contact with a man, talks sweetly, her belly drooping and her head let down/uncared for,...
- 9B ... her arms, breasts, hips, loins, thighs, her abdomen around the navel, her bottom and buttocks, all are trembling. And she experiences intense happiness and satisfaction, you can tell her a woman after her courses.
- 10 The Vāyu then guides the menstrual discharge that comes after being heaped up for a month through the two channels towards the opening of the yoni.
- 11 Menstruation becomes a regular feat from twelve years onwards and owing to the natural decay of functions it ends from about fifty years onwards.
- 12 So, if a man desires children, he should have intercourse with his wife during the fertile period of the cycle\* and for that particular purpose he should visit her on even days in order to beget a boy and on uneven days for a girl.\*\*
- 13 In this context, fatigue, lassitude, thirst, a feeling of exhaustion in the thighs, flatulence, an arrest of the menses - and of sperm from the yoni\* - with a sensation of shaking heat all suggest that a pregnancy has been obtained very recently.
- 14 Here are some more verses. It is claimed that a typical early sign of pregnancy is the nipples turning darker\*, the appearance, on the midline of the abdomen, of a coloured stripe, (resembling hair)\*\* and sudden vomiting.
- 15 Lacking
- 16 From the very beginning of pregnancy the woman should avoid sexual intercourse, exertion, excessive exercise, sleeping by day and waking at night, being terrified, sitting for too long in one position, being all alone, Sneha-krama and other treatments as well as blood-letting at an inappropriate time.
- 17 Lacking
- 18 So then, in the first month a kalala arises. In the second

month a ghana develops that has arisen thanks to blood, ritual oblations and by wind and has become mature with the five essential elements. If there is a lump-like structure, it will be a male. If the structure is oblong or *peśī*, a girl; if there is a bud-shaped structure or *arbbuda*, an individual with undifferentiated external sexual features.\* In the third month five protrusions (of hands, feet and head) result from the process of development. All limbs and all minor body parts become distinguishable (though still) very minute. In the fourth month all limbs and minor body parts become manifest. In the fifth month all limbs and minor body parts become even more individualized. Owing to the formation of an individualized fetal heart, consciousness becomes a distinct separate constituent which is why during the fourth month, that foetus, from the appearance of that organ onwards, forms desires from (all five) objects of sense. Henceforth the lady becomes the double-hearted (or pregnant) one and she makes her desires known. The two-hearted/pregnant one, (if) disrespected, causes a child to be born who is .....  
(*kukukūṇiṣṇaṇṇm*), dwarfish, with eye defects, blind, .....  
(*vānārīsutam*). That on which account she desires (something) is also that by means of which she can be gratified. Having obtained (to be) pregnant, she causes a son to be born who is really strong and has a long life expectancy.

- 19 And here are some more verses. Indeed that pregnant woman desires ..... (*bhoktum*) the objects of the senses during the course (of her pregnancy); for fear of injury to the foetus a physician, after having fetched these things, should give any desired object.
- 20 She should give birth to a son endowed with virtues; if the pregnant woman does not obtain (what she desires), he (the foetus?) (or she, the woman?) also becomes equally insecure him-/her-self.
- 21 With respect to all those desires of the senses in which the pregnant mother was slighted, she will give birth to a son who is defective in each of all those same corresponding

- senses.
- 22 A king in an interview with whom a woman during her pregnancy wins and she gives birth to a son who is wealthy and is highly fortunate.\*
  - 23 A pregnant woman, dressed in fine cloth, wearing silk and other things, gives birth to a charming son decorated (alaṅkā) ..... reṣiṇaṃ
  - 24 If (she goes) to a hermitage, she brings forth someone who is self-restrained and a stone-pillar of religion, resembling a godhead and begotten in the utmost happiness. Upon seeing someone in a high position designed by birth, she gives birth to a stone-pillar of violence.
  - 25 If she feels like eating the flesh of an Iguana (she produces) a son who is drowsy and who has the nature of a killer; by means of beef meat a son who is wild and who is powerful because he is savage in everything.
  - 26 When from the pregnant woman (there is a wish for meat of) buffalo a son is produced who has fearful red-eyes and who looks shaggy.
  - 27 Lacking
  - 28 Hence, she who during her pregnancy considers what people eat, wishes for her offspring the same via the food habits of the body.
  - 29 And that which has yet to happen again when the child is growing up, should be such that through divine intervention the pregnant woman should produce it during her pregnancy.
  - 30 In the fifth (month of pregnancy) the mind becomes more and more awakened; in the sixth intelligence (becomes awakened); in the seventh all the limbs and smaller body parts (are in place); if in the eighth (month) the ojas is not stable in that case the child does not live\* - he is provided with a share (of it) by the demons- so then strong excellent meat should be provided to him; if he is not yet caused to be born in the ninth, tenth, eleventh or twelfth (month), then there is something wrong.
  - 31 Furthermore, the umbilical cord is securely fastened to both juice-carrying vessels of the mother and carries the power (energy?) of the essential juice coming from the food of

the mother and what causes (the baby) to live is the distribution of the life juice,\* over all the body parts of the not yet (existing) newborn, from the beginning of conception (?) (niḥṣekān), and over (all) the transportation channels, running in all directions because of that intimate connection of the vessels.

- 32 Mainly, the developments of the foetus are: śaunakasays says that the head develops first because it is at the basis of this (development). Kṛtavīryasaysit states is the heart (which is at the base) of both intellect and mind. Pārāsa's son maintains instead that (it is) ..... (deraha?-) of the body. Mārkkandeya presumes that hands and feet are first because they are at the basis of movement in the body of the foetus. Subhūti Gautama claims all the limbs and their smaller subparts develop because of their development because the development of all the moving limbs is irretrievably connected, all turned into one and the same direction (of the thorax) together. At the time of early pregnancy, due to their extreme minuteness, they cannot be perceived, like sprouts of bamboo or seeds of mango. Thus, in the manner mango fruits becomes ripe, or as the shine of the hair of the head, or the way marrow appears in bones, step by step these things are seen more accurately, e.g. as an increase of black colour, and they become gradually apparent as the body (takes shape). Due to their feature of being so subtle, the minuteness of the hair of the head (and other examples) makes the black become apparent in this way; just so the growth of bamboo is also explained. Similarly in the beginning of a pregnancy, precisely because of the minuteness in all limbs and smaller body parts which are present, these are not well perceived (but) because of their increasing degree of blackness they become apparent.
- 33 It is claimed (that this) is not the consequence of any previous or any (bad or) excellent fate but solely because of the minuteness they\* are not being observed. In that context we shall explain features in the body that are paternal, maternal, connected with rasa, related to the soul, linked to the quietude of mind and relative to the



essence of being.\*\* Keeping this in mind, the hair of the head, tears, teeth, nails, the hair of beard and moustache, things made of hard substance (cartilage?)\* are brought about as paternal (elements). Muscle, blood, fat, marrow, the heart, the umbilicus (= the placenta? )\*\*\*\*, the liver, the spleen, the intestines, the anus are brought about as the soft maternal (elements). The increase in size of the body, the growth of the child and (its) outward appearance, the gain and loss of its erect attitude are caused by the *rasa*. The senses, consciousness, duration of life and the intensity of pleasure and pain are related to the spiritual element. We shall discuss later the *satva*-related things. Valour, healthfulness, strength, complexion and prudence depend on the existential disposition.\*\*

- 34 In this context a woman in whose right breast milk appears first,\* (whose) right flank is the larger one and leg shall be lifted first on the right side, and who is occupied for the largest part during pregnancy with things that are identified by male names, and in her sleep receives lotuses, blue lotus blossoms, Kumud-flowers, *āmṛāmrātaka*\*\* -flowers and so on, or precisely with male names, and who has an enhanced facial complexion, it is proclaimed to be likely (*bhāvetām?*) (that) it will lead to the birth of that son. In case of the opposite of this (it will lead to) a girl. She whose both sides are bent down and (whose) aforementioned belly is bulging forward, the typical feature from this knowledge is a sexless individual. She whose abdomen is sunk in the middle will produce ..... (prābhūtaṃ?) twins .
- 35 And here is (more). Women who sit down to the gods and Brahmins, have the advantage of a ceremonially pure offspring. They produce children with great qualities. In the opposite case however, they have no qualities.
- 36 The development of the limbs and the smaller anatomical parts progresses precisely all according to its own nature. The development of these limbs and the smaller anatomical parts is dependent upon the qualities and conditions which could not be known of the foetus by religion and could not

be caused by religion.\*

This is the third chapter of the śarīra.

## **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>193</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 (*ṣaḍ-dharaṇa*), together with tepid water, for seven nights.<sup>194</sup>

---

<sup>193</sup> [HIML](#): IA, 265–266.

<sup>194</sup> The vulgate has the reading छर्दयित्वा which means “after making [him] vomit”. Thus, vomiting is a part of the treatment. Whereas छर्दित 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. Ḍalhaṇa 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 *dharaṇa*. 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).)

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

Ḍalhaṇa also noted that सुखाम्बु (“pleasant water”) means “slightly warm water.”

- 4 “Six-unit” is traditionally the formulation that is leadwort, *Indrajao*, velvet-leaf, *kutki*, *Himalayan monkshood*, 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>195</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>196</sup>
- 10ab When the wind has reached the semen, one should perform the treatment for the defects of the semen.<sup>197</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 (*karṣū*), blanket sweating (*prastara*), oil massage, enema, and blood-letting.<sup>198</sup> Or, if is located in a single limb and is stuck there, a

195 On the translation of methods of medical touch, such as अभ्यङ्ग and संवाहन, see Brooks 2021b: 122–131. मर्दन, उन्मर्दन mean “pressing or vigorous rubbing.” The vulgate includes ducts (*sirā*) as an added place that wind can enter.

196 The expression “which is split” could be construed with “wind.” The word order is not obvious. Ḍalhaṇa 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.

197 Ḍalhaṇa comments (Su 1938: 421) that this treatment for the defects of the semen is mentioned [earlier] as the शुक्रशोणितशुद्धि, the purification of the semen and the blood. This is the *Śārīrasthāna* Ch. 2, शुक्रशोणितविशुद्धि.

198 These forms of sweating treatment are described in the *Carakasamhitā* (1.14.39–63 (Ca 1941: 90–92)).

Regarding blood-letting, Ḍalhaṇa on 4.4.11 (Su 1938: 421) commented that because the verse has the plural form सिरामोक्षैः, five blood vessels have to be drained of blood

- thoughtful physician may conquer it with cow-horns.<sup>199</sup>
- 12 Or, if it is mingled with phlegm (*balāsa*), bile, and blood, the physician should treat it with non-hostile remedies.<sup>200</sup> However, when the wind is inactive, he should perform blood-letting many times.<sup>201</sup>
- 13 And one should lick the milk cooked in ?? 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>202</sup>
- 14–15 Alternatively, cereal soup with a good amount of ghee is a wholesome food that repels wind. However, “*Sālvala*” is well-known to be a luke-warm and very salty substance that is 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>203</sup>
- 16ab 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 stabdha (*numb*), with a paṭṭa (*strip of cloth*) made of bark, cotton or wool (*ūrṇa*).  
Alternatively, one should put it into a skin sack  
Or, after massaging the affected body part and applying the *sālvala*<sup>204</sup>

if the wind is not pacified by oil massage, etc.

199 शृङ्ग “cow-horns” refers to bloodletting by horn; see the description at *Suśrutasaṃhitā* 1.13.5 (*Su* 1938: 55).

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

201 We read सुप्तवाते with witness H, but Ḍalhaṇa glosses सुप्ति-, the reading of the vulgate, “it is wind characterized by drowsiness (*supti*) caused by a covering of blood.”

202 The vulgate reading दिह्यात् for the Nepalese लिह्यात् changes the meaning to “one should smear.”

Ḍalhaṇa on 4.4.13 (*Su* 1938: 421) glossed पञ्चमूली as optionally the first or the second five roots. On this therapy, cf. Cakrapāṇi’s commentary on 1.5.3 (*Ca* 1941: 36) for a similar therapy.

The “juice” (रस) was glossed by Ḍalhaṇa as specifically being a meat broth (*māṃsarasa*). He said that the sourness may come from fruits such as pomegranate. रसाम्ल may mean a vinegar made from fruit (*MW*: 70), so the expression फलाम्लो रसः in the text here may mean a vinegar made from sour fruit. Cf. धान्याम्ल.

203 Cf. साल्वण “sweat from a poultice” in *Mahākośa*: 898. *Aṣṭāṅgasaṅgraha* 1.26.3a (*As* 1980: 188) describes a poultice called “*sālvala*” made with numerous ingredients (the commentator Indu elaborates, p. 189).

204 This seems to be the correct spelling as against the unclarity in the earlier verses.

poultice on it, one should insert it into a sack made of the hide of a cat, mongoose, *udra*<sup>205</sup>, or deer.

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>206</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 a one thousand measures (*mātrā*).<sup>207</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>208</sup>

21cd–26 Oils, perspiration, oil massage, enema, unctuous purging of the bowels, *śirobasti*, oiling the head, unctuous smoke, gargling with lukewarm water, *nasya*, unctuous paste, milks, meats<sup>209</sup>, soups, oils<sup>210</sup>, any unctuous substance, unctuous and salty meals that are made sour by fruits, bathing with lukewarm water, massages, saffron, ??, *cassia cinnamon*, *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.

Perhaps *kalka* here could also mean the *Terminalia Bellerica* (विभीतक).

Draft tr. from here

21cd–26 Oils, perspiration, oil massage, enema, unctuous purging of the bowels, *śirobasti*, oiling the head, unctuous smoke, gargling with lukewarm water, *nasya*, unctuous paste, milks, meats<sup>211</sup>, soups, oils<sup>212</sup>, any unctuous substance, unctuous

Perhaps *kalka* here could also mean the *Terminalia Bellerica* (विभीतक).

205 some aquatic animal

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

207 Ḍaḥaṇa on 4.2.20 (*Su* 1938: 422) interpreted मात्रा as a measure of time, citing an un-attributed 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.

208 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.”

209 The plural indicates milk and meat from various animals.

210 This is the second occurrence of the word सेहा: in this sentence. This seems to be an anomaly.

211 The plural indicates milk and meat from various animals.

212 This is the second occurrence of the word सेहा: in this sentence. This seems to be an anomaly.



and salty meals that are made sour by fruits, bathing with lukewarm water, massages, saffron, ??, *cassia cinnamon*, *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 *akṣa* quantities of unguent pastes<sup>213</sup> of *turpeth*,<sup>214</sup> ??, ??, ??, *the three myrobalans*, and *embelia*, a *Bengal quince* fruit equivalent measure of *viburnum*-root and ??, two *pātra* quantities of both *triphalā*-decoction<sup>215</sup> and yogurt, and one *pātra* measure of ghee.<sup>216</sup> One should mix these ingredients all at once and cook the mixture properly. This (resultant) is *viburnum*-ghee. Unctuous purging of bowels is prescribed for treating wind disorders.<sup>217</sup> This procedure of making *viburnum*-ghee should also be referred for making *Asoka tree*-ghee and ??-ghee.<sup>218</sup>
- 28 One should collect the wooden logs of the instruments that have been used for a long time for extracting oil from sesame seeds. One should then have them chopped into very tiny pieces and then pound those pieces. Next, one should put them in a big vessel, submerge them in water, and boil them. Thereafter, one should collect the oil from the surface of the water with a goblet or by hand. Thereafter, one should properly cook wind-alleviating herbs with this oil that was effectively cooked.<sup>219</sup> This is the *anutaila*

213 कल्क also means an unguent paste. Refer to Apte's dictionary.

214 In H, perhaps it should have been त्रिवृद् instead of तृवृत्.

215 त्रिफलारस is here taken to mean a decoction of *triphalā*.

216 The exact measurements of *akṣa* and *pātra* are given in Ḍalhaṇa's commentary in *Su 1938*: 422.

217 It should be understood here that the unctuous substance to be used for purging the bowels is the *viburnum*-ghee.

218 अशोक and रम्यक are the Ashoka and Chinaberry respectively.

219 In H, the word दन्तप्रतीवायं in the compound word वातघ्नौषधदन्तप्रतीवायं does not appear to make sense. Perhaps the syllable यं should be प, thus making the word प्रतीवापं that refers to an admixture of substances to medicines either during or after decoction. Refer to Monier-Williams's Sanskrit dictionary.

(अनुतैल)<sup>220</sup> that is mentioned in wind disorders. It is called *anutaīla* because it is produced from tiny oily objects.<sup>221</sup>

- 29 Alternatively, one should burn a great amount of ??-wood on the ground for one night. When the fire gets extinguished the ash should be removed. Then, the ground that is relieved of the fire should be soaked with a hundred pots of oil cooked with ??, ??, and other herbs, and left in that condition for one night. Thereafter, one should take all the earth that is oily<sup>222</sup> in a big vessel and totally cover it with water.<sup>223</sup> The oil that rises up in that vessel should be taken out with both hands and kept nicely covered. Thereafter, one should properly cook that oil for as long as possible<sup>224</sup> with one thousand parts of each of the following---a decoction of wind-alleviating herbs, meat soup, milk, and *kāñjika*<sup>225</sup>---and thus prepare the *sahasra-pāka* (that which is cooked with thousands). The admixture added to the oil contains the *hemavata* herbs<sup>226</sup>, herbs of the southern region, *Withania*, and other wind-alleviating herbs.

While the oil is being cooked, conchshells should be blown loudly, umbrellas should be held, huge drums should be resounded, and whisk fans should be waved.<sup>227</sup> Thereafter, the perfectly cooked oil should be poured into a golden or silver pot and stored. This *sahasra-pāka* is the oil possessing undiminishing potency and is fit for kings.

220 The न् should be read ण्.

221 The word अनु in the compound word अनुतैलद्रव्येभ्यः should be read अण्.

222 In H, the word यावन् should have been यावान्.

223 The reading in H, कटाहेभ्यः सिंचेत्, does not make sense here. Thus, we have accepted the vulgate reading कटाहे ऽभ्यासिंचेत् for the translation.

224 The phrase "यावता कालेन शक्नुयात् पक्तुम्" appears as a part of a new sentence in H. But, we should take it to be a part of the earlier sentence for it to make proper sense.

225 Ḍalhaṇa comments (Su 1938: 423) that the word अम्ल here means काञ्जिक which is the water drained after boiling rice and is a little fermented. Refer Monier Williams's Sanskrit Dictionary.

226 The word should be हैमवताः as in the vulgate. It means "the herbs of the snowy mountains". Ḍalhaṇa comments (Su 1938: 423) that हैमवताः refers to the herbs that grow in the northern region.

227 These activities are a symbolic way of showing reverence.

Thus, that which is cooked with a thousand parts is called *sahasra-pāka*.

- 30 One should collect fresh leaves of *castor oil tree*, ??, ??, *weaver's beam tree*, *Indian beech*, ??, and *leadwort*.<sup>228</sup> These leaves should be completely pounded along with salt in a mortar. This mixture should be put in a pot filled with oil<sup>229</sup>. It (pot) should be smeared<sup>230</sup> with cow-dung. Thereafter, the pot should be heated.<sup>231</sup> This (resultant) is the *patra-lavaṇa* (leaf-salt) that is mentioned in wind disorders.
- 31 In the same way, one should pound the stalks of ?? and eggplants smeared with salt and fill a pot with it.<sup>232</sup> In that pot, one should add ghee, oil, fat, and marrow. Then, one should smear it<sup>233</sup> and heat it as earlier. This (resultant) is the *sneha-lavaṇa* (fat-salt) that is mentioned in wind disorders.
- 32 One should collect the fresh fruits, roots, leaves, and branches of all the twenty [herbs]: ??, *flame-of-the-forest*, *Tellicherry bark*, *Bengal quince*, *purple calotropis*, ??, ??, ??, ??, ??, ??, ??, ??, ??, ??, *Indian beech*, ??, *poison berry*, ??, *marking-nut tree*, *Asoka tree*, ??. One should then mix them with salt and heat them as earlier.<sup>234</sup> The oil on top should be poured out completely with the salty mixture intact [at the bottom]. This mixture should be cooked thoroughly. The admixture added to it consists of *long pepper*, etc. This (resultant) is the salt called *kalyāṇaka* that is mentioned in wind disorders and in meals and drinks for the patients troubled by *plīhāgnisamga*,

Euphorbia  
An-  
tiquorum  
(Antique  
spurge)

228 In H, the ending नाम् should be णाम् due to sandhi.

229 सेहघट can also mean a pot filled with ghee

230 The H or vulgate do not specify with words that it is the pot to be smeared. But, it is to be understood.

231 The word दाहयेत् usually refers to burning, but sometimes it can refer to heating.

232 In H, there should be a *visarga* after लवणा.

233 As earlier, the pot should be smeared with cow-dung.

234 It is to be understood that all these fresh branches, leaves, fruits, and roots of the herbs should be completely pounded together with salt. The mixture should then be put into a pot filled with oil or ghee. The pot should be smeared with cow-dung and then heated.

indigestion, loss of appetite, and piles.

Thus ends the fourth chapter on the treatment of wind diseases.

# Cikitsāsthāna 5: On the Treatment of Serious Wind Diseases

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>235</sup>

## Translation

- 1 Now we shall describe the treatment of serious wind diseases.
- 2
- 3 One group says that the blood afflicted by wind (wind-blood) (*vāta-rakta*) is of two types: spreading out over a surface (उत्तान) and deep (अवगाढ).<sup>236</sup> However, this is not correct.<sup>237</sup> Why? Just as leprosy, after spreading over a surface it (afflicted blood) becomes deeply situated. Therefore, its being of two different types is refuted.
- 4 When the wind is aggravated by fighting a strong person, etc.<sup>238</sup>, one's corrupted blood caused by eating heavy or hot food before the last meal is digested blocks the path of the aggravated wind. It then combines with the wind and simultaneously creates pain due to the wind-blood.

---

<sup>235</sup> [HIML](#): IA, 266.

<sup>236</sup> Dalhaṇa comments ([Su 1938](#): 424) that उत्तान refers to being situated in the skin and flesh, and अवगाढ refers to being situated internally.

<sup>237</sup> In H, the word तन् should be तत्.

<sup>238</sup> These factors that aggravate the wind are mentioned in *Nidānasthāna*, Ch. 12, text 6.

This [condition] is called wind-blood (*vāta-śoṇita*). At first, it is situated in the hands and feet.<sup>239</sup> Later, it spreads throughout the body. Its early forms are pricking pain, burning, itching, ulcer, trembling<sup>240</sup>, roughness of the skin, pulsation in the blood vessels, tendons, and tubular vessels<sup>241</sup>, weakness of the thighs, as well as the sudden appearance of dark brown, tawny, or red spots on the soles of the feet, fingers, ankles, and wrists. The disease becomes fully manifest in the person who does not undertake the means to revert the disease or applies a wrong treatment. Its symptoms have been mentioned. Among them, weakness occurs for the one who does not counter the disease.

- 5 Generally, wind-blood occurs in those who are very delicate, those who eat the wrong foods and enjoy improperly, those who are fat, and even in those who indulge in pleasure.
- 6 In that regard, one should treat 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.
- 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>242</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>243</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>244</sup>, ??, wild asparagus, ??, and ??. This milk should then be used to cook oil with the admixture of pastes of ??, ??,

239 In H, the word तन् should be तत्.

240 In H, there should not have been the स् after स्तम्भ.

241 In addition to blood vessels, it would also include the nerves.

242 In H, the reading अम्लान does not make sense given the context. Therefore, we have accepted the vulgate reading म्लान for the translation.

243 Ḍalhaṇa glosses (Su 1938: 425) *śṛgālavinnā* as *prśniparṇī*.

244 According to Ḍalhaṇa, *śṛgālavinnā* is *prśniparṇī*.

??, ??, 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>245</sup>, ??, liquorice, giant potato, heart-leaf sida, country mallow, and ??<sup>246</sup>, with the admixture of cottony jujube, etc. Or, one should use the heart-leaf sida-oil that is cooked as śatapāka.<sup>247</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>248</sup> In that regard, five remedies prepared with milk are described. For preparing a poultice, milk should be cooked in ghee, oil, fat, marrow, and *dugdha*<sup>249</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>250</sup>, ??, ??, sugar, bulrush<sup>251</sup>, ??, and sweet flag. Or, the essence of unctuous fruits<sup>252</sup> can be used as a poultice. Or, a *veśavāra*<sup>253</sup> prepared from the flesh of a fat *cilicima* fish<sup>254</sup> can be used instead. Or, [one

245 Ḍalhaṇa glosses (Su 1938: 425) *mayūraka* as *apāmārga*.

246 Ḍalhaṇa comments (Su 1938: 425) that *halfa grass*, ??, ??, *halfa grass*, ??, and ?? are called *tṛṇa* (grass).

247 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*.

248 Ḍalhaṇa comments (Su 1938: 425) that the sour things (*amla*) are ??, Indian jujube, ??-water, etc. *Surā* is some kind of liquor, *sauvīraka* is perhaps the fruit of the jujube tree, and *tuṣa* is perhaps *Terminalia Bellerica* (विभीतक).

249 In the *Suśrutasaṃhitā*, 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.

250 *śṛgālavinnā*

251 For *kaśerukā*

252 Ḍalhaṇa comments (Su 1938: 425) that the unctuous fruits mentioned here are sesame, castor, flax, ??, etc.

253 In H, the reading वैशवारो does not make sense. It should have been वेशवारो, 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 वैशवार is an earlier form of the word वेशवार.

254 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

The webpage  
https://hindi.shabd.in/vairagya-  
shatakam-  
bhag-  
acharya-  
arjun-  
tiwari/post/117629  
says that  
this verse  
belongs  
to the  
*Nīliratna*. I  
could not  
find this  
text.

can use] the poultice containing Bengal quince-rind<sup>255</sup>, crape jasmine, deodar, ??, grey orchid, peas, costus, ??, liquor, yogurt, and whey. Or, [one can use] the ointment prepared by mixing citron, amla<sup>256</sup>, salt, and ghee with honey and horseradish 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, cassia cinnamon, triphalā, ??, and heart-leaved moonseed should be given. [The patient should be administered] ghee that is prepared with sweet, bitter, and astringent [remedies].<sup>257</sup>

[The patient] should be sprinkled with a decoction of ??, lotus stalk, sandalwood, and wild Himalayan cherry mixed with goat-milk<sup>258</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>259</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 ??, ??, scramberry<sup>260</sup>, ??, ??, turmeric, horned pondweed, sacred lotus, etc. The poultice should be mixed with ghee.

fat fish that is a नल (*cilicima*)”.

Ḍalhaṇa 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 फर्फरायते || This indicates that *rohita* is a deep water fish.

255 The word पेसिका in H should be read पेशिका.

256 Perhaps it could mean vinegar or sour curds. Refer to Monier Williams Sanskrit Dictionary.

257 Ḍalhaṇa comments (Su 1938: 425) that the sweet remedies are cottony jujube, etc., bitter remedies are pointed gourd, etc., and astringent remedies are triphalā, etc.

258 The compound word ending with कषायेण is taken to be a *bahuvrīhi* for अजाक्षीरेण (goat-milk).

259 *Jīvanīya* seems to be a group of medicinal herbs. There is an Ayurvedic preparation called *jīvanīya-ghṛta*. Refer to the *Āyurvedīya Śabdakośa* vol. 1.

260 तालीस should be read तालीश



- 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 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>261</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>262</sup>, **liquorice**, ??<sup>263</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>264</sup>, **selu plum**, and **wood apple**, or the paste of honey, **horseradish tree**, and **hogweed**,<sup>265</sup> or the paste of dry ginger, long pepper, black pepper,<sup>266</sup> **hare foot uraria**, and **poison berry**.<sup>267</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>268</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>269</sup> In this way, one should

The provisional edition should be modified accordingly.

261 Reading the word सुक्त in H as शुक्त

262 Monier Williams states Rumex Vesicarius for śuktā

263 DCS has this entry: Cryptolepsis buchananii Roem. et Schult. (Surapāla (1988), 453)  
Decalepis hamiltonii Wight et Arn. (Surapāla (1988), 453)

264 According to V. S. Apte, दारु can mean देवदारु.

265 H has a short अ at the end instead of the long आ.

266 व्योषतिक्ता refers to the group of these three pungent spices. Also see *Sūtrasthāna* 14.35.

267 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.

268 It means that the respective methods of treating the aggravation of individual humours should be combined.

269 In H, the letter अ् in भूयञ्च should have been श्.

[reduce] all the long peppers. This is called *Pippalīvarddhamānakam* (Increasing Long Peppers). It indeed cures wind-blood, intense fever,<sup>270</sup> loss of appetite, jaundice, abdominal affection, piles, heavy breathing, cough, wasting disease, weak digestion, and heart disease.

The poultice is a paste of ??, sandalwood, rajmahal hemp, ??, wild asparagus, bulrush,<sup>271</sup> country mallow, wild Himalayan cherry, liquorice, ??, ??, ??, ??, 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 ??, ??, ??, 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>272</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>273</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 massage,<sup>274</sup> spacious and comfortable rooms<sup>275</sup> with no wind, soft pillows, comfortable beds, and soft massages are recommended in the condition of wind-blood.

270 Perhaps विषमज्वर could mean irregular fever.

271 H has कशेरुका.

272 Perhaps it means that one should eat foods cooked in that oil.

273 The word भवति in H should have been भवन्ति.

274 In H, the part व्यजनानिला: 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.

275 In H, read the स सरणानि as श.

- 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>276</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>277</sup> and who is not restrained externally. There at the beginning itself,<sup>278</sup> after rubbing the patient with oil and making him perspire, one should treat him with a strong *avapīḍa*<sup>279</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 with sour substances and milk, and then cook the *pratīvāpa*<sup>280</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>281</sup> Or else he should be made to sweat by [a mixture of] ??, *veśavāra*,<sup>282</sup> and milk.

There, Dalhana comments that de-liberation on *avapīḍa* had been done earlier when it was mentioned. Find that description to know more details.

276 In H, the reading अपताकिनम् should have been अपतानकिनम्.

277 V. S. Apte has खट्वयति. The *Āyurvedīya Śabdakośa* has the entry खट्वापातिन् 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.

278 In H, प्रागैव should have been प्रागेव.

279 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 *avapīḍa*.

280 It refers to an admixture of substances to medicines either during or after decoction. Refer to Monier-Williams's Sanskrit dictionary.

281 H has the reading रथाकारचुल्लयाम् that means "fireplace shaped like a chariot", but the vulgate reading रथकारचुल्लयाम् makes more sense here. Thus, we have accepted it.

282 Refer the above text no.7 for *veśavāra*. In H, the syllable वै should have been वे.

Oil cooked with the juice of radish, ??, ??, spurge, and ?? should be used in sprinkling, etc. for patients with spasmodic contractions.<sup>283</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 *avapīḍa*-s. One should also consider the fats of cock, crab, black fish, and porpoise.<sup>284</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 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>285</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 *ākṣepaka*.<sup>286</sup> *Anutaila* should be used for massage.<sup>287</sup> *Sālvala* should be used for poultice.<sup>288</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.

Search for the section where the treatment of *ākṣepaka* is described.

Make the first letter of sentence capital.

20

21

283 The word तैलम् is not present in H but is present in the vulgate. We have accepted it.

284 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.

285 According to P. V. Sharma, this refers to mild evacuatives (purgatives).

286 Refer *Nidānasthāna* 1.50-51 for *ākṣepaka*.

287 For the procedure of preparing *anutaila*, refer *Cikitsāsthāna* 4.28.

288 For the procedure of preparing *sālvala*, refer *Cikitsāsthāna* 4.14-15.

- 22 One should treat the patient with *ardita*<sup>289</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>290</sup> should be brought down [the stove] and filtered. It should then be mixed with a *prastha*<sup>291</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 *kṣīrataila* that should be used in drinks, etc. for patients with *ardita*.
- 23 In the diseases of *gr̥dhrasī*, *viścañcī*, *kroṣṭukaśīrṣa*, *pañgukalāya*, lameness, *vātakaṇṭaka*, 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 *karṇamūla*,<sup>292</sup> lukewarm juice of ??<sup>293</sup> mixed with *liquorice*, oil, and salt should be put into the ears.<sup>294</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>295</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

289 Refer *Nidānasthāna* 1.71-72 for *ardita*.

290 It means that the water has evaporated.

291 Ḍalhana comments (*Su* 1938: 425) that a *prastha* is a measure of weight that is equal to 32 *pala*-s.

292 The vulgate has the reading कर्णशूले which appears to be a more credible reading according to the context.

293 शृङ्गवेर appears to be a name of ginger. Refer to the Sanskrit dictionary of Monier Williams.

294 In H, the reading रसैः does not seem to make sense here. Hence we have accepted the vulgate reading रसम्.

295 In H, the word तैल should have been तैलम् to make proper sense. The vulgate has this reading. Thus we have accepted it.

long pepper and other herbs with hot water. Or else one should make the patient drink ghee that is made thick with asafoetida and ??.<sup>296</sup> One should also treat the patient with enemas.

- 26 In the case of *ādhmāna*,<sup>297</sup> however, one should do *avatarpaṇa*,<sup>298</sup> heating the hands, *phalavartikriyā*,<sup>299</sup> stimulation of digestion, and [administer] digestives. One should also employ the purging of bowels and enemas. In the case of *pratyādhmāna*,<sup>300</sup> one should employ vomiting, fasting, and stimulation of digestion.
- 27 In the case of *aṣṭhīlā* and *pratyāṣṭhīlā*,<sup>301</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, ??, ??, ??, 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*, *pārśvodara*, *bastīśūla*, *anāhamūtra*, painful piles, *plīhodara*, and *pāṇḍuroga*. 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>302</sup> and should be*

296 यवक्षार is an alkali prepared from the ashes of burnt green barleycorns. Refer to the Sanskrit dictionary of Monier Williams.

297 Refer to *Nidānasthāna* 1.88. V. S. Apte explains it as “swelling of the belly”. P.V. Sharma has translated it as flatulence.

298 We are unclear about its meaning. The vulgate has the reading अपतर्पण that means fasting.

299 The entry फलवर्ति has the meaning “suppository” in the Sanskrit dictionary of Monier Williams. The Cambridge dictionary explains suppository as “a small, solid pill 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.

300 Refer to *Nidānasthāna* 1.89. According to the Sanskrit dictionary of Monier Williams, it is a kind of tympanites or wind-dropsy.

301 Refer to *Nidānasthāna* 1.90 and 1.91.

302 In H, the reading लक्षणोन्यामैश्च does not make sense. Hence I cannot translate it. Per-



cured accordingly.

- 30 The wind that is accompanied by fat causes a swelling that is painful, hard, and cold. The 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>303</sup>
- 33 That is called ūrūstambha. Others call it āḍhyavāta. In that case, one should drink the ṣaṇḍharāṇa 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 ?? fruits mixed with urine.<sup>304</sup>  
One should eat old ??s, ??, ??, etc. along with uncooked<sup>305</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.

haps the correct reading could be लक्षणाभ्याञ्ज. This would connect with the two conditions of the wind as stated in the verse.

303 In H, the verb वर्तते should have been in the dual. Also, the word आस्थिरौ does not make sense. The vulgate has the sensible reading अस्थिरौ which we have accepted here.

304 The word दिहेत् in H is not a proper Sanskrit word. We have taken its proper form दिह्यात् as given in the vulgate.

305 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 malpresentation and a bibliography of earlier scholarship to 2002.<sup>306</sup> Das made observations about the afterbirth (*aparā*) that is mentioned in 4.15.17 ([Su 1938](#): 432).<sup>307</sup> Selby has explored gynecological narratives in ayurveda.<sup>308</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.

---

<sup>306</sup> [HIML](#): IA, 271–272.

<sup>307</sup> Das [2003](#): 517.

<sup>308</sup> 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 *śālmālī*- 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 (तिर्यक्चीनस्य ?) 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 (मण्डलाग्र) 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 1: Protecting the King from Poison

## Introduction

The first chapter of the Kalpasthāna of the *Suśrutasamhitā* addresses the topic of protecting a king from those who would assassinate him using 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>309</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>310</sup>

The work then moves on to the various symptoms experienced by the king after being poisoned, and remedies appropriate to each case. Poison

---

<sup>309</sup> *Arthaśāstra* 1.21.8 (Kangle 1965a: 1, 30), translation by Olivelle (2013: 97).

<sup>310</sup> Cf. *Arthaśāstra* 1.21.6, *ibid.*, Olivelle (2013: 96).

exhibits characteristic signs when added to milk and other drinks.<sup>311</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>312</sup> Translations of this chapter since Meulenbeld's listing have appeared by Wujastyk (2003b: 131–139), P. V. Sharma (1999–2001: 3, 1–15), and Srikantha Murthy (2000–02).<sup>313</sup>

## Manuscript notes

- MS Kathmandu NAK 5-333 has foliation letter numerals, for example on f. 323a, that are similar to MS Cambridge CUL Add.1693,<sup>314</sup> dated to 1165 CE.<sup>315</sup>

---

<sup>311</sup> Cf. *Arthaśāstra* 1.21.6 again.

<sup>312</sup> [HIML](#): IA, 289–290.

<sup>313</sup> For a bibliography of translations to 2002, including Latin (1847), English (1877), Gujarati (1963) and Japanese (1971), see [HIML](#): IB, 314–315.

<sup>314</sup> Scan at [cudl.lib.cam.ac.uk/view/MS-ADD-01693/1](http://cudl.lib.cam.ac.uk/view/MS-ADD-01693/1).

<sup>315</sup> See Bendall's chart of Nepalese letter-numerals (Bendall 1883: Lithograph V, after p. 225).



## Translation

- 1–2 And now I shall explain the procedures for safeguarding food and drink, as were declared by the Venerable Dhanvantari.<sup>316</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>317</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>318</sup>
- 6 Therefore, a king should always be protected from poison by a physician.

<sup>316</sup> 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 *Suśrutasaṃhitā* 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 *Suśrutasaṃhitā* that names Dhanvantari and integrates him into the narrative of the *Suśrutasaṃhitā* 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 *Suśrutasaṃhitā* may have had the phrase only at this point and not elsewhere in the work. See the further discussion by Birch, 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.

<sup>317</sup> This is a quite different statement from the vulgate which has Dhanvantari as the teacher, and calls him the Lord of Kāśī (*kāśīpati*) (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.”

<sup>318</sup> Verses about the use of Venomous Virgins as a weapon do not appear in the Nepalese manuscripts. Cf. 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>319</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>320</sup> have clean utensils and be staffed by men and women who have been vetted.<sup>321</sup>
- 17–18ab The chefs, bearers (*voḍhāra*), 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>322</sup>
- 18cd–19ab An expert knows people's body language (*iṅgita*) 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>323</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 (*kaṣāya*) and massage ointment (*anulepana*); in garlands (*sraja*), 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*), etc., and any other things which are commonly poisoned. Then, I shall

Cf.  
Arthaśāstra  
1.21.8.

319 The verb √ śvas is conjugated as a first class root in the Nepalese manuscripts.

320 We read महच्छुचिः with the Nepalese manuscripts and against the vulgate's महच्छुचि. We understand शुचिस् as a neuter noun meaning "light" following Apte (Apte: 1050a).

321 Verses detailing the ideal staff are omitted in the Nepalese manuscripts. Cf. Su 1938: 560; Wujastyk 2003b: 132.

322 The word सौपोदनैकपूपिक "chefs for the boiled rice soups and cakes" is grammatically interesting. The term सूपोदन (as opposed to सूपौदन) is attested in the *Bodhāyanīya-gr̥hyasūtra* 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).

323 The word ध्याम is glossed by Ḍalhaṇa (in a variant reading) as someone who is the colour of dirty clothes 5.1 (Su 1938: 560).

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 looks at food which has poison mingled with it, its eyes are promptly drained of colour; a peacock pheasant drops dead. A koel changes its song and the common crane rises up excitedly.<sup>324</sup> It will excite a peacock and the terrified parakeet and the hill myna screech. The swan trembles very much, and the racket-tailed drongo churrs.<sup>325</sup> The chital deer sheds tears and the monkey releases excrement.<sup>326</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>327</sup>
- 35, 36cd In such a case, an errhine and a collyrium that are costus, ??, spikenard and honey (*madhus*);<sup>328</sup> a paste of sandalwood on the heart may also

324 The verb अर्च्छति “rises up” is a rare form best known from epic Sanskrit (see Oberlies 2003: 212, §7.6.1). The transmitted form क्रौञ्च is obviously a colloquial version of Sanskrit क्रौञ्च. Commenting on 1.7.10 (Su 1938: 31), Ḍalhaṇa interestingly gives the colloquial versions of several Sanskrit bird names, even singling out pronunciation in the specific location of Kānyakubja. For क्रौञ्च he says that people pronounce it कुरञ्च and कौचि. The form कोञ्च is found in Pāli (see Cone 2001: 731, who notes that Ardhamāgadhi has the same form). Elsewhere, Ḍalhaṇa calls the bird क्रौञ्चिर, क्रौञ्चि, and कैचर (1.46.105 (Su 1938: 223), 6.31.154 (Su 1938: 684) and (6.58.44 (Su 1938: 790) respectively).

325 Ḍalhaṇa seemed confused about the racket-tailed drongo (भृङ्गराज). He called it a generic drongo (भ्रमरक), a word that can also mean “bee,” (Dave 1985: 62), and then said that it is like the black drongo (धूम्याट) (for a nice explanation of this name, see Dave 1985: 62–63) and that people call it “the king of birds.”

326 MS Kathmandu KL 699 reads “bull (वृषभ)” for “Chital deer (पृषत).” 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.

327 “Tainted” translates उपक्षिप्त. The word’s semantic field includes “to hurl, throw against,” and especially “to insult verbally, insinuate, accuse.” The commentator Ḍalhaṇa glossed the term as, “spoiled food given to be eaten” (विदूषितस्यान्नस्य भोक्तुं दत्तस्य), but he noted that some people read “उखाक्षिप्त” or “thrown into a pan.” Other translators have commonly translated it as “served,” perhaps influenced by Ḍalhaṇa’s “given (दत्त).”

328 The vulgate supplies another phrase and verb at this point that is not present in the Nepalese transmission, but that makes the text flow more easily.

provide relief.<sup>329</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>330</sup>

38–39 If he eats that food, through inattention or by mistake, then his tongue will feel like a pebble (*aṣṭhīlā*) and it will lose its sense of taste. It stings and burns, and his saliva (*śleṣman*) dribbles out.<sup>331</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>332</sup>

40 On reaching his stomach, it causes stupor (*mūrcchā*), vomiting, the hair stands on end, there is distension, a burning feeling and an impairment of the senses.<sup>333</sup>

329 **sing-1972** discussed the difficulties in identifying लामज्ज, a plant cited more often in the *Suśrutasaṃhitā* than in the *Carakasamhitā*; Ḍalhaṇa adopted the common view that it is a type of *uśīra* or vetiver grass. The grammatical neuter form मधुस् “sweetness” of the Nepalese manuscripts is less common than neuter मधु “honey, sweetness, liquorice.”

330 “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. Ḍalhaṇa’s remarks show that he had a reading इन्द्रगोपा before him, and he tries to explain इन्द्रा and गोपा as separate plants. But he also says that some people read इन्द्रगोप.

Ḍalhaṇa 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. Ḍalhaṇa 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 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).

331 The word अष्टील 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 Ḍalhaṇa reproduced his observation. The vulgate reading चास्यात् “and from his mouth” is more obvious (*lectio faciliior*), but is not attested in the Nepalese manuscripts.

332 Poisoned toothbrushes are discussed in verses 48 ff. below.

333 I translate मूर्च्छा in the light of the metaphors discussed by Meulenbeld (2011), that

- 41 In this case, vomiting must quickly be induced using the fruits of **emetic nut**, **gourd**, **red gourd**, and **luffa**, taken with milk and **watered butter-milk**, 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 (*dūṣṭviṣāri*)’ should be drunk with honey and curds (*dadhi*).<sup>334</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>335</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 (*prā√kuth*) and unripe ones ripen.<sup>336</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>337</sup>
- 49 Then, once his swelling is lanced, one should rub (*pratisāraṇa*) it with **fire-flame bush** flowers **jambul**, **mango** stones and **chebulic myrobalan** fruit mixed with honey.<sup>338</sup>
- 50 Alternatively, the rubbing (*pratisāraṇa*) can be done with either the roots of **sage-leaved alangium**, the bark of **blackboard tree** or **siris**

I'm still unhappy about this verse.

Mention this in the introduction as an example of the scribe knowing the vulgate.

fn about sadyas+

include thickening and losing consciousness.

334 The ‘slow-acting poison’ is discussed at 5.2.25 ff. (Su 1938: 565).

335 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*.

336 The root √कुथ् “stink, putrify, rot” is apparently known only from its few uses in the *Suśrutasaṃhitā*.

337 Gayadāsa and Ḍalhaṇa pointed out that “tooth socket (दन्तवेष्ट)” and “gum (दन्तमांस)” have the same meaning (2.16.14–26 (Su 1938: 331–332)).

338 This recipe is different from the vulgate.

- seeds.<sup>339</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>340</sup> And the flesh splits open.
- 53–54 In such a case, sandalwood, crape jasmine, costus, and cuscus grass, 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>341</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>342</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>343</sup> ghee, beautyberry,<sup>344</sup> black creeper, and amaranth. Good alternatives are either the fluid extract of cow-dung, or the juice of jasmine, the juice of woodrose, or household soot.<sup>345</sup>

Bear's bile  
instead of  
deer's bile.

339 The spelling of the name अङ्गोल्ल varies अङ्गोट, अङ्गोठ, अङ्गोल (GVDB: 5); Ḍalhaṇa noted that the form अङ्गोल्ल 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 Ḍalhaṇa in interpreting the compound to refer to the distinctive bean-like siris seeds, rather than to mung beans (5.1.50 (Su 1938: 562)).

340 The feminine स्फोट for “boils” is unattested.

341 This compound could be interpreted as “wood apple juice and cassia cinnamon.” Note that this recipe is differs from that of the vulgate, which requires urine.

342 See verse 52 above.

343 Ḍalhaṇa comments here that ‘bile is that fluid which goes along inside the tube attached to the liver’ (कालखण्डलग्ननलिकामध्यगतजलं पित्तम्) 5.1.57 (Su 1938: 562).

344 See note 330.

345 The plant identifications in this passage follow Ḍalhaṇa’s glosses, although he noted



- 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 (*kaṇṭaka*) that are like lotus-spots (*padminikaṇṭaka*).<sup>346</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>347</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 *Himalayan monkshood*, is prescribed, with *henna*, as a cold drink or er-rhine.
- 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 swelling. 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*

punarmavā  
in the N &  
K MSS

śrita for  
śṛta

a difference of opinion on the identity of *woodrose* (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 440, p. 145.

<sup>346</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>347</sup> The common plant-name पुनर्नवा 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.

explain  
more

are also recommended as something good.<sup>348</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 (*dṛṣṭivibhrama*), and possibly even blindness.<sup>349</sup>

Medical  
differ-  
ence from  
Sharma.

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.

example  
where the  
vulgate  
clarifies  
that these  
should be  
used sep-  
arately; ap-  
pears to be  
a gloss in-  
serted into  
the vulgate  
text.

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>350</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>351</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 pierced.

The two  
uses of  
prāpta are  
hard to  
translate.  
prāptāh →  
kṣipram  
is an ex-  
ample of  
the vulgate  
banalizing  
the Sans-  
krit text to  
make sense  
of a diffi-  
cult pas-  
sage.

78cd–79ab If either purging nut or a fern is tied on to the King’s wrist, then all food

√ vyadh  
not √ vedh  
(also else-  
where and  
for the  
ears), caus-  
ative optat-  
ive.

348 The syntax of the Nepalese version is slightly unclear, but the vulgate has smoothed out the difficulties.

349 The term translated as “faulty vision” could also mean “rolling eyes.” “Eye make-up” is normally made of Indian barberry.

350 The reading अवदारुण in MS Kathmandu KL 699 is not attested elsewhere in Sanskrit literature. On “sepsis” for पाक, see Wujastyk 2003b: xlv–xlvi.

351 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 HIML: IB, 332



that is mixed with poison will be rendered free of poison.<sup>352</sup>

- 79cd–80 He should always guard his heart when amongst **people who are not his friends**.<sup>353</sup> Before eating, he should drink the kinds of ghee called “Invincible” and “Immortal”.<sup>354</sup> He should drink ghee (*sarpiṣ*), **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>355</sup> **liquorice**, and sugar to the meats of ??, **mongoose** and **blackbuck** too.
- 83 Add sugar and **Himalayan monkshood** 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>356</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.

The first chapter in the Kalpas.

<sup>352</sup> 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). Ḍalhaṇa, 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.

<sup>353</sup> 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)). Ḍalhaṇa 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 1.8.89a (As 1980: 79).

<sup>354</sup> These ghee compounds are described in later chapters: see 5.2.47–49 (Su 1938: 566) and 5.6.13 (Su 1938: 581).

<sup>355</sup> Ḍalhaṇa on 5.1.82 (Su 1938: 563) equated this with **turpeth**.

<sup>356</sup> On this expression, see Yagi 1994.



# Kalpasthāna 3: Poisonous Insects and Animals

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>408</sup>

## Translation

- 1 And now we shall explain the rule (*kalpa*) that is the required knowledge about mobile poisons.<sup>409</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>410</sup>
- 4 In that context, they are:<sup>411</sup>
  - gaze and breath,
  - teeth, nails, and bites
  - urine and faeces,
  - **menstrual blood**,
  - semen,
  - **tail**,
  - nipping with the mouth (*mukhasaṃdaṃśā*),

Come back to the issue of "kalpa". Look up passages in the Kośa.

<sup>408</sup> [HIML](#): IA, 291–292.

<sup>409</sup> In contrast to stationary, plant poisons. No reference is made to Dhanvantari (see Birch, Wujastyk, Klebanov, Parameswaran, et al. [2021](#)).

<sup>410</sup> "Carrier" for base, foundation (*adhiṣṭhāna*) aims to capture the idea that the author will describe the creatures in which poisons inhere.

<sup>411</sup> The content of this section is presented as a table, 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 Wujastyk [2021a](#): 81–83.

<sup>412</sup> This interpretation comes from Ḍaḥaṇa on 5.3.4 ([Su 1938](#): 567), but he reads विशर्धित.

- fart (*avaśardhita*),<sup>412</sup>
- **anus**,<sup>413</sup>
- bones,
- bile,
- bristles (*śūka*), and
- corpses.

5 In that context,

<i>location of the poison</i>	<i>creatures</i> <sup>414</sup>
in their breath and gaze	divine snakes
in their fangs	the ones on earth <sup>415</sup>
in their nails, mouths and fangs a	cats, dogs, monkeys, men ( <i>nara</i> ), <sup>416</sup> crocodiles, frogs, ‘cook-fish’ ( <i>pākamatsya</i> ), <sup>417</sup> monitor lizards, cone snails ( <i>śambūka</i> ), ‘poisonous snakes’ ( <i>pracalāka</i> ), <sup>418</sup> geckos ( <i>gr̥hagoḍikā</i> ), <sup>419</sup> four-footed insects and others
in their urine and faeces	lice ( <i>kiṭiṇa</i> ), ‘flat insects’ ( <i>picciṭā</i> ), ‘orange-dwellers’ ( <i>kaṣāyavāsika</i> ), ‘pepper snakes’ ( <i>sarṣapaka</i> ), ‘angry beetles’ ( <i>toṭaka</i> ), dung beetles ( <i>varcaḥkīṭa</i> ), and ‘pot insects’ ( <i>kaunḍinya</i> )
in their semen	mice

413 Ḍalhaṇa on 5.3.4 (Su 1938: 567) noted this reading.

414 Many of these names are mere dubious placeholders.

415 Ḍalhaṇa 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).

416 Probably dittography from the previous word, monkey (*vānara*). But it is supported in both Nepalese witnesses, so it must go back to an earlier exemplar.

417 MS KL 699 separates the words पाक and मत्स्य with a daṇḍa, indicating that the scribe thought they were separate terms. Ḍalhaṇa thought this was a kind of fiery insect (5.3.5 (Su 1938: 567)).

418 *Arthaśāstra* 14.1.14, 23 (Olivelle 2013: 448), where it might also be a chameleon; but the latter are not venomous.

419 The scribe of MS Kathmandu NAK 5-333 noted in the margin that some of his sources read गलगोडिका, which is the name of a snake known also in the *Carakasamhitā* and elsewhere in literature (cf. note 191, p. ??). Hemacandra’s *Abhidhānacintāmaṇi* (4.364) mentions that गृहगोडिका and गृहगोलिका are synonyms (*Rādhākāntā Deva* 1876: 691a, *sub māṇikyā*).

<i>location of the poison</i>	<i>creatures</i>
in their stings ( <i>śūla</i> )	scorpions, 'earth scorpions' ( <i>viśvambhara</i> ), wasps ( <i>varaki</i> ), <sup>420</sup> fish, crabs ( <i>uccīṭiṅga</i> ), and 'wing-scorpions' ( <i>patravṛścika</i> )
in their saliva, nails, urine, feces, blood, semen and fangs	spiders
in the bites of their mouths	flies, wasps ( <i>kaṇabha</i> ) and leeches
in the bites of their mouths, in their fangs, faces, †, farts, anuses and feces	'speckle-heads' ( <i>citraśīrṣa</i> ), 'lids' ( <i>śārava</i> ), 'bellied' ( <i>kukṣita</i> ), 'wood-enemies' ( <i>dārukāri</i> ), 'liquors' ( <i>medaka</i> ), and 'darts' ( <i>śārikā</i> ).
continue	continue
continue	continue

Table 2: Passage 5, expressed in tabular format.

- 421
- 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>422</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>423</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, and

got to here  
- 2023-01  
continue  
with table  
for #5

420 वरटी is a wasp; वरकि in the Nepalese MSS may be an alternant of this word. Ḍalhaṇa on 5.3.5 (Su 1938: 568) remarked that some interpreted वरकिमत्स्य as two items, "wasp and fish," others as a single one, "wasp-fish."

421 kaur-2018 is unhelpful, in spite of a section on the *Suśrutasaṃhitā* (pp. 61–63).

422 अस normally means "tears," but rarely means "blood."

423 On the polysemy of elephant/snake (*nāga*), see Semeka-Pankratov 1979.

- with golden shower tree and white cutch tree. 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>424</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>425</sup> And if there exists another path, he should go by that.<sup>426</sup>
- 13 When grasses and foods are polluted, people collapse, fall unconscious. And others vomit. They get loose stool (*vidbheda*) or they die.<sup>427</sup> One should apply to them the therapy as described.
- 14–15 Alternatively, one should wipe 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>428</sup> together with gold and sarsaparilla, and a portion of of nutgrass equal to that,

424 “Swells up” translates an unclear reading that was probably शूयति, which may be an irregular form of √शू, श्वा, श्वि (see Whitney 1885: 175–176).

425 Our “alcoholic drinks” translates सुरा. For a discussion of this term at our period see mchu-2021a.

426 Ḍalhaṇa 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.”

427 In “they get loose stool,” the verb आर्च्छन्ति (√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).”

428 “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, Ḍalhaṇa 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<sub>Dict</sub>: 5, 233) and the word पारद that Ḍalhaṇa used is probably a loan-word from Persian (sub *paranda*, *par-randa* Steingass 1930: 244b). Mercurial compounds are not reliably attested in South Asia until two or three centuries after the composition of the *Suśrutasaṃhitā* 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 Wujastyk (2013a: 17, *et passim*).

together with the bile called “brown cow”.<sup>429</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>430</sup>
- 17 The smoke and air can be purified by putting into the air: lac, turmeric, Himalayan monkshood, and myrobalan, with Himalayan mayapple, costus, cardamom,<sup>431</sup> and peas, and foxtail millet.

write footnote: don't repeat  
ativisā; 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>432</sup>
- 19 Pitiless Fury took a body and burst out of the mouth of furious Brahmā's store of fiery energy.<sup>433</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.
- 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,

<sup>429</sup> सुरेन्द्रगोप and कुरुविन्द are both uncertain, see index. Ḍalhaṇa's opinion has been followed here, but it seems fair to say that all commentators were guessing.

<sup>430</sup> The syntax of this verse is somewhat loose; the vulgate has regularized it, smoothing out the difficulties.

<sup>431</sup>

<sup>432</sup> 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 *Śatapathabrāhmaṇa*, see Mānasa-taraṅgiṇī 2019.

<sup>433</sup> “Fury” is here anthropomorphised.

- whatever substance a poison reaches, it establishes itself there and by its nature it takes on that substance's savour.<sup>434</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>435</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>436</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>437</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 K but is not fully legible; the version of the text in H is also incomplete and not fully comprehensible.]<sup>438</sup>

434 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.

435 Probably a reference to the five breaths. Ḍalhaṇa referred to winds (वात), but this does not seem correct since it is a reference to humours rather than breaths.

436 The verb पठ् “is declared, read aloud” here could possibly suggest that the author is working within a written, not oral, tradition.

437 “Having come upon” translates प्रस्थाप्य, which is hard to interpret unless it is a rare form connected with the sense “to see.”

438 *Mādhavanidāna*, 69.20–21 (MN<sub>1</sub>: 480) has verses that are directly parallel to this section:

*darvīkarāṇāṃ viṣam āśughāti sarvāṇi coṣṇe dviguṇībhavanti ajīrṇapittātapapīḍiteṣu bāleṣu*



- 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>439</sup>
- 35.1 [śloka 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 H. ]
- 35cd & 36cd One designates a person who has diarrhoea of feces looking like soot (*grhadhūma*) with wind,<sup>440</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>441</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>442</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. †...
- 39.2 <sup>443</sup>

*vr̥ddheṣu bubhukṣiteṣu 20*

*kṣīṇakṣate mohini kuṣṭhayukte rūkṣe 'bale garbhavatīṣu cāpi*

*śastrakṣate yasya na raktam eti rājyo latābhiś ca na saṁbhavanti 21.* This passage is the only occurrence in the ayurvedic text corpus that relates to the Nepalese version of the *Suśrutasaṁhitā* at this point. This suggests that Mādhavakara (fl. ca. 700, Bengal) knew and used the Nepalese version.

439 At this point, witness H inserts a marginal Indravajrā verse about diseases that afflict immoral women.

440 गृहधूम is not a plant in this context *pace* MW: 362. See the discussion in note 345, p. 123.

441 Ḍalhaṇa 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.

442 याम्ये means "southerly" but Ḍalhaṇa on 5.3.38 (*Su* 1938: 570) interpreted it as "in Yama's direction" as "under the seventh asterism."

443 Material corresponds to SS.1.45.205ab, where it describes how alcohol produces in-

- 3.40cd–3.41 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>444</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>445</sup>
- 3.42 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 and
- 3.43ab The physician should also avoid a person who has fangs that have not fallen out quickly.<sup>446</sup>

---

toxication because it is fine, hot and sharp and travels through the vessels disturbing the senses and the mind and intoxicating the potency.

444 Ḍalhana, on 5.3.40 (*Su* 1938: 570), glossed लताभिस् “by means of whips,” as “when the body is struck by whips.”

445 nāsāvasāda & plural sakaṇṭhabhaṅgāḥ

446 The grammatical verb-form परिवर्जयित “he should avoid,” opt., 3rd, sg., is unusual. Renou (1940: 10 ff) documented such forms from the *Aitareyabrāhmaṇa* 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 interpret this as 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 1 and 2.<sup>447</sup> The *Carakasamhitā* also addressed this topic of snake taxonomy, but only included the first three of the *Suśrutasamhitā*'s types, namely Darvīkara, Maṇḍalī and Rājimān.<sup>448</sup> These three categories of snakes are framed within a humoral scheme, aggravating wind, bile and phlegm respectively, a scheme that is carried forward into symptoms and therapy.<sup>449</sup> The *Suśrutasamhitā* does not use this snake–humour parallelism. By contrast, the system of seven pulses or toxic shocks (*vega*) that is central to the *Suśrutasamhitā*'s understanding of envenomation is absent from the *Carakasamhitā*.<sup>450</sup>

---

447 On the idea of notational variants in scientific translation, see Elshakry 2008; Sarukkai 2016; Wujastyk 2021a: 81–83.

448 6.23.124 ff. (Ca 1941: 577).

449 *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).

450 One mention of the term in the *Carakasamhitā* refers to the peak of a tertian fever (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

## 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>451</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.

The ophiological literature of the colonial period began in the late nineteenth century with the work of Fayrer, whose publication included striking colour paintings of snakes.<sup>452</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 appearance and behaviour of poisonous snakes and sometimes their local names and reproducing Fayrer's illustrations.<sup>453</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 469 below). Wall (1921) provided a wealth of detail of the snakes of Sri Lanka, including line drawings.

Doniger (2015) provided a good survey of snakes as protagonists in religious literature from the *Atharvaveda* through the epics, *Purāṇas* and Buddhist literature. Semeka-Pankratov (1979) traced semiotics of the term *nāga* through Vedic, Pali and Sanskrit literature. Slouber (2016a: 31–33 *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 *Su-*

---

(Ca 1941: 131–132)).

451 HIML: IA, 292–294. 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. The classic work of Jolly (1951: ¶93) offered a short but accurate overview of Indian toxicology.

452 Fayrer 1874, first published in 1872.

453 Calling his work a supplement to Fayrer (1874), but also being cited by Fayrer, Ewart 1878 evidently also collected local indigenous knowledge from his “snake-man” (p. 22).

*śrutasaṃhitā* does.<sup>454</sup> But unlike the *Suśrutasaṃhitā*, in the *Kriyākālaguṇottara* the chief taxonomic principle for both groups is the four *varṇas*.

A discussion of this chapter specifically in the light of the Nepalese manuscripts was published by Harimoto.<sup>455</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>456</sup>

## The Seven Stages of Toxic Shock

A prominent feature the *Suśrutasaṃhitā*’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 *Suśrutasaṃhitā*’s concept of the *kalās*, which are either seven layers of skin that come into existence during embryonic development or seven interstitial tissues that separate the various parts of the body.<sup>457</sup>

Contemporary clinical studies of snake envenomation and treatment do not show any awareness of such a seven-stage symptomology of traditional Indian medicine.<sup>458</sup> Exceptionally, the studies by Barceloux and Özbulat et al., do identify and tabulate three stages of envenomation.<sup>459</sup> The symptoms of these three stages are mainly characterized by increasing degrees

454 Slouber 2016a: 144–145.

455 Harimoto 2011: 101–104.

456 The two editions that Harimoto noted, Su 1938 and Su 1889, present identical texts.

457 The system of the कला is described at 4.4.4–20 (Su 1938: 355–357). Cf. *Mahākośa*: 1, 183–184, *Śabdasaṃdhu*: 227–228, Kutumbiah 1962: 6, *HIML*: 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 skin (त्वक्) (4.7.4 (Ca 1941: 337)), with different names and characteristics, a contradiction discussed by the commentator Cakrapāṇidatta (*idem*). It appears in later works such as the fourteenth-century *Śārṅgadharasaṃhitā* (1.1.60 (P. Śāstrī 1931: 15)).

458 E.g., Ellenhorn 1997; Weinstein et al. 2009; Pillay 2013: 1747–1749; WHO 2019: 19; Mehta and Sashindran 2002; Hamza et al. 2021; A. M. Deshpande et al. 2022.

459 Barceloux 2008: 1017, Table 176.3, and Özbulat et al. 2021: 7, and Table 1, broadly following Barceloux.

of edema. This differs from the *Suśrutasaṃhitā*'s detailed characterization of changes in skin colour etc.<sup>460</sup>

## Translation

- 1 Now we shall explain the procedure (*kalpa*) that is what should be known concerning the venom in those who have been bitten by snakes.<sup>461</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>462</sup>

### [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>463</sup>

460 I am grateful to Prof. Jan Gerris (U. Ghent) and Prof. Jan Tytgat (KU Leuven) for assistance in finding relevant toxicological literature.

461 The *Sarvāṅgasundarī*, commenting on *Aṣṭāṅgaḥṛdayasaṃhitā* 1.16.17 (Ah 1939: 246), glossed कल्प as प्रयोग.

462 The expression “toxic reactions” translates वेग, 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).

463 The next few verses are discussed in detail by Harimoto (2011: 101–104), who shows that in the taxonomy of snakes, the Nepalese version of the *Suśrutasaṃhitā* has greater internal coherence than the vulgate recension.

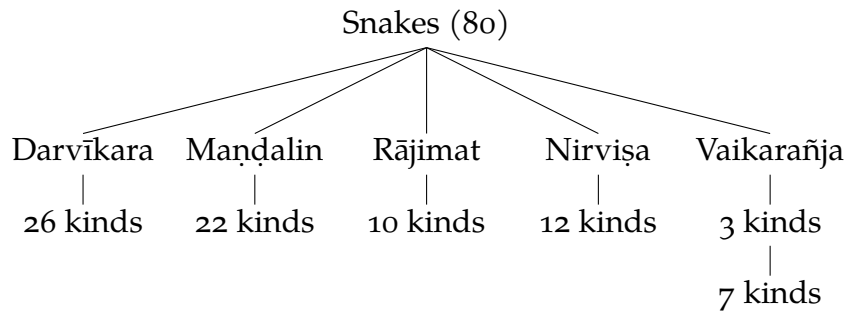


Figure 1: The taxonomy of snakes in the vulgate, 5.4.9–13ab (Su 1938: 571).

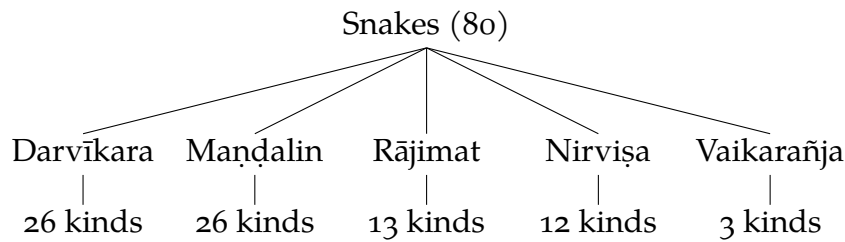


Figure 2: The taxonomy of snakes in the Nepalese version.

- 9cd–10 “There are eighty kinds of snakes and they are divided in five ways: Darvīkaras, Maṇḍalins, Rājīmatas, and Nirviṣas. And Vaikarañjas that are traditionally of three kinds.<sup>464</sup>
- 11 “Of those, there are twenty and six hooded snakes, and the same number of Maṇḍalins are known. There are thirteen Rājīmatas.<sup>465</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

464 Harimoto (2011) translated these names as “hooded,” “spotted,” “striped,” “harmless,” and “hybrid.” Figure 1 shows the taxonomy described in the vulgate text; Figure 2 shows the different and more logical division of the Nepalese version of the *Suśrutasaṃhitā*.

465 The phrasing of this śloka is awkward.

Or “There are 20 phanins and 6 maṇḍalins. The same number are known. There are 13 Rājīmatas.” Or even, “there are 20 Phanins and six of them are Maṇḍalins.” Are phanins really the same as darvīkaras?

venom (*nirviṣa*). Some experts on this want to add “hurt by the snake’s body”.<sup>466</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>467</sup> accompanied by a little ring of spots (*cuñcumālaka*),<sup>468</sup> lead to degeneration, and are close together and swollen.
- 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>469</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.

grammar

466 This might refer to constriction. The phrase reads like a commentarial addition rather than the main text of the *Suśrutasaṃhitā*.

467 The word उद्धृत “aroused” was glossed by Ḍalhaṇa at 5.4.15 (*Su* 1938: 571) as उन्मोद्य, a word not found as such in standard dictionaries (*MW*; *KEWA*; *Mahākośa*; *Apte*). Semantic considerations suggest that the word is not related to  $\sqrt{muṭ}$  “break” or *mūta*/*mūṭa* “woven basket.” Perhaps it is related to the Tamil மோதி (*mōṭi*), whose meanings include “arrogance, grandeur, display” (*DED*<sub>2</sub>: #5133) or to faintly-documented forms like *moṭyate* “is twisted” (*CDIAL*: #10186). Ḍalhaṇa’s उन्मोद्य may thus mean “twisting up” or “making an arrogant display.”

Note that पद “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 50.

468 The usual dictionary lexeme is चञ्चु, not चुञ्चु as in the Nepalese witnesses. We translate “spots” following Ḍalhaṇa 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.

469 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.



- 21 Poison does not progress in a place frequented by eagles,<sup>470</sup> gods, holy sages, **spirits**, and saints, or in places full of herbs that destroy poison.<sup>471</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.

### [Classes of Snake]

- 25 Snakes that 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>472</sup>

<sup>470</sup> Dalhaṇa 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*.

<sup>471</sup> For "spirits" the Nepalese version has भूत while the vulgate reads यक्ष.

<sup>472</sup> 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)).

- 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>473</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>474</sup>

### [Enumeration of Snakes]

- 34.1 In that context, here are the Darvīkaras.
- |  |   |
|--|---|
| 1. The Black snake ( <i>kṛṣṇasarpa</i> );              | ( <i>mahāpadma</i> );                     |
| 2. The Big Black ( <i>mahākṛṣṇa</i> );                 | 16. The Grass Flower ( <i>apuṣpa</i> );   |
| 3. The Black Belly ( <i>kṛṣṇodara</i> );               | 17. The Curd Mouth                        |
| 4. The All Black ( <i>sarvakṛṣṇa</i> ); <sup>475</sup> | ( <i>dadhimukha</i> );                    |
| 5. The White Pigeon                                    | 18. The Lotus Mouth                       |
| ( <i>śvetakapota</i> ); <sup>476</sup>                 | ( <i>punḍarīkamukha</i> );                |
| 6. The Rain Cloud ( <i>valāhako</i> );                 | 19. The Brown Hut Mouth                   |
| 7. The Great Snake                                     | ( <i>babhrūkuṭīmukha</i> );               |
| ( <i>mahāsarpa</i> );                                  | 20. The Variegated ( <i>vicitra</i> );    |
| 8. The Conch Keeper                                    | 21. The Flower Sprinkle Beauty            |
| ( <i>śaṅkhaṭṭhā</i> );                                 | ( <i>puṣpābhikīrṇnābha</i> );             |
| 9. The Red Eye ( <i>lohitākṣa</i> );                   | 22. The Mountain Snake                    |
| 10. The Gavedhuka ( <i>gavedhuka</i> );                | ( <i>girisarpa</i> );                     |
| 11. The Snake Around                                   | 23. The Straight Snake                    |
| ( <i>parisarpa</i> );                                  | ( <i>ṛjusarpa</i> );                      |
| 12. The Break Hood                                     | 24. The White Rip ( <i>śvetadara</i> );   |
| ( <i>khaṇḍaphaṇa</i> );                                | 25. The Big Head ( <i>mahāśīrṣa</i> );    |
| 13. The Kūkuṭa ( <i>kūkuṭa</i> );                      | and                                       |
| 14. The Lotus ( <i>padma</i> );                        | 26. The Hungry Sting ( <i>alagarda</i> ); |
| 15. The Great Lotus                                    |   |

473 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.

474 The sense of the last phrase here is quite different from the vulgate, which says only that “details” will be explained below.

475 Not in vulgate.

476 The vulgate adds The Big Pigeon (*mahākapota*).

## 34.2 Here are the Maṇḍalins

- |  |   |
|--|---|
| 1. The Mirror Ring<br>( <i>ādarśamaṇḍala</i> );  | 13. The Morning Glory<br>( <i>pālindaka</i> );        |
| 2. The White Ring<br>( <i>śvetamaṇḍala</i> );    | 14. The Stretch ( <i>tantuka</i> );                   |
| 3. The Red Ring ( <i>raktamaṇḍala</i> );         | 15. The Pale as a Flower<br>( <i>puṣpapāṇḍu</i> );    |
| 4. The Speckled ( <i>prṣata</i> );               | 16. The Six Part ( <i>ṣaḍaṅga</i> );                  |
| 5. The Gift of God ( <i>devadinna</i> );         | 17. The Flame ( <i>agnika</i> );                      |
| 6. The Pilindaka ( <i>pilindaka</i> );           | 18. The Brown ( <i>babhru</i> );                      |
| 7. The Big Cow Snout<br>( <i>vṛddhagonasa</i> ); | 19. The Ochre ( <i>kaṣāya</i> );                      |
| 8. The Jackfruit ( <i>panasaka</i> );            | 20. The Khaluṣa ( <i>khaluṣa</i> );                   |
| 9. The Big Jackfruit<br>( <i>mahāpanasaka</i> ); | 21. The Pigeon ( <i>pārāvata</i> );                   |
| 10. The Bamboo Leaf<br>( <i>veṇupatraka</i> );   | 22. The Hand Decoration<br>( <i>hastābharāṇaka</i> ); |
| 11. The Kid ( <i>śiśuka</i> );                   | 23. The Tatra ( <i>tatra</i> ); <sup>477</sup>        |
| 12. The Intoxicator ( <i>madanaka</i> );         | 24. The Mark ( <i>citraka</i> );                      |
|  | 25. The Deer Foot ( <i>eṇīpada</i> ). <sup>478</sup>  |

34.3 Here are the Rājīmats.<sup>479</sup>

- |   |   |
|---|---|
| 1. The Lotus ( <i>punḍarīka</i> );                    | 7. The Grass Drier ( <i>trṇaśoṣaka</i> );                     |
| 2. The Stripe Speckle ( <i>rājicitra</i> );           | 8. The White Jaw ( <i>svetahanu</i> );                        |
| 3. The Finger Stripe ( <i>aṅgulirāji</i> );           | 9. The Grass Flower<br>( <i>darbhapuṣpa</i> ); <sup>480</sup> |
| 4. The Two Finger Stripe<br>( <i>dvyaṅgulirāji</i> ); | 10. The Red Eye ( <i>lohitākṣa</i> ); <sup>481</sup>          |
| 5. The Drop Stripe ( <i>bindurāji</i> );              | 11. The Ringed ( <i>cakraka</i> );                            |
| 6. The Mud ( <i>kardama</i> );                        | 12. The Worm Eater ( <i>kikkisāda</i> );                      |

## 34.4 Here are the Nirviṣas.

<sup>477</sup> This seems implausible, but otherwise the list of Maṇḍalins would be short.

<sup>478</sup> The list is short by one item. Perhaps the one of the snakes named in the vulgate, *citramaṇḍala*, *gonasa* or *piṅgala*, should be considered here.

<sup>479</sup> The following list is one item short. The vulgate text, however, has several names that do not appear in the Nepalese Rājīmat list, for example *Sarṣapaka* and *Godhūmaka*.

<sup>480</sup> Also in the Darvīkara list.

<sup>481</sup> Also in the Darvīkara list.

- |   |  |
|---|--|
| 1. The Rain Cloud ( <i>valāhako</i> ); <sup>482</sup> | 8. The Two-day ( <i>dvvyāhika</i> );       |
| 2. Thei Snake Flag ( <i>ahipatāka</i> );              | 9. The Milk Flower                         |
| 3. The White Leaf ( <i>śukapatra</i> );               | ( <i>kṣīrikāpuṣpa</i> );                   |
| 4. The Goat Swallower                                 | 10. The Flower All ( <i>puṣpasakalī</i> ); |
| ( <i>ajagara</i> );                                   | 11. The Chariot of Light                   |
| 5. The Stimulator ( <i>dīpyaka</i> );                 | ( <i>jyotīratha</i> );                     |
| 6. The Ilikinī ( <i>ilikinī</i> );                    | 12. The Little Tree ( <i>vṛkṣaka</i> );    |
| 7. The Year-Snake ( <i>varṣāhika</i> );               |  |

### [Breeding and Gender]

- 34.5 The Vaikarañjas originate out of contrary unions amongst the three colours.<sup>483</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 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>484</sup> Females have small eyes, tongues and heads. Neuters have both characteristics, and are slow to exert themselves or be angry.<sup>485</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?

<sup>482</sup> Also in the Darvīkara list.

<sup>483</sup> The word *varṇa* in this chapter normally means “colour” not “class.” (“Class is expressed by “jāti.”) While *kṣṇasarpa* is clearly a colour-type, it is less obvious that *gonasī* is a special colour, and *rājimat* is a group of snakes.

<sup>484</sup> The vulgate includes the snake’s mouth in this and the next list.

<sup>485</sup> The reading मन्दचेष्टाक्रोधा is an awkward compound; possibly the original reading was मन्दचेष्टा: + अक्रोधा and sandhi was applied twice.

varṇa  
means “col-  
our” else-  
where?

Because poison acts quickly, like a fire with an oblation, a honed sword, or a thunderbolt.<sup>486</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>487</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>488</sup>

### [Symptoms of snakebite]

- 37 In this context, the poison of a Darvīkara causes the skin, nails, eyes, mouth, urine, feces, and the bitemark to be black; there is driness, 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 patient convulses with sharp pain, black saliva dribbles out, foam appears, the ducts (*srotas*) are blocked and every kind of pain that is due to wind.<sup>489</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>490</sup> a burning feeling, thirst, intoxication, fainting,

<sup>486</sup> 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.

<sup>487</sup> 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.

<sup>488</sup> In the next passage, the symptoms of snake poisoning are indeed explained under three headings.

<sup>489</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>490</sup> The term “giving off fumes (परिधूपयन)” is not in *MW*: 596 as such, although परिधूपन, परिधूमन and परिधूमायन are cited and referred to the *Suśrutasaṃhitā*. “Giving off fumes (परिधूपन)” 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 परिधूमायन but do not tell us in which manuscript (*Su* 1938: 291, n. 3). Ḍalhaṇa on 2.6.13 (*Su* 1938: 292) glossed परिधूपन as “hot all over (समन्ततस्तापः)” and in our current passage as “hot

fever, haemorrhaging (*śonitāgamana*), and the degeneration of the flesh and fat above and below. There is swelling, suppuration of the bite, metamorphopsia (*viparītadarśana*), anger caused by the suffering, and every kind of pain that is due to bile.<sup>491</sup>

The poison of a Rājimat causes the skin, nails, eyes, teeth, mouth, urine, feces, and bite mark 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>492</sup> Some that are bitten by a 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>493</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>494</sup> In the second pulse, it corrupts the flesh. That causes extreme blackness and lumps.

---

over the whole body (सर्वाङ्गसन्तापः)” (Su 1938: 573). See also *Mahākośa*: 1, 429: धूमायन “अङ्गानां धूमोद्धमनमिव” citing the *Suśrutasaṃhitā*.

491 Ghosh et al. (2023) describes visual disturbances due to snake envenomation.

492 The grammar of अविषलिङ्गम् is not quite right; it should be a masculine or plural bahuvrīhi.

493 Cf. the same concept in the context of plants, at 134

494 Strictly, we would expect a dual verb here, instead of the plural of the witnesses.

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>495</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>496</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.

**[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.

495 Dalhana on 5.4.39 (Su 1938: 574) glossed the last expression as “blockage of the vision (दृष्ट्यवरोध).”

496 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 *Mahākōśa*: v. 1, 304; Meulenbeld 1974b: 619; Das 2003: 544–545.

In the second pulse, it corrupts the flesh. That causes him to become pale and to become extremely benumbed (*jāḍya*).

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 interstitial layers (kalā) in between the bodily tissues (dhātu). Poison passing through these one by one produces the toxic reaction (vega).*<sup>497</sup>

41 *The interval taken by the deadly substance (kālakalpa), propelled ( $\sqrt{ūh}$ ) by air (samīraṇa), to cut the layers of skin is known as the “pulse interval (vegāntara)”.*<sup>498</sup>

42 *In the first pulse, an animal has a swollen body, is distressed and broods.*<sup>499</sup>

*In the second, it dribbles somewhat,<sup>500</sup> the hair stands up on its body, and it has pain ( $\sqrt{pīḍ}$ ) in the heart.*

43 *The third stage brings headache and it breaks the ears and necks.<sup>501</sup> In the fourth, the bewildered creature trembles and gnashing its teeth, it gives up life.*

<sup>497</sup> See note 457 above.

<sup>498</sup> Ḍalhana on 5.4.41 (Su 1938: 574) glossed कालकल्प as मृत्युसदृशं विषं “the poison resembles death.”

<sup>499</sup> The verb  $\sqrt{प्रध्वै}$  “meditate, be thoughtful, brood” is unexpected here and in the second class, an epic form. Ḍalhana 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 Nepales witnesses testifies to their antiquity.

<sup>500</sup> The Nepalese witnesses use लालि-, not लाला-, for “saliva.”

<sup>501</sup> The scribe of MS H emended the text to read कण्ठग्रीव with the vulgate. Intransitive use of pass. भञ्ज्.



- 44–45      *Some experts say that elephants have three toxic reactions.<sup>502</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>503</sup>*

<sup>502</sup> On अन्तःस्वेद as “elephant,” cf. *Arthaśāstra* 9.1.46 (Kangle 1965a: v. 1, 219; Olivelle 2013: 351): हस्तिनो ह्यन्तःस्वेदाः कुष्ठिनो भवन्ति ॥ ४६ ॥

<sup>503</sup> See on this subject: T. L. Brunton and Fayrer 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>504</sup>

---

<sup>504</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 procedure (*kalpa*) that is the therapy for someone bitten by a snake.<sup>505</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>506</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 (*car-mānta*) or bark.<sup>507</sup>
- 5 Where a bandage (*bandha*) is not suitable, one should **raise the bite up** and then cauterize it.<sup>508</sup> Suction, cutting and cauterizing are recommended in all cases.
- 6 Suction will be good after filling the mouth with **earth** (*pāṃśu*).<sup>509</sup> Alternatively, the snake should be bitten **by the person who knows** that they have just been bitten.<sup>510</sup>

505 On कल्प, see note 461.

506 Application of a tourniquet is deprecated by modern establishment medicine, which relies on antivenom medications (e.g., 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).

507 It is hard to translate the word अरिष्टा otherwise than “bandage,” as referred to by बन्धियात् in the previous verse, and apparently similar to items of cloth etc., and called a बन्ध 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.

508 The vulgate reads उत्कृत्य “having excised” rather than translate उद्धृत्य “having raised up.”

509 The vulgate recommends cloth, not earth (5.5.6 (*Su* 1938: 574)).

510 The syntax is odd here, and the vulgate has removed the difficulties. Ḍalhaṇa 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 (हस्ताभ्यामुपसंगृह्य पुच्छे वक्रे च सर्पः सम्यग् दष्टव्यः). Our colleague Dr Madhu K. Paramesvaran reports that this procedure is known in Malayalam *viṣavaidya* treatises and is practiced in Kerala, though rarely: “this practice has been described as one of

- 7 Now, one should in no way cauterize someone bitten by a Maṇḍalin. Because of the over-abundance of poison in the bile (*pittaviṣa*), that bite will **be lethal** as a result of cauterization.<sup>511</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>512</sup>
- 9 Mantrās prescribed by gods and holy sages (*brahmarṣi*), 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>513</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>514</sup>

the first-response cares for snakebite in most of the Malayalam texts of Viṣhavaidyā. 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 Viṣhavaidyā text edited by Mahādeva Śāstrī (1958).

511 Verses 5.4.29, and 37 above note that the venom of Maṇḍalins particularly irritates the bile.

512 Ḍalhaṇa 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.

513 Ḍalhaṇa on 5.5.10 (Su 1938: 575) noted that mantras like “kurukullā” and “bheruṇḍā” 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). HIMAL: IIB, 151, n. 344 provides a bibliography to 2002 of studies on Kurukullā, who is mentioned in Māhuka’s *Hara-mekhalā*, and Meulenbeld 2008a: 30–34 includes discussion of Bheruṇḍa as a bird, with related terms.

514 Ḍalhaṇa on 5.5.12 (Su 1938: 575) noted that उपहार includes incense, while बलि refers to sacrifice with an animal (सपशुनैवेद्य).

- 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 (*śākhāśrayā*), 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>515</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 cuscus grass.<sup>516</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>517</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.

<sup>515</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>516</sup> प्रच्छान is the second of the two methods of blood letting described in the vulgate text of the *Suśrutasaṃhitā* at 1.14.25 (Su 1938: 64); this verse does not appear in the Nepalese version of the *Suśrutasaṃhitā*.

<sup>517</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>518</sup>
- 21 At the third one should use errhines and collyrium (*añjana*) that destroy poison.<sup>519</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 (*tikṣṇa*), and a well-regarded gruel too.
- 23 **But at the seventh, one should purge (*√śodh*) his head with a sharp sternutatory.**<sup>520</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>521</sup>
- 25 **At the second, one should make him drink ghee and honey and then make him vomit.**<sup>522</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>518</sup> This section reproduces some of the therapies from *Suśrutasaṃhitā* 5.2.40–43 (Su 1938: 566) on the stages of slow poisoning (*dūṣṭvīṣa*) by plant poisons; see translation on p. 135 above.

<sup>519</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 collyriums, 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>520</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>521</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 Wujastyk 2003b: 145. This text is not supported here, as it was not in the Nepalese text at *Suśrutasaṃhitā* 5.2.43 (Su 1938: 566) either. See footnote 398, p. 135 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 *Suśrutasaṃhitā*.

<sup>522</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>523</sup> And at the seventh, a wholesome antidote that destroys poison in a sternutatory (*avapīḍa*).<sup>524</sup>

### In the case of Rājimats

- 28 **Now, Amongst Rājimats, one should let blood at the first toxic shock.**<sup>525</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 buffaloes and camels, four times for elephants and simply (*kevala*) for all birds.<sup>526</sup><sup>527</sup>

write note  
on par-  
isekān pra-  
dehāms

523 The “group of seventeen plants beginning with **cottony jujube**” (काकोल्यादि गण) is described at *Suśrutasamhitā* 1.38.35–36 (*Su 1938*: 167). These plants pacify the bile, blood and wind and increase phlegm, body-weight, semen and breastmilk.

524 The अवपीड is described at *Suśrutasamhitā* 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, Ḍalhaṇa 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 Dr̥ḍhabala (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.

525 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.

526 Ḍalhaṇa 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. 161 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>528</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>529</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 (*jāḍyātā*).<sup>530</sup> And in such cases one should apply the cure as appropriate.<sup>531</sup>
- 50–51ab One should also treat the secondary ailments (*upadrava*) of a poisoned patient each as appropriate.  
Now, after the bandage (*ariṣṭā*) has been removed and after the place

527 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. Ḍaḥaṇa on 5.5.33 (Su 1938: 576) cited the opinions of Gayadāsa and Jejjāta on this recipe but stated that he preferred to follow the contrasting opinions of Vṛddhavāgbhaṭa (1.25.24cd–25aba (As 1980: 184)) and Suśruta (4.31.29cd–30ab (Su 1938: 511)) on this topic, as well as several citations “another work” (तन्त्रान्तर) that is unidentified.

528 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 398 and 521, pp. 135, 167 above) and the beating of drums that have been smeared with antidotes, as discussed in *Suśrutasaṃhitā* 5.6 (Su 1938: 580–582) (see p. 175 below).

529 The word अवतिष्ठ “remaining” is hard to parse. It cannot be a णमुल् 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.

530 Ḍaḥaṇa on 5.5.49ab (Su 1938: 577) reported a reading from Jejjāta of स्तैमित्य “immobility” instead of प्रतिश्याय “catarrh.”

531 The vulgate introduces दोष theory here, which is absent in the Nepalese version.

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>532</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>533</sup>
- 54 One can conquer phlegm with the group that starts with **golden shower tree**, together with honey.<sup>534</sup>
- 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 (śīrṇa), it is designated "poison-stink (viṣapūti)."535*
- 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.536*
- 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*

532 This half-verse 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.

533 The vulgate reads "fish" in place of "wine."

534 The आरम्बघण is listed at *Suśrutasaṃhitā* 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)).

535 *Suśrutasaṃhitā* 5.5.16 (Su 1938: 575) (p. 166 above) suggests smearing an incised area with antidotes.

536 The Nepalese witnesses describe someone who has been struck or hurt (क्षत, आहत), while the vulgate describes someone who is pierced (विद्ध). Ḍalhaṇa on 5.5.58ab (Su 1938: 576) interpreted the latter wording as being struck by a poison-smeared arrow.

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 put in a horn: *turpeth, weaver's beam tree, liquorice, the two kinds of turmeric, Indian madder and Himalayan mayapple*,<sup>537</sup> and all kinds of salt.<sup>538</sup> This antidote, taken with drinks, collyrium (añjana), oil rubs (abhyañjana), errhines and drugs, destroys poison. With its relentless potency (vīrya) and as a destroyer of the toxic reaction (vega) to poison, it is called "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: *sacred lotus, deodar, grey orchid, black creeper, kutki, Himalayan yew, rosha grass, wild Himalayan cherry, Alexandrian laurel, scrambleberry, natron, sedge, cardamom, blue Indian symphorema, powdered ruffle lichen, costus, crape jasmine, foxtail millet, lodh tree, Indian bdellium-tree*,

<sup>537</sup> There is no मञ्जिष्ठा group, but there is a plant वक्र.

<sup>538</sup> There is a लवणवर्ग, (1.46.313–321 (Su 1938: 236–237)).

red ochre, rock salt, long pepper, and dried ginger. This antidote (agada) is identified as “Garuḍa (tārksya).” 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, scrambling, 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 (prasūna) born from the fruit of the marking-nut.<sup>539</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>540</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 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 (sañjivana)” 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>541</sup> bayberry, citron, white clitoria, winged-stem canscora,

539 Ḍalhaṇa on 5.5.70 (Su 1938: 579) glossed प्रसून more specifically as तुलसीपुष्प “the Tulasi flower.”

540 All three animals produce musk. Ḍalhaṇa on 5.5.71 (Su 1938: 579) remarked that some people thought शिखी was a cock, not a peacock. He also here glossed पृषत as चित्तल.

541 Ḍalhaṇa on 5.5.75 (Su 1938: 579) noted the common name बहुवार for श्लेष्मातकी.

*white siris, and sugar, taken with amaranth.*<sup>542</sup>

76cd–78ab

The best antidote for the poison of Maṇḍalins is *grapes, Withania, Indian 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>543</sup>

84ab–86

The following group is known as the *One Essence (ekarasa)*:<sup>544</sup> *beautyberry, hibiscus (?), weevil wort, and mango*, as well as *ma-loo creeper, Indian pennywort, three-leaved caper, spurge, hogweed, smooth angelica, croton tree, and Indian snakeroot* as well; *black earth (bhūmī)*,<sup>545</sup> and *bluebell barleria*. Whether used separately or in pairs, it removes poison.

542 राजिल appears to be a synonym for राजिमत्, a “striped” snake. Ḍalhaṇa on 5.5.76ab (Su 1938: 579) once again gives interesting local synonyms for these plant names.

543 After this passage, the vulgate has five and a half verses that do not appear in the Nepalese version.

544 The vulgate reads एकसर, “one run.” Ḍalhaṇa on 5.5.86 (Su 1938: 580) also read एकसर and glossed it as the proper name of a गण.

545 A hapax in this meaning *Mahākośa*: 1, 582. So glossed by Ḍalhaṇa on 5.5.86 (Su 1938: 580): भूमिः कृष्णमृत्तिका



# Kalpasthāna 6: Beating Drums

## Introduction





# Kalpasthāna 8: Poisonous insects

Introduction

Literature

Translation

28 [iguana](#)

29 <sup>546</sup>

---

<sup>546</sup> See n. [191](#), p. [76](#).



## **Part 6. Uttarantra**



# Uttaratantra 17: Preventing Diseases of the Pupil

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>547</sup>

The history of couching in India has been discussed since the nineteenth century,<sup>548</sup>

The therapies in this chapter make frequent use of collyrium (*añjana*). This substance and its uses and variants are described in *Carakasamhitā* 1.5.14–19 (Ca 1941: 38–39). In the *Suśrutasamhitā*, they are included in the “group starting with *añjana*” (*añjanādigana*), 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*).

## Translation

- 1 Now I shall explain the counteraction (*pratiṣedha*) of diseases located in the pupil (*drṣṭi*).
- 2 There are three curable (*sādhya*), three incurable (*asādhya*), and six mitigatable (*yāpya*) diseases located in peoples eyes. Among these, three are curable (*sādhya*). Amongst these three, the remedy (*pratīkāra*) has been stated for the one called “seeing smoke (*dhūmadarśin*)”.<sup>549</sup>

---

<sup>547</sup> HIML: IA, 305–306.

<sup>548</sup> Scott 1817; Breton 1826; Jack 1884; Hendley 1895; Elliot 1918; V. P. Śāstrī 1940; V. Deshpande 1999; 2000; Wujastyk 2003b; Fan 2005; Leffler et al. 2020.

<sup>549</sup> This disease and its cure are described earlier (SS.6.7.39 and SS.6.10.16 (Su 1938: 609

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>550</sup> but not cutting with a blade (*śastrakṣata*).<sup>551</sup>

where is cutting with a knife related to removing bile or phlegm.

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 (*maṣī*) from cow's teeth;
- cow's flesh (*gomāṃsa*), **black pepper, siris and realgar**;
- stalk (*vṛnta*) from a **wood apple** with honey (*madhu*);<sup>552</sup>
- or the the fruits of the **velvet bean**.

maṣī  
burned  
charcoal.  
Find refs.

8 The physician should make a collyrium (*añjana*) with ground up **metal** (*kupyaka*),<sup>553</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**.

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.

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.

550 These therapies are described in SS.6.18 (*Su 1938*: 633–640).

551 Dalhaṇa interpreted this as blood-letting (*sirāvedha*), which is discussed in SS.1.14 (*Su 1938*).

552 Wood apple (*कपित्थ*) in this verse is ablative singular or accusative plural, neither of which construe obviously.

553 A metal other than gold or silver, according to V. Jośi and N. H. Jośi (*Mahākośa*: 1, 217) (on *कुप्य*). The Nepalese witnesses have the rare *कुप्यक* rather than the vulgate's *कुब्जक*, which makes no real sense. Perhaps lead, which is used in making contemporary collyrium.

- 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>554</sup> Then he mixes it with the bile of a tortoise or with extract of rohu carp (*rauḥita*). 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 (*manaḥśilā*), the two turmeric (*rajana*)<sup>555</sup> and liver extract (*yakṛdrasa*).<sup>556</sup>
- 16 One should grind up kohl (*srotoja*),<sup>557</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>558</sup> long pepper, dried ginger (*nāgara*) and honey, the leaf of the *scramberry* (*tālīśapatra*), the two turmeric (*rajana*), a conch shell and liver extract (*yakṛdrasa*). Then shade-dried wicks take away illness (*ruj*).
- 18cd–19ab Wicks made of red arsenic (*manaḥśilā*), chebulic myrobalan (*abhayā*), the three spices (*vyoṣa*). Indian sarsaparilla (*sāriva*), cuttlefish bone

554 This was Ḍalhaṇa's preferred interpretation of *rasa* "juice" in this context. He also noted that some take elixir-salve (*śīta*) to be camphor.

555 Turmeric (*Curcuma longa* Linn.) and tree turmeric (*Berberis aristata* DC). The term *rajana* is unusual; the normal term is *rajanī*. *Rajana* occurs in *Suśrutanighaṇṭu* 158 in the sense of *Ferula asafoetida*, Linn.

556 This verse appears as no. 27 in the vulgate.

557 Glossed by Ḍalhaṇa as a kind of collyrium (*añjana*). Cf. nadk-1954 and P. V. Sharma 1982: 197–198

558 There are two forms of *sārivā* 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.

- (*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 (*dhātrī*) 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 (*aṇṇavamala*)<sup>559</sup> with long pepper, honey and box myrtle (*kaṭphala*). 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 (*māgadhī*), the bone and the marrow of a goat, cardamom (*elā*) and liver, together with liver extract, is good for eyes afflicted by phlegm.<sup>560</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 (*māgadhī*). 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 eat them both with ghee and oil.<sup>561</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

559 At SS 6.12.31, Ḍalhaṇa glossed *aṇṇavamala* as cuttlefish bone (*samudraphena*). It may be worth considering whether the unusual term *aṇṇavamala* "ocean-filth" might refer to ambergris.

560 On the identities of *elā* and *hareṇu*, Watt ([WattComm](#): 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 Chuneekar ([GVDB](#): 467 f) provided an interesting discussion of *hareṇu*, noting that the term refers to two substances, first the *saṭīna* 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 Ḍalhaṇa described it as aromatic and identical to *reṇukā* (SS.ci.2.75).

561 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.



combined (*upahita*) with purgative aids (*aṅga*).

- 26cd–27 When an eye-disease is caused by wind (*pavanodbhava*) they say that castor oil (*pañcāṅgulataila*) mixed with milk is good.<sup>562</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>563</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>564</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>565</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 (*nasya*).<sup>566</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 (*puṭākhyā*) with Sindh salt and the product of

<sup>562</sup> Ḍalhaṇa said that the unexpressed topic of this recipe is partial blindness (*timira*).

<sup>563</sup> 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

<sup>564</sup> 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.

<sup>565</sup> “Off his hand” translates the adverbial *sapāṇam*, an unusual word. Ḍalhaṇa reproduced a reading close to the Nepalese recension but says that Jejjāta rejects it and so he also does (Su 1938: 627).

<sup>566</sup> “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.

the meat of a carnivore (*kravyabhuj*) and a deer (*eṇa*), is combined with honey and ghee.<sup>567</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>568</sup>

- 33 Having prepared (*niṣevita*) a collyrium (*añjana*) made of kohl (*srotas*) and gradually combine it with juices (*rasa*), milk and ghee.<sup>569</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 (*māgadhī*), lye (*kṣāraka*) and ?? that has been repeatedly prepared with the mouth of a black snake, is good in the case of bloodshot blindness (*rāgin timira*).<sup>570</sup>

- 35 They say that ghee may be produced from that and combined with sweet herbs is good as an errhine for eye-diseases caused by bile.

And here, an eyewash (*tarpaṇa*) is good that is a combination that is the flesh of wild animals taken hot (*puṭāhvaya*).<sup>571</sup>

- 36 And realgar (*manahśilā*) mixed with elixir salve (*rasañjana*) and honey is a liquid collyrium (*dravāñjana*) which is, in this case, combined with *mahua*.<sup>572</sup>

567 Ḍalhaṇa noted (Su 1938: 628a) that *puṭāhvaya* (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 *rasasūtra* literature, see the discussion by 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.

568 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.

569 Ḍalhaṇa specified that the juices are meat soups of various animals (Su 1938: 628).

570 Ḍalhaṇa 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.

571 The expression taken hot (*puṭāhvaya*) is a guess.

572 The expression liquid collyrium (*dravāñjana*) is only known from Ḍalhaṇa’s comments on 6.17.11ab (Su 1938: 626). The recipe in the present collyrium is different from that discussed by Ḍalhaṇa.

- Alternatively, experts on this say that finely ground blue vitriol (*tuttha*) extracted from a gold mine is the “same collyrium (*samāñjana*)”.<sup>573</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>574</sup>
- The extracts (*rasa*) produced from aflame of the forest (*palāśa*), Rohīta tree (*rohīta*),<sup>575</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 (*priyaṅgu*) to pacify eye diseases caused by phlegm.<sup>576</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>577</sup> as well as turmeric (*haridrā*) and spikenard (*nalada*) is good in a eyewash (*tarpaṇa*).
- Alternatively, one may have an enclosed roasting (*puṭapāka*) done with arid-land animals (*jāṅgala*)<sup>578</sup> and a plentiful amount of long pepper (*māgadha*), Sindh salt and honey.
- 40 A treatment (*kriyā*) with realgar (*manaḥśilā*), the three spices, conch, honey, along with Sindh salt, green vitriol (*kāsīsa*) and elixir salve (*rasañjana*).<sup>579</sup>
- They say that an elixir salve (*rasañjana*) combined with myrobalans,

573 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 Ḍalhaṇa as “a collyrium with an equal amount of fermented barley” (*tulyasauvīrāñjana*) (Su 1938: 628).

574 The ablative “from collyrium” is hard to construe, but Ḍalhaṇa used this term and phrase in his commentary on 6.17.41ab (Su 1938: 629).

575 Probably *Soymida febrifuga* A. Juss.

576 Ḍalhaṇa invoked a general rule (*paribhāṣā*) to indicate that this mixture should be cooked with sesame oil.

577 These are fig trees. The *Sauśrutaniḡhaṇṭu* (252) specifies the Uḍumbara. Cf. the classification in CS.1.1.71–72, 1.8, *et passim*.

578 On this term, see SS.1.35.42 (Su 1938: 157) and the discussion by Zimmermann (1999: 25–31).

579 Ḍalhaṇa glossed treatment (*kriyā*) specifically as inspissation (*rasakriyā*) (Su 1938: 629).

treacle and dried ginger is good.<sup>580</sup>

41 Alternatively, a collyrium (*añjana*) that has been prepared many times in the eight types of urine<sup>581</sup> is put into water with the three fruits. Having stored it in the mouth of a nocturnal creature (*niśācara*)<sup>582</sup> one should place it in a conch (*salilotthita*) for two months.<sup>583</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>584</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>585</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>586</sup>

44 The physician should not employ substances in errhines etc., when the 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>587</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 emblics, or again cooked barley (*yavaudana*) followed by the water of three

580 We emend हिते to हितम्, against the MSS.

581 See *Suśrutasamhitā* mūtravarga

582 Ḍalhaṇa 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.

583 We interpret “water-born (*salilotthita*)” as “conch” in line with *jalodbhava*, but the term is uncertain.

584 The vulgate follows Ḍalhaṇa 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.

585 The vulgate edition omits part of this verse (ab) combining earlier and later passages.

586 The term watery eye (*syanda*) refers to the specific disease *abhiśyanda*. See SS.6.6.5, 1.46.51, etc.

587 Ḍalhaṇa noted that *Kalpa* means the Uttaratantra adhyāya 18 (Su 1938: 633 ff).

find ref.

Check out these refs.

meaning of kalpa

- fruits with plenty of ghee.
- 47 When there is bloodshot blindness (*rāgiṇi timire*), the wise physician should not cut a vein. A humour injured (*utpīḍita*) by the instrument rapidly destroys vision.
- 48 Non-bloodshot blindness (*araga timira*) in the first layer (*paṭala*) is treatable. And bloodshot blindness (*rāgiṇi timire*) in the second layer, with difficulty. And in the third layer it can be mitigated (*yāpya*).<sup>588</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 (*doṣa*) in the pupil may be characterized as being painful or having blood.<sup>589</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>590</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 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>591</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

<sup>588</sup> 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.

<sup>589</sup> 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.17.1–3a (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.

<sup>590</sup> 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.

<sup>591</sup> Ḍalhaṇa remarked on 6.17.61ab (Su 1938: 630) that when the piercing is not correctly done, blood issues and there is no sound.

- (*dr̥ṣṭimaṇḍala*) with the tip of the probe (*śalākā*).<sup>592</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>593</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 (*sūcī*) properly.<sup>594</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>595</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>596</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>597</sup>
- 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 (*dr̥ṣṭi*) and also

592 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.

593 Ḍalhaṇa described sniffing (*ucchiṅgana*) at 6.19.8 (Su 1938: 641), clearly intending inward sniffing.

594 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 6.17.25a (As 1980: 716a), where sweating of the eye is done by means of the leaves of a castor-oil plant.

595 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.

596 Ḍalhaṇa explained disturbances specifically as dust, smoke, drafts and sunlight 6.17.67 (Su 1938: 631a).

597 Ḍalhaṇa glossed “restrictions (*yantraṇā*)” as having a controlled diet and the other 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).



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>598</sup>  
 A hard probe leads to shooting pain (*śūla*), a thin to unsteadiness of the humours (*doṣapariplava*),<sup>599</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>600</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 (*śātakumbhī*).<sup>601</sup>

### [Complications]

Redness, swelling, lumps, driness (*coṣa*), bubbling (*budbuda*),<sup>602</sup> pigs' eye (*sūkarākṣitā*),<sup>603</sup> irritation (*adhimantha*), etc. and other diseases arise from faults in the piercing,

598 The condition of "misshapen eye" is referred to briefly in 6.61.9 (Su 1938: 800), where Ḍalhaṇa glossed it as "bent brow and eye (*vakrabhrūnetra*)." The vulgate's reading of "with blood (*śonitena*)" is easier to construe.

599 There is a medically significant difference here from the vulgate, which reads "a rough (*khara*) probe" not a "thin" probe.

600 This translation of loss of function (*kriyāsaṅga*) is given on the basis of Ḍalhaṇa's gloss of *kriyāsaṅgakarīn* at 3.8.19 (Su 1938: 382) as "causing the destruction of actions such as moving (*gamanādikriyāvīnāśakarī*)."

601 The vulgate reads "copper (*tāmra*)" in place of "silver."

602 Ḍalhaṇa glossed "bubbling (*budbuda*)" as "prolapse (*māṃsanirgama*) that looks like bubbles."

603 The expression "pigs' eye" appears to be a *hapax*. It was glossed as "downward vision (*adhodṛṣṭitva*)" by Ḍalhaṇa.

- 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 (*gairikah*), 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 (*mātuluṅga*) with sesame gently fried, mixed with white mustard (*siddhārthaka*).<sup>604</sup> This is immediately beneficial when someone is looking for relief.
- 72 A paste with Holostemma (*payasyā*),<sup>605</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>606</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 (*prthakparṇī*),<sup>607</sup> nutgrass (*mustā*), liquorice, Himalayan 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>608</sup> This has an admixture of cottony jujube (*kākolī*) etc., should be prescribed in all treat-

604 On the adverbial use of gently (*mṛdu*), see Gombrich 1979.

605 The identity of *payasyā* is debated (GVDB: 538), and was already in doubt at the time of Ḍalhaṇa but likely candidates may be those suggested by Ḍalhaṇa, who suggests either *arkapuṣpī* or *kṣīrakākolī*, that may be *Holostemma adakodien* Schult. and *Leptadenia reticulata* (Retz.) Wight & Arn. (ADPS: 195-196). The *Sauśrutaniḡhaṇṭu* glosses it as *kṣīrikā* or *arkapuṣpikā* (Suvedī and Tivārī 2000: v. 307).

606 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).

607 Suvedī and Tivārī 2000: 18.

608 Ḍalhaṇa mentioned that these drugs include Deodar (*bhadradāru*) and other wind-destroying drugs. The *vātasamśamana* group is listed in *Suśrutasaṃhitā sūtrasthāna* 1.39.7.



ments.<sup>609</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>610</sup>
- 78cd–80ab Now listen to two excellent collyriums for making the pupils clear. After grinding the flowers of perploca of the woods (*meṣaśṛṅga*), siris (*śirīṣa*), axelwood (*dhava*) royal jasmine (*jātī*), pearl and beryl (*vaiḍūrya*) 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 (*manaḥśilā*) 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 collyriums at length in the *Kriyākalpa* section. Those various methods may be applied here too.

or a dual?

<sup>609</sup> Ḍalhaṇa noted that this would include errhines, ointments, etc.

<sup>610</sup> The vulgate reads *vāpi* for *cāpi*, so Ḍalhaṇa saw blood-letting and cautery as alternatives, not a sequence of treatments. Ḍalhaṇa listed the places that cauterization may be applied, such as the brow, forehead, etc.



# 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 (*nīdāna*), 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 gynecological 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 3.<sup>611</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*.

---

<sup>611</sup> Or *Kumārabhṛtya* as this section is named in MS Kathmandu KL 699.

Table 3: 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
Tantrabhūṣaṇādhyāya	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). Ḍalhana 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 “*yonī*” in the statement “born in the womb (*yonī*) 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>612</sup>

- In the placement of the Nepalese version,
  - 6.*Yonivyāpatpratiṣedha* is preceded by

<sup>612</sup> Ḍalhana on 6.38.1 (Su 1938: 668): ग्रहोत्पत्त्यध्यायानन्तरं ‘तिर्यग्योनिं मानुषं च’ इति वचनेन योने-  
र्नामसंकीर्तनात् कुमारजन्मविकारकारणत्वाच्च योनेर्व्यापञ्चिकित्सितार्थं योनिव्यापत्प्रतिषेधाध्यायारम्भो यु-  
ज्यत [...].

- 6.56 *Mūtrāghātapraṭiṣedha* (6.58 in [Su 1938](#)) and
- 6.57 *Mūtrakṛcchrapraṭiṣedha* (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 Ḍalhaṇa, 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>613</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 *Guhyarogapraṭiṣedha* 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 Y. T. 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>614</sup>

Another most interesting parallel is found in *Carakasamhitā* 6(Ci).30.

<sup>613</sup> See 1.3.37ab ([Su 1938](#): 15): नैगमेषचिकित्सा च ग्रहोत्पत्तिः सयोनिजा ॥.

<sup>614</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:  $\underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}}$ . In content, they are only approximately parallel to three hemistichs in *anuṣṭubh* metre found in the vulgate.<sup>615</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>616</sup> By contrast, the vulgate contains two complete verses (four hemistichs) in the *anuṣṭubh* metre, again with only loosely-related content.<sup>617</sup> The three final hemistichs of this group are borrowed verbatim from the *Carakasamhitā*.<sup>618</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* (rogasaṃgraha)”.<sup>619</sup> This statement does not make any sense in the context of the *Suśrutasamhitā*, where no such Compendium exists.<sup>620</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>621</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>622</sup> Even the vocabulary and wording of this

615 *Suśrutasamhitā* 6.38.3–4ab (*Su* 1938: 668).

616 The metre of these verses is not perfect.

617 *Suśrutasamhitā* 6.38.4cd–6ab (*Su* 1938: 668).

618 *Carakasamhitā* 6.30.7cd–8 (*Ca* 1941: 634).

619 *Suśrutasamhitā* 6.38.5ab (*Su* 1938: 668): विंशतिर्व्यापदो योनेर्निर्दिष्टा रोगसंग्रहे ॥ ← *Carakasamhitā* 6.30.7cd (*Ca* 1941: 634).

620 The remark was not commented on by Ḍalhana.

621 *Carakasamhitā* 1.19.9cd (*Ca* 1941: 112): रोगाध्याये प्रकाशिताः.

622 *Carakasamhitā* 1.19.3 (*Ca* 1941: 110): विंशतिर्योनिव्यापदः ।

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>623</sup>

---

<sup>623</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 (*yonivyāpat*).<sup>624</sup>
- \*3 Since 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>625</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>626</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 are taught here distinctly and one by one along with their treatment

624 On this broad understanding of the term *yoni* as “female reproductive system” see Das 2003: pp. 572–5.

625 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.’

626 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-√चर् is attested several times in medical literature. At least once, at *Carakasamhitā* 3.3.38 (Ca 1941: 245), it is given an explicit gloss by Cakrapāṇidatta: मिथ्योपचरितानिति 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 quoted by Gayadāsa at *Suśrutasaṃhitā* 2.5.17 (Su 1938: 287): श्वित्रं तु द्विविधं प्रोक्तं दोषजं व्रणजं तथा । तत्र मिथ्योपचाराद्धि 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) = *Carakasamhitā* 6.30.8 (Ca 1941: 634) = MN<sub>3</sub> 62.1 reads मिथ्याचार “wrong conduct.” All commentators (Cakrapāṇidatta on the *Carakasamhitā*, Śrīkaṇṭhadatta on the MN<sub>3</sub>, and Ḍalhaṇa on the *Suśrutasaṃhitā*) explain that the wrong conduct stands here specifically for unwholesome diet. The parallel in *Aṣṭāṅgahṛdayasaṃhitā* 6.33.27 (Ah 1939: 895) = *Aṣṭāṅgasaṃgraha* 6.38.34a (As 1980: 829) plainly reads दुष्टभोजन “corrupted food” instead.



(*bheṣaja*), causes (*hetu*) and signs (*cihna*).

\*6.1 Because of wind (*vāta*), female reproductive organ (*yonī*) 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 (*sraṃsanī*),
4. Child-murderess (*putraghnī*), and also
5. Bilious / Choleric (*pittalā*).

\*7.1 And because of phlegm (*kapha*) occur:

1. Extremely Excited (*atyānandā*),
2. Protuberant (*karṇinī*), and
3. & 4. two Caraṇī (*caraṇī*), and
5. other Phlegmatic (*śleṣmalā*).

\*7.2 And similarly there are other (kinds of morbid female reproductive system) involving all *doṣas*:

1. Impotent (*śaṇḍhī*),
2. With testicles (*aṇḍīnī*),
3. two Huge (*mahatī*),
4. With a needle-like opening (*sūcīvaktrā*),
5. Sarvātmikā (*sarvātmikā*).



# Uttaratantra 65: Rules of Interpretation

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>627</sup> Other explorations of this topic include TY; Dasgupta 1952; Oberhammer 1968; TYV; Lele 1981; Scharfe 1993; Mejer 2000; A. Singh 2003.

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) discusses 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 *Suśrutasamhitā* 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 *Carakasamhitā* 8.12 (Ca 1941) which introduce four additional *tantrayuktis*. However, the *tantrayuktis* remain undefined in the *Carakasamhitā*.

---

<sup>627</sup> [HIML](#): IA, 331.

## 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>628</sup> For a side-by-side comparison of the *tantrayuktis* in the *Suśrutasamhitā* and the *Arthaśāstra*, please refer to Table 4.

## The *Yuktidīpikā*

*Yuktidīpikā* (circa late sixth to early eighth century), an anonymous commentary on Īśvarakṛṣṇa's *Sāṅkhyakārikā*, initiates its discourse with a detailed discussion of the characteristics of a scientific treatise, some of which align with the *tantrayuktis*.<sup>629</sup> In the *Yuktidīpikā*, these terms are referred to as *tantraguṇa* or *tantrasampat*. They are: (1) *sūtropapatti* (2) *pramāṇopapatti* (3) *avayavopapatti* (4) *anyūnatā* (5) *saṁśayokti* (6) *nirṇayokti* (7) *uddeśa* (8) *nirdeśa* (9) *anukrama* (10) *saṁjñā* and (11) *upadeśa*.<sup>630</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>631</sup>

## Tamil literature

Discussions on the *tantrayuktis* are also found in Tamil technical literature, the earliest of which is the *Tolkāppiyam*.<sup>632</sup> A list of 32 *tantrayuktis*, called

628 *Arthaśāstra*: 280–283

629 See Oberhammer 1968: 605–614 for a detailed discussion of the use of the *tantrayuktis* in the *Yuktidīpikā*.

630 सूत्रप्रमाणावयवोपपत्तिरन्यूनता संशयनिर्णयोक्तिः ।

उद्देशनिर्देशमनुक्रमश्च संज्ञोपदेशाविह तन्त्रसम्पत् ॥

*Yuktidīpikā*: 3

631 एवमारा अन्येऽपि द्रस्तव्याह् । तद्यथोत्सर्गोऽपवादोऽतिदेश इत्यादि ।...इत्येवमन्या अपि तन्त्रयुक्तयः शक्या इह प्रदर्शयितुम् । अतिप्रसङ्गस्तु प्रकृतं तिरोदधातीति निवर्त्यते । सिद्धं तन्त्रयुक्तीनां सम्बन्धोपपत्तेस्तन्त्रम् इदम् इति । *Yuktidīpikā*: 8

632 For a detailed discussion of the treatment of the *tantrayuktis* in the *Tolkāppiyam* see Chevillard 2009.

*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 *Poruḷ* “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 century AD, 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 Ḹampūraṇar (11th or 12th century) and Pērācīriyar (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 *Yāpparuṅkalam* (possibly 10th century), the *Vīracolīyam* (11th century), *Naṇṇūl* (late 12th or early 13th century), and their commentaries hold significant importance in this context.

### The Viṣṇudharmottarapurāṇa

The third book of the *Viṣṇudharmattarapurāṇa*, believed to have been composed between the fifth and seventh centuries, includes a chapter dedicated to the *tantrayuktis*.<sup>633</sup> Unlike the *Arthaśāstra* and the *Suśrutasaṃhitā*, 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 *Suśrutasaṃhitā*. 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 *Suśrutasaṃhitā* or 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*.

<sup>633</sup> Adhyāya 6, *Viṣṇudh* 3: 13–14.

2. *Anumata* is placed after *vyākhyāna* whereas in the *Suśrutasaṃhitā* it follows *niṣṇaya*.
3. *Anāgatāvekṣaṇa* (*anāgatāpekṣaṇa* in the Nepalese version) occurs after *atīkrāntāvekṣaṇa* (*atīkrāntāpekṣaṇa* 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 4.

### 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 Aggavaṃsa in Arimaddanapura (modern Bagan, Burma) in the twelfth-century.<sup>634</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. *Atīkrāntāpekṣaṇa* is designated as *atītāpekṣhana* (Sanskrit *atītāpekṣaṇa*).
3. *Svasaṃjñā* is designated as *anaññā sakasaṃjñā* (Sanskrit *ananyā svasaṃjñā*) and is defined with subtle variations.
4. *Ūhya* is designated as *upānīya*.

For a side-by-side comparison of the *tantrayuktis* in the *Suśruta Saṃhitā* and the *Saddanīti*, please refer to Table 4.<sup>635</sup>

<sup>634</sup> *Saddanīti* 3: 920–921.

<sup>635</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.

Table 4: Tantrayuktis in *Suśrutasamhitā* (S), *Viṣṇu-dharmottarapurāṇa* (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 तदधिकरणम् ।
(N) 1.	<i>adhikaraṇa</i>	तत्थ यं अधिकिञ्च वुञ्चति, तं अधिकरणम् ।
(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 पदयोः पदानां वा योऽर्थः स पदार्थः । अपरिमिताश्च पदार्थाः ।
(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 अत्यो विहितो, सो पदत्यो ।
(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 हेतुअत्यो । <sup>636</sup>
(S) 5.	<i>uddeśa / samuddeśa</i>	समासवचनं समुद्देशः ।
(V) 5.	<i>uddeśa</i>	समासवचनमुद्देशः ।
(A) 6.	<i>uddeśa</i>	समासवाक्यमुद्देशः ।
(N) 5.	<i>uddesa</i>	समासवचनं उद्देशो ।
(S) 6.	<i>nirdeśa</i>	विस्तरवचनं निर्देशः ।
(V) 6.	<i>nirdeśa</i>	विस्तरवचनं निर्देशः ।

636 yaṃ vuttaatthasādhanaṃ ? so hetuttho. Thera 1909: 807.

Sequence	Terms	Definitions
(A) 7.	<i>nirdeśa</i>	व्यासवाक्यं निर्देशः ।
(N) 6.	<i>niddesa</i>	वित्थारवचनं निद्देशो ।
(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 उपदेशो ।
(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 अपदेशो ।
(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>	पकतस्स अनागतेन अत्थसाधनं पटिदेशो ।
(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>	पकतस्स अतिक्रान्तेन साधनं अतिदेशो ।
(S) 11.	<i>apavarga</i>	अभिप्रमृज्यापकर्षणमपवर्गः ।
(V) 11.	<i>apavarga</i>	अभिप्रायानुकर्षणमपवर्गः ।
(A) 22.	<i>apavarga</i>	अभिप्लुतव्यपकर्षणमपवर्गः ।
(N) 11.	<i>apavagga</i>	अतिव्यापेत्वा अपनयनं अपवर्गो ।
(S) 12.	<i>vākyaśeṣa</i>	येन पदेनानुक्तेन वाक्यं समाप्यते स वाक्य- शेषः ।
(V) 12.	<i>vākyaśeṣa</i>	येनार्थः परिसमाप्यते पदेनाहार्येण स वाक्य- शेषः ।
(A) 17.	<i>vākyaśeṣa</i>	येन वाक्यं समाप्यते स वाक्यशेषः ।
(N) 12.	<i>vākyadosa</i>	येन पदेन अवुक्तेन वाक्यपरिसमापनं भवति, सो वाक्यदोषो ।
(S)		
(V)		
(A) 12.	<i>upamāna</i>	दृष्टेनादृष्टस्य साधनमुपमानम् ।
(N)		



Sequence	Terms	Definitions
(S) 13.	<i>arthāpatti</i>	यदकीर्तितमर्थादापद्यते सार्थापत्तिः ।
(V) 13.	<i>arthāpatti</i>	यदकीर्तितमर्थादापद्यते सार्थापत्तिः ।
(A) 13.	<i>arthāpatti</i>	यदनुक्तमर्थादापद्यते सार्थापत्तिः ।
(N) 13.	<i>atthāpatti</i>	यद् अकित्तितं अत्थतो आपज्जति, सा अत्था- पत्ति ।
(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 यत्थ विहितं, तत्र यं तस्स पटिलोमं, सो वि- परिययो ।
(S) 15.	<i>prasaṅga</i>	प्रकरणान्तरेण समानः प्रसङ्गः ।
(V) 14.	<i>prasaṅga</i>	प्रकरणाभिहितोऽर्थः केनचिदुपोद्धातेन पुनरु- च्यमानः प्रसङ्गः ।
(A) 15.	<i>prasaṅga</i>	प्रकरणान्तरेण समानोऽर्थः प्रसङ्गः ।
(N) 15.	<i>pasaṅga</i>	पकरणन्तरेण 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>637</sup>
(V) 17.	<i>pūrvapakṣa</i>	प्रतिषेधवचनं पूर्वपक्षः ।
(A) 24.	<i>pūrvapakṣa</i>	प्रतिषेद्धव्यं वाक्यं पूर्वपक्षः ।
(N) 18.	<i>pubbapakṣa</i>	[यो] तु निस्सन्देहम् अभिधीयते, सो पुब्बप- क्खो ।
(S) 19.	<i>nirṇaya</i>	तस्योत्तरं निर्णयः ।
(V) 18.	<i>nirṇaya</i>	उत्तरवचनं निर्णयः ।
(A) 25.	<i>uttarapakṣa</i>	निर्णयवाक्यमुत्तरपक्षः ।

<sup>637</sup> This definition of *pūrvapakṣa* in the Nepalese version is problematic.

Sequence	Terms	Definitions
(N) 19.	<i>niṇṇaya</i>	तस्स यं उत्तरं, सो निण्णयो ।
(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>	प्रकरणानुपूर्व्यादभिहितं विधानम् ।
(V) 19.	<i>vidhāna</i>	प्रकरणानुपूर्वं विधानम् ।
(A) 2.	<i>vidhāna</i>	शास्त्रस्य प्रकरणानुपूर्वी विधानम् ।
(N) 21.	<i>vidhāna</i>	प्रकरणानुपुब्बं विधानं ।
(S) 22.	<i>anāgatāpekṣaṇa</i>	एवं वक्ष्यतीत्यनागतापेक्षणम् ।
(V) 22.	<i>anāgatāpekṣaṇa</i>	परत्र वक्षामीत्यनागतावेक्षणम् ।
(A) 27.	<i>anāgatāpekṣaṇa</i>	पश्चादेवं विहितमित्यनागतावेक्षणम् ।
(N) 22.	<i>anāgatāpekkhana</i>	एवं वक्खामि ति अनागतापेक्खनं ।
(S) 23.	<i>atīkrāntāpekṣaṇa</i>	इत्युक्तमित्यतिक्रान्तापेक्षणम् ।
(V) 21.	<i>atīkrāntāpekṣaṇa</i>	इत्युक्तमतिक्रान्तावेक्षणम् ।
(A) 28.	<i>atīkrāntāpekṣaṇa</i>	पुरस्तादेवं विहितमित्यतिक्रान्तावेक्षणम् ।
(N) 23.	<i>atītāpekkhana</i>	इति वुत्तन् ति अतीतापेक्खनं ।
(S) 24.	<i>saṃśaya</i>	उभयहेतुनिर्दर्शनं संशयः ।
(V) 23.	<i>saṃśaya</i>	उभयतो हेतुदर्शनं संशयः ।
(A) 14.	<i>saṃśaya</i>	उभयतो हेतुमानर्थः संशयः ।
(N) 24.	<i>saṃsaya</i>	उभयहेतुदस्सनं संसयो ।
(S) 25.	<i>vyākhyāna</i>	तत्रातिशयोपवर्णनं व्याख्यानम् ।
(V) 24.	<i>vyākhyāna</i>	तत्रातिशयवर्णनातिव्याख्यानम् ।
(A) 19.	<i>vyākhyāna</i>	अतिशयवर्णना व्याख्यानम् ।
(N) 25.	<i>vyākhyāna</i>	संवण्णना व्याख्यानम् ।
(S) 26.	<i>svasaṃjñā</i>	अन्यशास्त्रासामान्या स्वसंज्ञा ।
(V) 26.	<i>svasaṃjñā</i>	परैरसम्मतः शब्दः स्वसंज्ञा ।
(A) 23.	<i>svasaṃjñā</i>	परैरसमितः शब्दः स्वसंज्ञा ।
(N) 26.	<i>anaññā sakasaññā</i>	भूतानं पवत्ता आरम्भचिन्ता अनञ्जा, सस्स सा- धारणा सकसञ्जा ।
(S) 27.	<i>nirvacana</i>	लोकप्रथितमुदाहरणं निर्वचनम् ।
(V) 27.	<i>nirvacana</i>	लोके प्रतीतमुदाहरणं निर्वचनम् ।

Sequence	Terms	Definitions
(A) 20.	<i>nirvacana</i>	गुणतः शब्दनिष्पत्तिर्निर्वचनम् ।
(N) 27.	<i>nibbacana</i>	लोकप्पतीतम् उदाहरणं निब्बचनं ।
(S) 28.	<i>nidarśana</i>	दृष्टान्तव्यक्तिर्निदर्शनम् ।
(V) 28.	<i>nidarśana</i>	तद्युक्तिनिदर्शनं दृष्टान्तः ।
(A) 21.	<i>nidarśana</i>	दृष्टान्तो दृष्टान्तयुक्तो निदर्शनम् ।
(N) 28.	<i>nidassana</i>	दिट्ठन्तसंयोगो निदस्सनं ।
(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 वानेन वेति विकल्पः ।
(N) 30.	<i>vikappa</i>	इदं वा ति विकप्पो ।
(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 तदूह्यम् ।
(V) 32.	<i>ūhya</i>	अत्र यदनिर्दिष्टं युक्तिगम्यं तदूह्यम् ।
(A)	<i>ūhya</i>	अनुक्तकरणमूह्यम् ।
(N) 32.	<i>upānīya</i>	यद् अनिर्दिष्टं बुद्धिया अवगमनीयं, तद् उपानी- यन् 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 *Caraka-* and the *Suśruta- saṃhitās*, as well as the *Aṣṭāṅgasan̄graha*. The *Carakasam̄hitā* and *Aṣṭāṅgasan̄graha* present an identical list of *tantrayuktis* contained in a stanza of four

*anuṣṭubh* verses.<sup>638</sup> However, unlike the *Suśrutasamhitā* they lack explicit definitions and examples. This list of the *tantrayuktis* appear in the final chapter of the last book in both *Carakasamhitā* (41b–45a, chapter 12, *Siddhisthāna*) and *Aṣṭāṅgasāṅgraha* (150–153, chapter 50, *Uttarasthāna*). The same has been quoted by Aruṇadatta in his commentary *Sarvāṅgasundarī* on the *Aṣṭāṅgaḥṛdaya* while elucidating the concept of *tantraguṇa* (qualities of the system)<sup>639</sup> and by Śrīdāsa Paṇḍita in the prefatory section of his commentary *Hṛdayabodhikā* on the *Aṣṭāṅgaḥṛdayasamhitā*.<sup>640</sup> Notably, this list consists of 36 *tantrayuktis* instead of 32 found in the *Suśrutasamhitā* 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 *Aṣṭāṅgaḥṛdayasamhitā*, *Carakasamhitā*, *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 *Carakasamhitā*, leaving uncertainty about the total number of *tantrayuktis* recognized by Ḍṛḍhabala in this section.<sup>641</sup> The problem arises from different readings of the half-verse that occurs right before the list of 36 *tantrayuktis*. In MS Kathmandu NAK 1/1648 (dated 1183 AD, the oldest dated manuscript of the *Carakasamhitā* known to

638 तत्राधिकरणं योगो हेत्वर्थोऽर्थः पदस्य च ।

प्रदेशोद्देशनिर्देशवाक्यशेषाः प्रयोजनम् ॥

उपदेशापदेशातिदेशार्थपत्तिनिर्णयाः ।

प्रसङ्गैकान्तनैकान्ताः सापवर्गो विपर्ययः ॥

पूर्वपक्षविधानानुमतव्याख्यानसंशयाः ।

अतीतानागतापेक्षास्वसंज्ञोद्भासमुच्चयाः ॥

निदर्शनं निर्वचनं नियोगोऽथ विकल्पनम् ।

प्रत्युत्सारस्तथोद्धारः सम्भवस्तन्त्रयुक्तयः ॥

*Aṣṭāṅgasāṅgraha* 6.50.150–153a (As 1980: 959). *Carakasamhitā* 8.12.41b–45a

(Ca 1941: 736) reads almost the same. The only two variants are (1) अतीतानागतावेक्षा... and (2) निर्वचनं संनियोगो विकल्पनम्.

639 Aruṇadatta on the *Aṣṭāṅgaḥṛdayasamhitā* 6.40.78 (Ah 1939: 946).

640 AHS 1940: 1–2.

641 We know from internal textual evidence that the *Siddhisthāna* of the *Carakasamhitā* in which the list of the *tantrayuktis* appear was originally authored by Ḍṛḍhabala, who lived in a town called Pañcanada sometime between 300 and 500 AD.

Cf. अखण्डार्थं दृढबलो जातः पञ्चनदे पुरे ।

कृत्वा बहुभ्यस्तन्त्रेभ्यो विशेषोऽच्छशिलोच्चयम् ॥

सप्तदशौषधाध्यायसिद्धिकल्पैरपूरयत् ।

8.12.39–40a (Ca 1941: 735)

us), the reading of this verse is: षट्त्रिंशद्विचित्राभिर्भूषितं तन्त्रयुक्तिभिः ॥ 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>642</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 षट्त्रिंशता विचित्राभिर्भूषितं तन्त्रयुक्तिभिः। 8.12.41a (Ca 1941: 735). In the same edition, the reading of Cakrapāṇi's *Āyurvedadīpikā* supports the reading: षट्त्रिंशत्तन्त्रयुक्तिभिर्भूषितमपूरयद्दृढबल 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 षट्त्रिंशत्तन्त्रयुक्तयो व्याहृताः।<sup>643</sup> Moreover, the edition of Rāmaprasāda Vaidyopādhyāya reads the half-verse as— पञ्च-त्रिंशद्विचित्राभिर्भूषितं तन्त्रयुक्तिभिः.<sup>644</sup> Rāmaprasāda Vaidyopādhyāya excludes *ūhya*.<sup>645</sup> The same reading is found in Satīśacandra Śarmā's third edition of the *Carakasamhitā*.<sup>646</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 *saṁśaya* 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>647</sup>

In the edition of Narendranātha Senagupta and Balāicandra Senagupta that includes Cakrapāṇi's *Āyurvedadīpikā* and Gaṅgādhara's

642 षट्त्रिंशता विचित्राभिर्भूषितं तन्त्रयुक्तिभिः ॥ 8.12.70a (Ca 1933: 972).

643 Ca 1941: 737.

644 Ca 1911: 1913.

645 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.

646 Ca 1923: 1020. His first edition, however, reads the half-verse the same as the reading in Ca 1933. (Ca 1904: 884)

647 “গঙ্গাধর পাঠ— তন্ত্রযুক্তি ছত্রিশ প্রকার। তিনি টীকাতে সংশয়কে দুই বার উল্লেখ করিয়া ছত্রিশ প্রকার গণনা করিয়াছেন, কিন্তু তাঁহার মূলে পঁয়ত্রিশ প্রকার আছে; গ্রন্থান্তরে ৩৪ প্রকার আছে; তাহাতে ‘অপদেশ’ ধৰ্তব্য হয় নাই। এই অনুবাদের মূলে চতুস্ত্রিংশ বা ষট্‌ত্রিংশ স্থলে পঞ্চত্রিংশ লিখিত হইল।” Ca 1923: 1022.

*Jalpakaḷpataru*, the Sanskrit *mūla* and the *Jalpakaḷpataru* enumerate 36 *tantrayuktis*. However, in the same edition, the *Āyurvedadīpikā* reads, पञ्च-त्रिंशत्तन्त्रयुक्तिभिर्भूषितमपूरयद्दृढबल इति योजना.<sup>648</sup> Again, after the illustrations of the 36 *tantrayuktis* it reads, इत्येताः षट्त्रिंशत्तन्त्रयुक्तयो व्याहृताः.<sup>649</sup> In his edition of the *Tantrayuktivicāra*, Muthuswami also mentions that 35 *tantrayuktis* are reckoned in the *Carakasamhitā*.<sup>650</sup> Jivānanda Vidyāsagara's edition gives no number at all— तथा च ता विचित्राभिर्भूषितं तन्त्रयुक्तिभिः.<sup>651</sup>

Commentaries on the *Carakasamhitā* prior to Cakrapāṇi's *Āyurvedadīpikā*, such as the *Carakanyāsa* of Bhaṭṭāra Hariścandra (c. mid-sixth century) or *Nirantarapadaavyākhyā* of Jejjaṭa (c. 7th or 8th century AD) 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 *Carakasamhitā*. However, Hariścandra's treatment of the *tantrayuktis* supports the latter.<sup>652</sup> It is clear from Cakrapāṇi's commentary on the *Carakasamhitā* 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 *Carakasamhitā* 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 *Carakasamhitā* to address these issues definitely.

648 Ca 1928-33: III, 3814.

649 Ca 1928-33: III, 3822.

650 'पञ्चत्रिंशद्विचित्राभिर्भूषितं तन्त्रयुक्तिभिः।' इति चरके । द्वात्रिंशदिति सुश्रुतः । (TYV: 2, fn. 2).

651 Ca 1877: 961.

652 HIML: IA, 189.

## Commentaries

The commentators who extensively delved into the discussion of the *tantrayuktis* are Hariścandra, the author of *Carakanyāsa*, and Aruṇadatta (12th century),<sup>653</sup> who authored his commentary *Sarvāṅgasundarī* on the *Aṣṭāṅgahr̥daya* 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), *vyutkrāntābhīdhāna* (overpassing statement) and *hetu* (means of knowledge).<sup>654</sup>

Aruṇadatta, while discussing the concept of *tantraguṇa* at the end of the *Aṣṭāṅgahr̥daya*, 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 *Aṣṭāṅgahr̥daya*, echoed Aruṇadatta's exploration of *tantrayuktis* in the beginning of his commentary, *Hṛdayabodhikā*.<sup>655</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 *vyutkrāntābhīdhāna* under the *tantrayuktis uddeśa*, *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

<sup>653</sup> [HIML](#): IA, 663–664.

<sup>654</sup> This text has only been published once (only until the third chapter of *Sūtrasthāna*) by Masta Ram Shastri from Lahore in 1932/33. ([HIML](#): 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): तन्त्रस्य युक्तयोऽधिकरणाद्याश्चत्वारिंशत् ।... युक्तयस्तावदधिकरणं योगो हेतुर्थ उद्देशो [निर्देश] उपदेशोऽपदेशोऽतिदेशः प्रदेशो निर्णयोऽर्थापत्तिर्वाक्यशेषः प्रयोजनं प्रसङ्ग एकान्तोऽनेकान्तो विपर्ययोऽपवर्गः पूर्वपक्षो विधानमनुमतं व्याख्यानं परिप्रश्नो व्याकरणमतीतापेक्षणमनागतापेक्षणं संशयः स्वसंज्ञोद्भवः समुच्चयो निदर्शनं निर्वचनं नियोगो विकल्पः प्रत्युत्सार उद्धारः सम्भवो व्युत्क्रान्ताभिधानं हेतुरिति ।

<sup>655</sup> [HIML](#): IA, 680.



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 *Jalpakaḷpataru*, a nineteenth-century commentary on the *Carakasamhitā* by Gaṅgādhara Kavirāja from Bengal. Gaṅgādhara included the commentary with his *editio princeps* of the *Carakasamhitā*. He defines the *tantrayuktis* most often as defined in the *Suśrutasamhitā* making explicit quotations from the *Suśrutasamhitā* itself. Hence, this commentary serves as a testimonium for most part of the *tantrayukti* section of the *Suśrutasamhitā*.

### Monographs

two texts authored by Āyurvedic scholars exclusively delve into the topic of *tantrayukti*. The first is the *Tantrayuktivivāra* 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>656</sup> According to Kolatteri Śaṅkaramenon and Meulenbeld, Nīlamegha flourished in the first half of ninth century.<sup>657</sup> The *Tantrayukti* was very likely composed after the sixteenth century.<sup>658</sup>

<sup>656</sup> Kolatteri Śaṅkaramenon, the first editor of the *Tantrayuktivivāra*, believes that Nīlamegha hails from Kerala. This conclusion is drawn from Nīlamegha's reference to his guru as Sundara, whom Śaṅkaramenon identifies as the same individual credited with composing the *Lakṣaṇāmṛta*, a treatise on toxicology. This assertion is plausible because the only known manuscript of *Tantrayuktivivāra* 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>657</sup> Nīlamegha mentions Vāhaṭa (Vāgbhaṭa), Indu, and Jejjāta in his work. This places him definitively after the seventh century. The Buddhist influence in the *Tantrayukti* indicates a date not much later than 800 AD. (TYV: अवतारिका ५-६, HIML: IIA, 143.)

<sup>658</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



Nīlamegha's *Tantrayuktivīcāra* 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 *Carakasamhitā*. 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 *pūrvarūpa sandhi*— *sāpavargaḥ + aviparyayaḥ → sāpavargo viparyayaḥ* (See footnote 637.).

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 *Tantrayuktivīcāra* because the available manuscripts were mostly corrupt.<sup>659</sup> It is evident that there are substantial reproductions of parts of the *Tantrayuktivīcāra* and its autocommentary. The total number of *tantrayuktis* and their enumeration remains identical to that of the *Tantrayuktivīcāra*. What distinguishes it from the *Tantrayuktivīcāra* is the incorporation of a list of other *tantraḡuṇas* and 14 *tantradoṣas*. This list of *tantraḡuṇas* 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.

## 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.

is problematic. However, since the Kairālī commentary on the *Aṣṭāṅgahṛdayasaṃhitā* frequently quotes from Bhiṣagārya's *Abhidhānamāñjarī*, 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 Kairālī (HIML: IA, 675). Moreover, he views *Abhidhānamāñjarī* as a work composed after the sixteenth century, citing details within it that affirm its posteriority to the *Rājanighaṇṭu* and *Bhāvaprakāśa* (HIML: IIA, 442).

659 वैद्यनाथोपसृष्टानां लक्ष्यलक्षणवासुषाम् ॥  
तासां प्रायः प्रकाशानां दुर्लखापङ्कदूषणात् ।  
क्रियते साम्प्रतं कृच्छ्रादुद्धृत्य परिमार्जनम् ॥  
TY: 1

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 *Tolkāppiyam* 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>660</sup> Even though there are sometimes different *tantrayuktis* enumerated in different lists, the total count always remains consistent at 32. As demonstrated in Table 4, 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 *Aṣṭāṅgasāṅgraha*, *Carakasamhitā*, the commentaries on the *Carakasamhitā*, *Aṣṭāṅgasāṅgraha* and *Aṣṭāṅgahrdayasamhitā* and the two monographs, the *Tantrayuktivivāra* and *Tantrayukti*. This list has sprung from a single source— a versified list of thirty-six *tantrayuktis* comprising four verses that appear in the *Aṣṭāṅgasāṅgraha*, *Carakasamhitā* and Aruṇadatta’s commentary on the *Aṣṭāṅgahrdayasamhitā*. It remains unclear whether these verses initially appeared in the Dṛḍhabala’s redaction of the *Carakasamhitā* or Vāgbhaṭa’s *Aṣṭāṅgasāṅgraha*. 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.

660 तद् द्वात्रिंशद् युक्तियुक्तम् । (5.1.3 Kangle 1965a: 1, 280) “that (*Arthaśāstra*) is furnished with thirty-two logical methods of the system”, तत्र द्वात्रिंशत् तन्त्रयुक्तयो भवन्ति । (*Suśrutasamhitā* 6.64.2) “there are thirty-two logical methods of the system”, battimsa tantiyuttiyo 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)

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 corss-disciplinary appearance, the later listing notably influences the field of Āyurveda, likely due to the popularity of Vāgbhaṭa's works. The *Suśrutasamhitā*, 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 *Suśrutasamhitā* such as in Singhal and Mitra 1980: 171–172, and P. V. Sharma 1999–2001: 3, 631–639; in translations of the *Carakasamhitā* 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 Shamasastri 1951: 459, Kangle 1965a: 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 Prets 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 Samhitā* in comparison with their definitions in other texts. As indicated in Table 4, the definitions of *tantrayuktis* in the *Suśrutasamhitā* 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 *Suśruta-samhitā*, we will not make explicit references to them in the subsequent elucidation of the terms.

### 1. *adhikaraṇa*

*Adhikaraṇa* 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 interpretat-

ive device. With a tautological expression, the *Suśrutasaṃhitā* defines *adhikaraṇa* as something, with reference to which statements are made. While defining *adhikaraṇa*, the text employs the same verb, *adhi- kr-* (to refer), whence the noun *adhikaraṇa* has been derived. The text supplies examples of *rasa* (taste) and *doṣa* (humour), for which two chapters of the *Uttaratantra*, namely chapter 62 (*Kāyacikitsā* 27) and chapter 65 (*Kāyacikitsā* 30) are dedicated.<sup>661</sup> Clearly, *adhikaraṇa* is the topic or theme.

Cakrapāṇi and Gaṅgādhara define *adhikaraṇa* in almost the same way as does the *Suśrutasaṃhitā*.<sup>662</sup> Aruṇadatta's definition is similar but he specifies that *adhikaraṇa* can be of an entire discipline (*śāstra*), or a book (*sthāna*) of it, or a chapter (*adhyāya*), or a section (*prakaraṇa*), or even of a sentence (*vākya*).<sup>663</sup> Śrīdāsa Paṇḍita follows Aruṇadatta.<sup>664</sup> However, in the commentaries of Hariścandra and Indu, we explore two more aspects of the concept of *adhikaraṇa*. According to Hariścandra, *adhikaraṇa* 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>665</sup> Thus disease is the *adhikaraṇa* or theme of their discussion. Indu identifies *adhikaraṇa* as a binding force that links ideas. According to him, *adhikaraṇa* as an introductory reference and it exposes a general statement to a specific context.<sup>666</sup>

Nīlamegha defines *adhikaraṇa* using the Paninian terminology. According to him, *adhikāraṇa* is the locus in which the *tātparya*, "reference" lies.<sup>667</sup> *Adhikaraṇa* is one of the six *kāraka*-s (a sort of semantic roles recognized by Sanskrit grammarians). Pāṇini calls it a locus (*ādhāra*).<sup>668</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

661 They are chapters 63 and 66 in A (*Su* 1938: B).

662 यमर्थमधिकृत्य प्रवर्तते कर्ता । यथा "विघ्नभूता यदा रोगा" इत्यादि । अत्र रोगादिकमधिकृत्यायुर्वेदो महर्षिभिः कृत इति 'रोगाः' इत्यधिकरणम् । *Āyurvedadīpikā* (*Ca* 1941: 736). तद् यमर्थमधिकृत्योच्यते; *Jalpakaḥpataṛu* (*Ca* 1928-33: III, 3815).

663 तत्र अधिकरणं नाम, यदधिकृत्य प्रवर्तते शास्त्रं स्थानमध्यायं प्रकरणं वाक्यं वा ।... (*Ah* 1939: 947).

664 *AHS* 1940: 2.

665 तत्राधिकरणं नाम यन्निमित्तमधिकृत्य प्रवर्तते कर्ता ।... उत वा विघ्नभूता यदा रोगाः प्रादुर्भूताः तदिदं निमित्तमधिकृत्य जगदनुकम्पया महर्षिभिरयमायुर्वेद आगमः । एवमधिकरणव्याख्या वर्णयितव्या । *MS MS Jamnagar GAU* 114, p.4-5.

666 अधिकरणं प्रस्तावः सामान्येनोक्तमप्यर्थजातं यद्वलाद्विशेषेऽवस्थाप्यते तदधिकरणम् । (*As* 1980: 959).

667 तत्राधरोऽधिकरणं तात्पर्यं तत्र तिष्ठति । 1 *TYV*: 2.

668 आधारोऽधिकरणम् । *Aṣṭādhyāyī* 1.4.45.

*vaiṣayika* as one of the three types of *adhikaraṇa*.<sup>669</sup> Nīlamegha applies this idea to his definition of the *tantrayukti adhikaraṇa*. He quotes *Aṣṭāṅgahṛdaya-saṃhitā 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 Ḹampūraṇar and Pēraciriyar, list the item differently. In Sastri’s translation of the *Tolkāppiyam*, *adhikaraṇa* was identified with *atikāra muṛai*, the second element in Ḹampūraṇar’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>670</sup> However, Dikshitar, in his brief article on the *tantrayuktis*, equates *adhikaraṇa* with *nutaliyatu arital*, the first element in Pēraciriyar’s list, and translates it as “that division of a book which centers around a chief topic and deals wholly with that topic.”<sup>671</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>672</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 *Suśrutasamhitā*, 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

669 On *Aṣṭādhyāyī* 6.1.72 *Mahābhāṣya*: 3, 51.

670 P. S. S. Sastri 2002: 233.

671 Dikshitar 1930: 85

672 See Chevillard 2009: 111.

*Suśrutasaṃhitā* 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 Ḍaḥana with a minor variation.<sup>673</sup> The definitions of *yoga* in the *Viṣṇudharmottarapurāṇa* and *Arthaśāstra* closely mirror that of the *Suśrutasaṃhitā*. 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 *Suśrutasaṃhitā*.<sup>674</sup>

For illustration, a verse from chapter 18 of the *Cikitsāsthāna* is quoted in the *Suśrutasaṃhitā*—

तैलं पिबेच्चामृतवल्लिनिम्बहंसाह्वयावृक्षकपिप्पलीभिः ।  
सिद्धं बलाभ्याञ्च सदेवदारु हिताय नित्यं गलगण्डरोगे ॥<sup>675</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>676</sup> Aruṇadatta also 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

<sup>673</sup> See 6.65.9 (*Su 1938*: 815).

<sup>674</sup> See Table 4.

<sup>675</sup> 4.18.47 (*Su 1938*: 474).

<sup>676</sup> योगो नाम योजना ग्रन्थानां यथार्थसूत्रभाष्यसूत्रयोः... पञ्चलक्षणो वा योगः । प्रतिज्ञाहेतूदाहरणनिगमनानि... यदिह युज्यते स योग इत्येके । (MS Jamnagar GAU 114, p.5.)



expands its scope to coherence between mention (*uddeśa*) and description (*nirdeśa*) as well.<sup>677</sup> In the second alternative, *yoga* is reasoning (*yukti*) having five types: (1) *pratijñā* “proposition”, (2) *hetu* “reason”, (3) *udāharaṇa* “exemplification” (4) *upanaya* “application”, and (5) *nigamana* “conclusion”, resembling the five-membered syllogism of inference (*anumāna*) in the Nyāya-Vaiśeṣika school.<sup>678</sup> Śrīdāsa Paṇḍita’s comment is similar to that of Aruṇadatta.<sup>679</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>680</sup> Cakrapāṇi, while defining *yoga* in a fashion similar to the *Suśrutasaṃhitā*, exemplifies it as a connection between five logical elements, namely *pratijñā*, *hetu*, *udāharaṇa*, *upanaya* and *nigamana*, conflating the definition of *yoga* with Hariścandra’s second alternative i.e. *yoga* is reasoning (*yukti*).<sup>681</sup> Nīlamegha defines *yoga* as connecting words one by one coherently.<sup>682</sup> As he further explains in the autocommentary with examples from the *Aṣṭāṅgaḥṛdayasaṃhitā*, it is evident that he understands *yoga* as coherence between a part of a sentence and the discourse.<sup>683</sup> Neither V. R. Ramachandra Dikshitar nor P. S. Subrahmanya Sastri identified the *tantrayukti yoga* with any *utti* mentioned in the *Tolkāppiyam*.<sup>684</sup>

The word *yoga* derives from the Sanskrit root  $\sqrt{yuj}$  “to connect” with the primary suffix *GHañ*, 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 Pāṇini, it often refers to the connection with a word or a word-element.<sup>685</sup> Hence, it refers to a morphosemantic or syntaco-semantic connection. Patañjali uses this term several times in his *Mahābhāṣya*. In the *Suśrutasaṃhitā*

677 योगो नाम योजना, उद्देशनिर्देशयोः सूत्रभाष्ययोर्वा । *Sarvāṅgasundarī* on 6.40.80 (Ah 1939: 947).

678 युक्तिर्वा योगः, प्रतिज्ञा हेतुर्दृष्टान्त उपनयो निगमनमिति पञ्चविधः । 6.40.80 (Ah 1939: 947).

679 AHS 1940: 2.

680 योगो नाम योगः सम्बन्धः स च पदार्थयोर्वाक्यार्थयोर्वा । *Śaśilekhā* on 6.50.150aa (As 1980: 959).

681 योगो नाम योजना व्यस्तानां पदानामेकीकरणम् । उदाहरणं तावद्यथा प्रतिज्ञाहेतूदाहरणोपनयनिगमनानि । 8.12.41 (Ca 1941: 736).

682 योगः पदानामेकैकमर्थौचित्येन योजना । 2 TYV: 3.

683 TYV: 3.

684 Chevallard 2009: 84.

685 Joshi and Roodbergen 1991: 64.

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 *Suśrutasamhitā*, 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. 219), *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 *Suśrutasamhitā* dedicates more words to describing this *tantrayukti* than any other early texts.

The description in the *Suśrutasamhitā* 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 *Suśrutasamhitā* 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 meaning of a word or words within a specific context.<sup>686</sup> Ḍalhana also supports this perspective, indicating that the term *padārtha* refers to a specific

<sup>686</sup> See fn. 739.



meaning of a word or words.<sup>687</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 Ḍalhaṇa. 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 Ḍalhaṇa'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>688</sup> The *Viṣṇudharmottarapurāṇa* adopts a definition of *padārtha* close to this variant reading.<sup>689</sup>

The *tantrayukti padārtha* is illustrated with two examples in the *Suśrutasaṃhitā*. In the first example, three polysemous words—*sneha*, *sveda* and *abhyañjana*—are provided. Ḍalhaṇa gave various meanings of these words—*sneha* can mean lubricity or grease or affection; *sveda* can mean sauna either with fire (*sāgni*) or without fire (*niragni*); *abhyañjana* may mean the black eye make-up or oil rub (*abhyaṅga*).<sup>690</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>691</sup> Thus, *padārtha* is that meaning which fits the context.

The second example is taken from the very beginning of the first chapter 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

687 अधुना बहुषु पदार्थेषु निर्धार्य विशिष्टपदार्थग्रहणाय पदार्थबहुत्वं प्रतिपादयति— अपरिमिता इत्यादि । Ḍalhaṇa on 6.65.10 (Su 1938: 816).

688 अन्ये तु सूत्रपदे इति पठित्वा व्याख्यानयन्ति--- सूत्रस्य पदं सूत्रपदं तस्मिन् योऽर्थः स पदार्थः । fn.2 (Su 1938: 813).

689 See table 4.

690 तत्र स्नेहशब्दे निर्दिष्टे हि गुणप्रेमसर्पिषां त्रयाणामर्थानामुपपत्तिर्दृश्यते, स्वेदशब्देनापि साग्निरग्निप्रयोरुष्मणोः प्राप्तिः, अञ्जनशब्देनापि नयनाञ्जनाभ्यङ्गयोः प्राप्तिः । Ḍalhaṇa on 6.65.10 (Su 1938: 816).

691 See table 4.

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 *Suśrutasaṃhitā* is talking about the origin of *āyurveda*, specifically. The same issue is also addressed by Ḍalhaṇa 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>692</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>693</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 *Bṛhatṭrayī* 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 (*viśeṣa*), and inherence (*samavāya*).<sup>694</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 interpretation.<sup>695</sup> Cakrapāṇi adopts the literal definition of *padārtha* as

692 पदावधिकः पदार्थः। (15.1.10 Kangle 1965a: 1, 280).

693 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.

694 पदार्थो नाम य एकेन पदेनानेकार्थो गम्यते। यथा द्रव्यं गुणः कर्म सामान्यं विशेषः समवायः। MS Jam-nagar GAU 114, p.6.

695 पदार्थो नाम येनार्थो गम्यते। यथा गुर्वादयो गुणशब्दादवगम्यते। *Śaśilekhā* on 6.50.150aa (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

mentioned in the *Suśrutasaṃhitā*. With examples, he emphasizes that word-meaning (*padārtha*) can stem from one word, two words or more.<sup>696</sup> Gaṅgādhara, however, defined *padārtha* in the line of the *Suśrutasaṃhitā* considering *padārtha* as relevant word sense.<sup>697</sup>

Nīlamegha presents a distinct perspective, defining *padārtha* as polysemy within a given context.<sup>698</sup> In his autocommentary, he also acknowledges another viewpoint that perceives *padārtha* as synonymy within a context.<sup>699</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>700</sup> Neither V. R. Ramachandra Dikshitar nor P. S. Subrahmanya Sastri identified the *tantrayukti padārtha* with any *utti* mentioned in the *Tolkāppiyam*.<sup>701</sup>

From the discussion above, it is clear that *Suśrutasaṃhitā*'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 *Suśrutasaṃhitā*, provides a definition of *padārtha* that is closer to the understanding of the commentators such as Hariścandra and so on. In the *Suśrutasaṃhitā*, *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 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

in *Hṛdayabodhikā* (AHS 1940: 2).

696 पदस्य पदयोः पदानां वाऽर्थः पदार्थः। तत्र द्रव्यमिति पदेन खादयश्चेतनाषष्ठा उच्यन्ते; पदयोरर्थो नाम यथा—'आयुषो वेद' इति पदयोरायुर्बोधकं तन्त्रमित्यर्थः, एवं पदानामप्यर्थ उदाहार्यः। *Āyurvedadīpikā* on 8.12.41 (Ca 1941: 736).

697 अर्थः पदस्य चेति पदार्थो नाम तन्त्रयुक्तिः सा योऽर्थोऽभिहितः सूत्रे पदे वा। पदार्थस्त्वनेकस्तत्र योऽर्थः पूर्वापरयोगसिद्धो भवति सोऽर्थो ग्राह्यः। *Jalpakaḥ* on (Ca 1928-33: 3, 3816).

698 पदार्थस्तु पदैक्येऽपि भिन्नमर्थं प्रकाशयेत्। 4 TYV: 4.

699 केचित्तु "पदार्थः पदभेदेऽपि न भेदः पुनरर्थतः।/ TYV: 5.

700 पदार्थस्तु य ऐक्येऽपि भिन्नमर्थं प्रकाशयेत्  
...पदार्थोऽपि च भेदेऽपि न भेदः पुनरर्थतः।  
पदेन योऽर्थो ज्ञायते यथा गुर्वादयो गुणे ॥

TY: 8-10.

701 Chevillard 2009: 84.

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, Bhaṭṭoji Dikṣita uses the term *hetvartha* to mean simply the sense of a cause.<sup>702</sup> As a *tantrayukti*, *hetvartha* is a logical device that serves as the purpose (*artha*) of a reason (*hetu*).

The *Suśrutasamhitā* 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>703</sup> The *Suśrutasamhitā* does not mention that water moistens a lump of earth; this is understood from general empirical knowledge. The *Suśrutasamhitā* 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 understanding the causal relationship between milk or other similar substances and moistening of a wound.<sup>704</sup> The definition is clearer in 6.65.11 (Su 1938: 813) because it includes the word other (*anya*), emphasizing that

<sup>702</sup> हेत्वर्थे तृतीया स्यात् | SiddhKau: 137.

<sup>703</sup> Cf. अत्र बाह्येन मृत्पिण्डदृष्टान्तेन माषदुग्धयोगादिभिराभ्यन्तरो व्रणप्रक्लेदः साध्यते । Ḍalhaṇa on 6.65.11 (Su 1938: 813).

<sup>704</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 4.

an idea stated in one context serves a purpose in another.<sup>705</sup> The author of the *Viṣṇudharmottarapurāṇa* as well as commentators such as Hariścandra, Cakrapāṇi, Indu, Aruṇadatta, and Śrīdāsa Paṇḍita define this *tantrayukti* similarly.<sup>706</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>707</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 where a reason is expressed.<sup>708</sup> Neither V. R. Ramachandra Dikshitar nor P. S. Subrahmanya Sastri identified *hetvartha* with any *utti* mentioned in the *Tolkāppiyam*.<sup>709</sup>

The term *hetvartha* has been translated in various ways, including "extension of argument," "implication," "goal of a reason," and merely

705 यदन्यदुक्तमन्यार्थसाधकं भवति स हेत्वर्थः। 6.65.11 (Su 1938: 813). The testimonium in Gaṅgādhara's *Jalpakaḥpataṛu* supports the reading of (Su 1938). In his own definition, Gaṅgādhara merely reproduces the definition of the *Suśrutasaṃhitā*. Ca 1928-33: 3, 3815.

706 The definition of *hetvartha* is quite consistent across all the commentaries. Cakrapāṇi's definition: हेत्वर्थो नाम यदन्यत्राभिहितमन्यत्रोपपद्यते। *Āyurvedadīpikā* on 8.12.41 (Ca 1941: 736). Indu's definition: हेत्वर्थो नाम यदेकत्रोच्यमानमन्यत्रापि तथैवोपयुज्यते। *Śaśilekhā* on 6.50.150aa (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).

707 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 द्योतयति। TYV: 4.

708 हेतुना सह यत्रोक्तिः स हेत्वर्थः प्रकीर्तितः ॥ TY: 8.

709 Chevillard 2009: 84.

“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>710</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>711</sup> They are also similarly defined and exemplified in the *Yuktidīpikā*.<sup>712</sup> Commentators on the works of Dṛḍhabala and Vāgbhaṭa also defined *uddeśa* and *nirdeśa* similarly.<sup>713</sup> However, Indu’s definitions of these two *tantrayuktis* are more informative. According to him, *uddeśa* refers to objects mentioned merely by single words, while *nirdeśa* involves restating those objects to show their specific features.<sup>714</sup>

There is a difference between the examples of *uddeśa* and *nirdeśa* in the *Suśrutasamhitā* and other texts. In the *Suśrutasamhitā*, the example of *uddeśa*

<sup>710</sup> Olivelle 2013: 436.

<sup>711</sup> See table 4.

<sup>712</sup> *Yuktidīpikā*: 7.

<sup>713</sup> 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 विस्तारोक्तिः। *Sarvāṅgasundarī* on 6.40.80 (Ah 1939: 947) and *Hṛdayabodhikā* (AHS 1940: 2). उद्देशो नाम तन्त्रयुक्तिः सा, यत् समासकथनम्।...निर्देशो नाम तन्त्रयुक्तिः सा, यद् विस्तरेणोच्यते। *Jalpakaḥpataru*, Ca 1928-33: 3, 3816.

<sup>714</sup> उद्देशो नाम यत्रार्थानां शब्दमात्रेणैव कीर्तनमुद्देशः।...निर्देशो नाम यच्छब्दमात्रेण निर्दिष्टानां स्वरूपविशेषप्रदर्शनाय पुनः कीर्तनं निर्देशः। *Śaśilekhā* on 6.50.150ba (As 1980: 960).



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, Aruṇadatta 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 रूक्षो लघुः शीतः खरः सूक्ष्मश्चलोऽनिलः ।, “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>715</sup> He also provides a versified definition of these two *tantrayuktis*, in addition to repeating Nīlamegha’s statements.<sup>716</sup> Nīlamegha also defined these *tantrayuktis* in a similar fashion.<sup>717</sup> Similar *uttis* also appear in the *Tolkappiyam*. However, Sastri and Dikshitar differently identified these *tantrayuktis* with the *uttis* of *Tolkappiyam*.<sup>718</sup>

*Uddeśa* is a common technical term in Sanskrit literature.<sup>719</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*,

<sup>715</sup> उद्देशनिर्देशकयोरन्योन्यापेक्षिता भवेत् ।  
यत्तदोरिव नित्यैव शास्त्रे सर्वत्र सर्वदा ॥

TY: 12.

<sup>716</sup> प्राक् सङ्क्षेपेण कथनमुद्देश इति कीर्तितम् ।  
निर्देशो नाम तस्यैव विस्तरोक्तिरुदाहृतः ॥

TY: 12.

<sup>717</sup> उद्देशः समवायोक्तिरिति प्राहुर्मनीषिणः ।  
निर्देशः स्याद् विवरणं पूर्वोक्तानामनुक्रमात् ॥

TYV: 6.

<sup>718</sup> Chevillard 2009: 85.

<sup>719</sup> For more references to the term *uddeśa* check Prets and Prandstetter 1991–2006: 2, 28–30.

the term *uddeśa* appears with *lakṣaṇa* and investigation (*parīkṣā*), and the triad of these three is called the course of the discipline.<sup>720</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 *uddeśa* and *vyutkrāntābhidhāna* is a variety of *nirdeśa*.<sup>721</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 *uddeśa* and *nirdeśa* respectively may be an oversimplification.

The *tantrayukti uddeśa* 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.”

## 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

<sup>720</sup> त्रिविधा चास्य शास्त्रस्य प्रवृत्तिः, उद्देशो लक्षणं परीक्षा चेति । तत्र नामधेयेन पदार्थमात्रस्याभिधानमुद्देशः । तत्रोद्दिष्टस्यातत्त्वव्यवच्छेदको धर्मो लक्षणम् । लक्षितस्य यथालक्षणमुपपद्यते न वेति प्रमाणैरवधारणं परीक्षा । Jośi 1922: 14.

<sup>721</sup> तत्र परिप्रश्न उद्देशेऽन्तर्भवति,...व्युत्क्रान्ताभिधानं निर्देशप्रभेदः *Āyurvedadīpikā* on 8.12.41b–45a (Ca 1941: 737).



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 Ḍalhaṇa's commentary in which the exact clause was used.<sup>722</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 *Jalpakaḷpataru* read ऋग्वेदादयस्तु वेदाः, ê “*R̥gveda* and so on are the Vedas.” Traditionally, the *R̥gveda*, 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 declares, वेदानां सामवेदोऽस्मि<sup>723</sup>, “I am the *Sāmaveda* among the Vedas.” With its incorporation of musical elements, the *Sāmaveda* holds a unique charm compared to the *R̥gveda*. Thus, the decision to prioritize the *Sāmaveda* as the prototype may stem from its intrinsic appeal or enchantment rather than chronological precedence.<sup>724</sup> However, this reading not just appear in the Nepalese version. Another early *Suśrutasamhitā* manuscript from 1595 also keeps the same reading.<sup>725</sup>

722 तत्र योऽर्थ इत्यादि । पूर्वोक्तपरोक्तवाक्यसम्बन्धेनोपपन्नो योऽर्थो भवति स ग्रहीतव्य इत्यर्थः Ḍalhaṇa on 6.65.10 (Su 1938: 816).

723 10.22 BhaGī: 456.

724 Cf. Madhusūdana Sarasvatī's comment on the same verse: चतुर्णां वेदानां मध्ये गानमाधुर्येणातिरमणीयः सामवेदोऽहमस्मि (10.22 BhaGī: 456), “amongst the four Vedas I am the *Sāmaveda*, which is extremely delightful due to its musical charm.”

725 MS Jodhpur RORI 20060 f.265r5.

### ...विद विन्द 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 *Jalpakaḥpataru*.

(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>726</sup> forms ending in *-a*,<sup>727</sup> ending in *-i*,<sup>728</sup> or with the ending *-ti* in the present stem,<sup>729</sup> or sometimes with indicatory sounds (*anubandha*) as found in the *Dhātupāṭha*.<sup>730</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:  $\sqrt{vid}$  “to know” belongs to the second class (*adādi* or the root class),  $\sqrt{vid}$  “to find, to attain” to the sixth class (*tudādi* or the suffixally accented thematic class),  $\sqrt{vid}$  “to consider” to the 7th class (*rudhādi* or the athematic nasal infix class) and  $\sqrt{vid}$  “to exist” to the fourth class (*divādi* or the thematic *ya*-suffix class).<sup>731</sup> A 10th-class verb  $\sqrt{vid}$  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

726 E.g. as  $\sqrt{gup}$ ,  $\sqrt{tij}$ , and  $\sqrt{kit}$  are mentioned in गुप्तिज्जिह्वः सन् (*Aṣṭādhyāyī*: 3.1.5).

727 E.g. as  $\sqrt{gam}$ ,  $\sqrt{han}$ ,  $\sqrt{vid}$ , and  $\sqrt{viś}$  are mentioned in विभाषा गमहनविदविशाम् (*Aṣṭādhyāyī*: 7.2.68).

728 E.g. as  $\sqrt{mrj}$  is mentioned in मृजेर्विभाषा (*Aṣṭādhyāyī*: 3.1.113).

729 E.g. as  $\sqrt{as}$ ,  $\sqrt{vac}$ , and  $\sqrt{khyā}$  are mentioned in अस्यतिवक्तिख्यातिभ्योऽङ् (*Aṣṭādhyāyī*: 3.1.52).

730 E.g. as  $\sqrt{iś}$  is mentioned in इषुगमियमां छः (*Aṣṭādhyāyī*: 6, 7.3.77). Cf. इषुम् इच्छायाम् (*Dhātupāṭha* 6.78).

731 Cf. सत्तायां विद्यते ज्ञाने वेत्ति विन्दे विचारणे । विन्दते विन्दति प्राप्तौ श्यन्लुक्शमोष्चिदं क्रमात् ॥ (*SiddhKau*: 402).

present stem of the sixth-class verb *vid*.<sup>732</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, विद् लाभे.<sup>733</sup> However, the citation from the *Jalpakaḥpataṛu* presents another variant— विद् विचारणे विद् विन्दति<sup>734</sup>. In both of these variants, the meanings of the verb roots appear. The verbs mentioned here are the 7th- and the 6th-class  $\sqrt{vid}$  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>735</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:

1. पूर्वापरम् उपलक्ष्य विन्द विद् इत्येतयोश्च धात्वोरेकार्थः । पश्चात् पदम् भवति आयुर्वेदोत्पत्तिमयं विवक्षुरिति (Nepalese version)
2. तत्र पूर्वापरयोगमुपलभ्य विन्दतीत्येतयोश्च धात्वोरेकार्थयोः पश्चात् पदं भवति आयुर्वेदोत्पत्तिमयं विवक्षुरिति (*Śuśrutapāṭhasūddhi* MS London BL IOLR 1842)
3. तत्र पूर्वापरयोगमुपलभ्य विद् विचारणे विद् विन्दतीत्येतयोश्च धात्वोरनेकार्थयोः प्रयोगः पश्चात् प्रतिपत्तिर्भवति आयुर्वेदोत्पत्तिमयं विवक्षुरिति (*Jalpakaḥpataṛu*)
4. विद् विचारणे, विद् 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.

<sup>732</sup> Mentioning verbs in their present stem forms is not uncommon. The same 6th class verb  $\sqrt{vid}$  is mentioned as *vinda* in this rule: अनुपसर्गाह्निम्पविन्दधारिपारिवेद्युदेजितिसाति-साहिभ्यश्च (*Aṣṭādhyāyī*: 3.1.138).

<sup>733</sup> 6.65.10 (*Su 1938*: 813).

<sup>734</sup> *Ca 1928-33*: 3, 3816.

<sup>735</sup> 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.

(1) The Nepalese version and MS London BL IOLR 1842 uphold the former of the contradictory readings, while the *Jalpakaḥpataru* and (Su 1938) adhere to the latter. Ḍalhaṇa'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>736</sup> Hence, the reading अनेकार्थयोः appears less tenable. But if we take the meaning of the word *artha* as “meaning,” the phrase विन्द विद 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 विन्द विद इत्येतयोश्च धात्वोरेकार्थः” and “पश्चात् पदम् भवति...”, whereas all other witnesses present a unified sentence. The fact of having two different sentences in the Nepalese 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.

<sup>736</sup> Cf. ‘आयुर्वेदमिच्छाम इहोपदिश्यमानम्’ इत्यस्मिन्नायुर्वेदशब्दः श्रूयते, अतोऽत्र वेद आयुर्वेद इत्यभिप्रायः ॥ (Ḍalhaṇa on 6.65.10 (Su 1938: 816)).

### 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 testimony in the *Jalpakaḥpataru*. 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 माषदुग्धप्रभृतिभिर्व्रणः क्लिद्यते

The reading माषदुग्ध...presents some challenges. The Nepalese manuscripts, (Su 1938), Ḍalhaṇa'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 *ṣa*.

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 *Jalpakaḥpataru* 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>adhikaraṇa</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>hetvārtha</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>atīkrāntāpekṣaṇa</i> )
7. prescription ( <i>upadeśa</i> )	24. doubt ( <i>saṁśaya</i> )
8. statement of reason ( <i>apadeśa</i> )	25. explication ( <i>vyākhyāna</i> )
9. indication ( <i>pradeśa</i> )	26. field-specific term ( <i>svasaṁjñā</i> )
10. prediction ( <i>atideśa</i> )	27. interpretation ( <i>nirvacana</i> )
11. exception ( <i>apavarga</i> )	28. illustration ( <i>nidarśana</i> )
12. ellipsis ( <i>vākyaśeṣa</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>737</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>737</sup> Ḍalhaṇa 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 (*adhikaraṇa*)” refers to the object, with reference to which statements are made, such as flavour (*rasa*) or humour (*doṣa*).<sup>738</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>739</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>740</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>738</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>739</sup> See note on 232.

<sup>740</sup> Contrary to the translations by previous translators Singhal and 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 पदार्थाः, 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>741</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 (*hetvārtha*) 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 (*samuddheśa*) is a brief statement such as "spike (*śalya*)".<sup>742</sup>
- 13 A exposition (*nirdeśa*) is a detailed statement. For example, "in the body or exogenous".<sup>743</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>744</sup>
- 16 Substantiation of the subject matter through past evidence is "indication (*pradeśa*).". 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*).". For example, if his wind moves upwards, that will cause him to have colic."<sup>745</sup>

741 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 *Suśrutasaṃhitā* 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  $\sqrt{\text{vind}}$  or  $\sqrt{\text{vid}}$ ? Context ("prior and subsequent elements") can help us to know that "*veda*" means only "*āyurveda*" and that the *Suśrutasaṃhitā* is talking about the origin of *ayurveda*, specifically. This same issue is also addressed by Ḍalhaṇa at 1.1.1 (*Su* 1938: 1).

742 Generally, शल्य refers to any painful foreign body embedded in the flesh that requires surgical removal.

743 This is a reference to 1.26.4 (*Su* 1938: 121) where शल्य is described in more detail as being of two kinds.

744 A technical term also in Nyāyaśāstra (Jhalakīkar 1978: 54).

745 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; **emetic nut** 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>746</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 a chapter. For example, the eleven lethal points of thigh are mentioned

See chapter  
40 of Sūtra-  
sthāna.

vasā / me-  
das / maj-  
jan

<sup>746</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 यस् तु संशयम् अभिधीयते स पूर्वपक्षः, but our manuscripts are unanimous in their reading.

- sequentially in a chapter.
- 30 A statement like “Thus will be stated” is future reference (*anāg-atāpekṣaṇa*) 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 (*atīkrāntāpekṣaṇa*) such as when one says in the *Cikitsāsthāna*, “As mentioned in the *Sūtrasthāna*....”
- 32 An indication pointing to causes on both sides is doubt (*saṁśaya*). For example, a blow to the sole-heart (*talahr̥daya*)<sup>747</sup> is fatal, whereas cutting hands and feet is not fatal.
- 33 An elaborate description is explication (*vyākhyāna*). 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 (*svasaṁjñā*) 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 part-ridge.<sup>748</sup>
- 38 A summarized statement is aggregation (*samuccaya*).<sup>749</sup> For example, let there be rice with meat broth, rice with milk, or burley with ghee.

Does  
bhūtādi a  
compound  
or it means  
ahankāra or  
ego?

triad? –DW

A meaningful reading of these two rules would be

<sup>747</sup> तलहृदय is one of the muscle-group of lethal points mentioned in 3.6.7 (*Su* 1938: 370).

<sup>748</sup> The example here matches समुच्चय (next text), not विकल्प. There seems to have been a metathesis of terms. Y. T. 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 Hārānacandra’s commentary Bhaṭṭācārya 1910–17: 2, in the same way as in the Nepalese version.

<sup>749</sup> As stated in the previous footnote, the example here is of विकल्प, not समुच्चय.

39 idaṃ vedaṃ veti vikalpaḥ / yathā rasodanaḥ kṣīrodanaḥ  
saghṛtā vā yavāgūr bhavatv iti //

38 saṃkṣepavacanāṃ samuccayaḥ / yathā māṃsavarge eṇa-  
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 “Two-fold is popular”.

# Editions and Abbreviations

Ah 1939	Kuṁṭe, Aṇṇā Moreśvara, Navare, Kṛṣṇaśāstrī, and Parādkar, Hariśāstrī (1939) (eds.), श्रीमद्वाग्भटविरचितम् अष्टाङ्गहृदयम्, श्रीमदरुणदत्तविरचितया सर्वाङ्गसुन्दराख्यया व्याख्यया, हेमाद्रिप्रणीतया आयुर्वेदरसायनाह्वया टीकया च समुल्लसितम् = <i>The Astāṅgahṛidaya</i> (6th edn., Mumbayyām: Nirṇayasāgara Press), <a href="https://nirṇayasāgara.org/ark:/13960/t3tt6967d">ark:/13960/t3tt6967d</a> .
AHS 1940	Müss, C. N. Nārāyaṇan (1940) (ed.), श्रीमद्वाहटाचार्यप्रणीतम् अष्टाङ्गहृदयम्   श्रीदासपण्डितविरचितया हृदयबोधिकाख्यया व्याख्यया समलङ्कृतम् (Śrīcitrāyurveda-granthamālā, 4; Trivandrum: Rājakīyamudrāśālā), <a href="https://nirṇayasāgara.org/ark:/13960/s23qzpqc61j">ark:/13960/s23qzpqc61j</a> .
Anup	<i>Anup Sanskrit Library</i> .
Apte	Apte, Vaman Shivaram (1992), <i>The Practical Sanskrit-English Dictionary</i> (Kyoto: Rinsen Book Company), ISBN: 4-653-00038-7; Reprinted from Gode and Karve 1957–59.
Arthaśāstra	Kangle, R. P. (1960), <i>The Kauṭīliya Arthaśāstra</i> (University of Bombay Studies Sanskrit, Prakrit and Pali, 1; Bombay: University of Bombay), accessed 23/09/2021.
AS	<i>Asiatic Society</i> .
As 1980	Āṭhavale, Ananta Dāmodara (1980) (ed.), अष्टाङ्गसङ्ग्रहः श्रीमद्वाग्भटविरचितः इन्दुव्याख्यासहितः [= <i>Vāgbhaṭa's Aṣṭāṅgasaṅgraha with Indu's Commentary</i> ] (Pune: M. A. Āṭhavale, Śrīmad Ātreya Prakāśanam), <a href="https://nirṇayasāgara.org/ark:/13960/s25bwqsd0n7">ark:/13960/s25bwqsd0n7</a> .
Aṣṭādhyāyī	Sharma, Rama Nath (2002–03), <i>The Aṣṭādhyāyī of Pāṇini</i> , 6 vols. (Second revised and enlarged edition, New Delhi: Munshiram Manoharlal Publishers Pvt. Ltd.).

- BhaGī Paṇśīkar, Wāsudev Laxman Shāstrī (1936) (ed.), श्री-मद्भगवद्गीता श्रीमच्छाङ्करभाष्येण-आनन्दगिरिकृतव्याख्यायुजा संवलिता तथा नीलकण्ठी-भाष्योत्कर्षदीपिका-श्रीधरीयसुबोधिनी-अभिनवगुप्ताचार्यव्याख्या-श्रीमधुसूदनसरस्वतीस्वामिकृतगूढार्थदीपिकारव्यव्यासहिता तद्व्याख्यानेन श्रीधर्मदत्तशर्म(प्रसिद्धबच्चाशर्म)विरचित-गूढार्थतत्त्वलोकेन युता च (2nd edn., Bombay: Nirṇaya-Sāgar Press), [ark:/13960/t7jq76w6m](#).
- Bhela 1921 Mookerjee, Ashutosh, and Ananta Krishna Shastri, Ved-antabisharad (1921) (eds.), *The Bhela Samhita. Sanskrit Text* (Calcutta: University of Calcutta), [ark:/13960/t3sv3157j](#); Based on two copies made of the Thanjavur codex unicus (MS Thanjavur TMSSML 10773, Burnell 1880: 63–4, P. P. S. Sastri 1933: #11085).
- Bhela 2000 Krishnamurthy, K. H. (2000), *Bhela-saṃhitā. Text with English Translation, Commentary and Critical Notes* (Haridas Ayurveda Series, 8; Varanasi: Chaukhambha Visvabharati).
- BL *British Library*.
- Ca 1877 Bhaṭṭācāryya, Jīvānanda Vidyāsāgara (1877) (ed.), चरकसंहिता सूत्र-निदान-विमान-शारीरेन्द्रिय-चिकित्सित-कल्प-सिद्धिस्थानात्मका । भगवता आत्रेयेण पुनर्वसुना उपदिष्टा अग्निवेश-नामधेयेन तत् शिषेण विरचिता चरकाभिधेयेन ऋषिणा प्रतिसंस्कृता (Calcutta: Sarasvatī Yantra), [ark:/13960/t0sq9gf44](#).
- Ca 1904 Śarmā, Satīśacandra (1904) (ed.), छत्रकमंशिता (1st edn., Kalikātā: Bhaiṣajya Steam Machine Press), [ark:/13960/t51g4nm8m](#).
- Ca 1911 Vaidyopādhyāya, Rāmaprasāda (1911) (ed.), चरकसंहिता । श्रीमन्महर्षिप्रवरचरकप्रणीता । पण्डितरामप्रसादवैद्योपाध्यायविरचितप्रसादनी-भाषाटीकासंहिता । (mumbayī: Kṣemarāja-Śrīkṛṣṇadāśaśreṣṭhin), [ark:/13960/t2r59q189](#).
- Ca 1923 Śarmā, Satīśacandra (1923) (ed.), छत्रकमंशिता (3rd edn., Kalikātā: Bhaiṣajya Steam Machine Press), [ark:/13960/t17m5hp8c](#).

- Ca 1928-33 Senagupta, Narendranātha, and Senagupta, Balāicandra (1928-33) (eds.), चरक-संहिता। महामुनिना भगवताग्निवेशेन प्रणीता महर्षिचरकेण दृढबलेन च प्रतिसंस्कृता चरकचतुरानन-श्रीमच्चक्रपाणिदत्तप्रणीतया आयुर्वेददीपिकाख्यटीकया महामहोपाध्याय-श्रीगङ्गाधरकविरत्नकविराजविरचितया जल्पकल्प-तरुसमाख्यया टीकया च समलङ्कृता, 3 vols. (kalikātānagari: Dhanvantari Electric Machine Yantra).
- Ca 1933 Ācārya, Yādavaśarma Trivikrama (1933) (ed.), महर्षिणा अग्निवेशेन प्रणीता चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता (3rd edn., Mumbayyām: Nirnaya Sagara Press), [ark:/13960/t42s3kk45](https://nir.nir.org/ark:/13960/t42s3kk45).
- Ca 1941 Ācārya, Yādavaśarma Trivikrama (1941) (ed.), महर्षिणा पुनर्वसुनोपदिष्टा, तच्छिष्येणाग्निवेशेन प्रणीता, चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता, श्रीचक्रपाणिदत्तविरचितया आयुर्वेददीपिकाव्याख्यया संवल्लिता (3rd edn., Mumbayyām: Nirnaya Sagara Press), [ark:/13960/t48q2f20n](https://nir.nir.org/ark:/13960/t48q2f20n).
- CDIAL Turner, R. L. (1966-85), *A Comparative Dictionary of the Indo-Aryan Languages* (London, New York, Toronto: Oxford University Press), ISBN: 0197135501, [URL](https://nir.nir.org/URL); With *Indexes* compiled by Dorothy Rivers Turner (OUP, London, 1969), *Phonetic Analysis* by R. L. and D. R. Turner (OUP, London, 1971), and *Addenda and Corrigenda* edited by J. C. Wright (School of Oriental and African Studies, London, 1985). Vol. 1: [ark:/13960/s22vppb4h8s](https://nir.nir.org/ark:/13960/s22vppb4h8s); v. 2:
- DED<sub>2</sub> Burrow, Thomas, and Emeneau, Murray B. (1984), *A Dravidian Etymological Dictionary* (2nd edn., Oxford: Clarendon Press), [ark:/13960/t4wj06g26](https://nir.nir.org/ark:/13960/t4wj06g26), [URL](https://nir.nir.org/URL).
- EWA Mayrhofer, Manfred (1986-2001), *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, Paṇḍita-Pustakālaya: Kāśī), [ark:/13960/t6pz7tg7j](https://nir.nir.org/ark:/13960/t6pz7tg7j).



- HIML Meulenbeld, Gerrit Jan (1999–2002), *A History of Indian Medical Literature*, 5 vols. (Groningen: E. Forsten), ISBN: 9069801248.
- IOLR Eggeling, Julius, et al. (1887–1935), *Catalogue of the Sanskrit Manuscripts in the Library of the India Office* (London: Secretary of State for India), [ark:/13960/s2kbbk5zcrg9](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-s2kbbk5zcrg9).
- KEWA Mayrhofer, Manfred (1953–72), *Kurzgefaßtes etymologisches Wörterbuch des Altindoarischen; a Concise Etymological Sanskrit Dictionary* (Heidelberg: Carl Winter, Universitätsverlag).
- KL *Kaiser Library*.
- Mahābhāṣya Kielhorn, F. (1880–85) (ed.), *The Vyākaraṇa-Mahābhāṣya of Patanjali*, 3 vols. (Bombay: Government Central Book Depot), [ark:/13960/s258g7r6bxf](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-s258g7r6bxf).
- Mahākośa Jośī, Veṇīmādhavaśāstrī, and Jośī, Nārāyaṇa Harī (1968), *आयुर्वेदीय महाकोशः अर्थात् आयुर्वेदीय शब्दकोशः संस्कृत-संस्कृत* (Mumbai: Mahārāṣṭra Rājya Sāhitya āṇi Saṃskṛti Maṇḍala), [ark:/13960/t22c41g8t](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-t22c41g8t).
- Mānasollāsa Shrigondekar, Gajanan K. (1925–61) (ed.), *मानसोल्लासः = Mānasollāsa [or Abhilaṣitārthacintāmaṇi] of King Someśvara* (Gaekwad's Oriental Series; Baroda: Oriental Institute), [ark:/13960/t87h8tn95](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-t87h8tn95); v. 2: [ark:/13960/t3gz41v8m](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-t3gz41v8m).
- MN<sub>1</sub> Ācārya, Yādavaśarma Trivikrama (1920) (ed.), *महामति-श्रीमाधवकरप्रणीतं माधवनिदानम् श्रीविजयरक्षित-श्रीकण्ठदत्ताभ्यां विरचितया मधुकोशाख्यव्याख्या, श्रीवाचस्पतिवैद्यविरचितया आतङ्कदर्पणव्याख्याया विशिष्टांशेन च समुल्लसितम् = Mādhavanidāna by Mādhavakara with the Two Commentaries, Madhukosha by Vijayarakshita & Shrikanthadatta and Ātānkadarpaṇa by Vāchaspati Vaidya* (1st edn., Bombay: Nirnaya Sagara Press), [ark:/13960/t9z08jn5j](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-t9z08jn5j).
- MN<sub>3</sub> Ācārya, Yādavaśarma Trivikrama (1932) (ed.), *महामति-श्रीमाधवकरप्रणीतं माधवनिदानम् श्रीविजयरक्षित-श्रीकण्ठदत्ताभ्यां विरचितया मधुकोशाख्यव्याख्या, श्रीवाचस्पतिवैद्यविरचितया आतङ्कदर्पणव्याख्याया विशिष्टांशेन च समुल्लसितम् = Mādhavanidāna by Mādhavakara with the Two Commentaries, Madhukosha*



- by Vijayarakshita & Shrikanthadatta and *Ātankadarpaṇa* by Vāchaspati Vaidya (3rd edn., Bombay: Nirnaya Sagara Press), [ark : / 13960 / t66452x0h](#); 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.
- NAK *National Archives of Kathmandu.*
- Nannūl Sripathi, Muthu Krishna (1995) (ed.), *Nannūl: A perceptive and comprehensive translation in English* (Madurai: MK Sripathi).
- NCC Raghavan, V., 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/>.
- NGMCP NGMCP (2014), “Nepal-german Manuscript Cataloguing Project. Online Title List and Descriptive Catalogue,” Universität Hamburg and Deutsche Forschungsgemeinschaft, [URL](#).
- PW Böhlingk, Otto, and Roth, Rudolph (1855–75), *Sanskrit-Wörterbuch* (St. Petersburg: Kaiserlichen Akademie der Wissenschaften), [URL](#), accessed 18/05/2023.
- PWK Böhlingk, Otto (1879), *Sanskrit-wörterbuch in kürzerer fassung* (St. Petersburg: Kaiserlichen Akademie der Wissenschaften), [URL](#), accessed 18/05/2023.
- RORI *Rajasthan Oriental Research Institute.*
- Śabdasindhu Gupta, Umeśachandra, and Sena, Nagendra Nātha (1983), *वैद्यक-शब्दसिन्धुः = Vaidyaka-Śabdasindhuh* (3rd edn., Varanasi & Delhi: Chaukhambha Orientalia); 3rd ed. first published in 1914.

- Saddanīti 3 Smith, Helmer (1930) (ed.), *Saddanīti la grammaire Palie d'Aggavaṃsa: III Sūttamālā (Pariccheda XX–XXVIII)* (Skrifter utgivna av Kungl. Humanistiska Vetenskaps-samfundet i Lund, XII:3; Lund: C. W. K. Gleerup), [ark:/13960/t1jh9w87b](https://nbn-resolving.org/urn:nbn:se:hb:ark:/13960/t1jh9w87b).
- SiddhKau Gāḍagilṇa, Dinakaraśāstrin, and Paṇaśīkara, Vāsudevaśar-man (1904) (eds.), *तत्त्वबोधिनीसमाख्यव्याख्यासंवलित सिद्धान्तकौमुदी नाम भट्टोजिदीक्षितप्रणीता पाणिनीयव्याकरणसूत्रवृत्तिः* (3rd edn., Mumbai: Nirṇaya Sāgara), [ark :/ 13960 / t0zq08k33](https://nbn-resolving.org/urn:nbn:se:hb:ark:/13960/t0zq08k33).
- Su 1889 Bhaṭṭācāryya, Jīvānanda Vidyāsāgara (1889) (ed.), *सुश्रुतः सूत्र-निदान-शारीर-चिकित्सा-कल्पोत्तर-तन्त्र-कल्पित आयुर्वेद. भगवता धन्वन्तरिणोपदिष्टः सुश्रुतनामधेयेन तच्छिष्येण विरचितः* (3rd edn., Calcutta: Sarasvatī Press), [ark :/ 13960 / t1nh6j09c](https://nbn-resolving.org/urn:nbn:se:hb:ark:/13960/t1nh6j09c); [HIML](https://nbn-resolving.org/urn:nbn:se:hb:ark:/13960/t1nh6j09c): IB, 311, edition b.
- Su 1915 Ācārya, Yādavaśarma Trivikrama (1915) (ed.), *सुश्रुतसंहिता, सुश्रुतेन विरचिता, वैद्यवरश्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्य-व्याख्यया समुल्लसिता, आचार्योपाह्वेन त्रिविक्रमात्मजेन यादवशर्मणा संशोधिता = The Sushrutasamhitā of Sushruta, the Nibandha-sangraha Commentary of Shri Dalhaṇāchārya* (Mumbayyām: Nirṇayasāgaramudrāyantrālaye), [ark:/13960/t3sv0mt50](https://nbn-resolving.org/urn:nbn:se:hb:ark:/13960/t3sv0mt50), accessed 29/07/2020; [HIML](https://nbn-resolving.org/urn:nbn:se:hb:ark:/13960/t3sv0mt50): IB, 312 edition \*v.
- Su 1931 Ācārya, Yādavaśarma Trivikrama (1931) (ed.), *सुश्रुत-संहिता, वैद्यवरश्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया समुल्लसिता, महर्षिणा सुश्रुतेन विरचिता, सूत्र-निदान-शारीर-चिकित्सा-कल्पस्थानोत्तरतन्त्रात्मकः. आचार्योपाह्वेन त्रिविक्रमात्मजेन यादवशर्मणा संशोधिता = The Sushrutasamhitā of Sushruta with the Nibandhasangraha Commentary of Shree Dalhaṇāchārya* (2nd edn., Mumbayyām: Pāṇḍuraṅga Jāvajī at the Nirṇayasāgaramudrāyantrālaye), [ark :/ 13960 / t9j41sg94](https://nbn-resolving.org/urn:nbn:se:hb:ark:/13960/t9j41sg94), accessed 09/06/2020; [HIML](https://nbn-resolving.org/urn:nbn:se:hb:ark:/13960/t9j41sg94): IB, 312 edition \*v.
- Su 1938 Ācārya, Yādavaśarma Trivikrama, and Ācārya, Nārāyaṇa Rāma (1938) (eds.), *श्रीडल्हणाचार्यविरचितया निबन्धसंग्रहा-ख्यव्याख्यया निदानस्थानस्य श्रीगयदासाचार्यविरचितया न्यायचन्द्रि-कारख्यपञ्जिकाव्याख्यया च समुल्लसिता महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता* (3rd edn., Bombay: Nirṇayasāgara Press),

- [ark : / 13960 / t09x0sk1h](http://13960/t09x0sk1h); HIML: IB, 313, edition cc ('the vulgate').
- Su 1938<sup>2</sup> Ācārya, Yādavaśarma Trivikrama, and Ācārya, Nārāyaṇa Rāma (2004) (eds.), *महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता, श्री-डल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया निदानस्थानस्य श्रीग-यदासाचार्यविरचितया न्यायचन्द्रिकाख्यपञ्जिकाव्याख्यया च समुल्लसिता* (Vārāṇasī: Caukhambhā Kṛṣṇadāsa Akādamī); Reprint of the third, 1938 edition (Su 1938).
- Su 1939 Ācārya, Yādavaśarma Trivikrama, and Śarman, Nandakiśora (1939) (eds.), *सुश्रुतसंहितायाः सूत्रस्थानम्. श्रीचक्रपाणिदत्तविरचिता भानुमतीव्याख्याया समेतम् = Sushrut-saṁhitā (sūtra Sthān) with Bhānumatī Commentary by Chakrapāṇi Datta with Introduction by Gaṇanāth Sen (Śrīsvāmi Lakṣmīrāma Nidhi Granthamālā = Shri Swāmī Lakshmi Rām Trust Series, 1; [Jaipur]: Śyāmasundara Śarman), [ark: /13960/t54g0d12m](http://13960/t54g0d12m); 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 Suśrutasaṁhitā of Suśruta with Various Readings, Notes and Appendix etc.* (Mumbāi: Nirṇayasāgarākhyamudraṇālaye), [ark: /13960/t8kd4jh7n](http://13960/t8kd4jh7n).
- TMSSML *Tanjore Maharaja Serfoji Saraswati Mahal Library.*
- TY Nārāyaṇa, Śaṁkaraśarman (1949), *Tantrayuktiḥ*, ed. Vayaskara N. S. Mooss (Vaidyasārathigranthāvaliḥ, 6; Koṭṭay-anagaryāṁ: Vaidyasārathi Press), [ark: /13960/t2d85pc4v](http://13960/t2d85pc4v).
- TYV Muthuswami, Nurani Easwara (1976) (ed.), *Tantrayuktivicāraḥ [by Nīlameghabhiṣaj]* (Kerala Praśāsanāyurveda Granthāvaliḥ, 1; 2nd edn., Trivandrum: Publications Division, Govt. Ayurveda College), [ark: /13960/s2j1p7k0526](http://13960/s2j1p7k0526).
- Viṣṇudh 3 Shah, Priyabala (1958) (ed.), *Viṣṇudharmottara-Purāṇa. Third Khaṇḍa* (Gaekwad's Oriental Series, 130; Baroda: Oriental Institute), [ark: /13960/t52g33q88](http://13960/t52g33q88).

- Viṣṇudh. Śarman, Madhusūdana, and Śarman, Mādhavaprasāda (1912) (eds.), *विष्णुधर्मोत्तरपुराणम्* = [*Viṣṇudharmottara-purāṇa*] (Mumbai: Khemarāja Śrīkrṣṇadāsa at the Śrīveṅkaṭeśvara Steam Press), [ark : / 13960 / t6qz6fr23](https://nnp.srujanika.org/ark:/13960/t6qz6fr23); Lithograph format. Edited on the basis of a manuscript belonging to the astrologer Śudhākaraśarman of the Varanasi Sanskrit Pāṭhaśālā.
- Yuktidīpikā 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).

## Index of Manuscripts

*Numbers after the final colon refer to pages in this book.*

Bikaner RORI 5157: 116

Cambridge CUL Add.1693: 112

Hyderabad Osmania 137-3(b): 43

Jamnagar GAU 114: 226, 229f

Jodhpur RORI 20060: 233, 237f

Kathmandu KL 699: 38, 44, 115, 195

Kathmandu NAK 1-1079: 11, 22, 39, 44

Kathmandu NAK 1-1146: 22

Kathmandu NAK 1/1648: 212

Kathmandu NAK 5-333: 11, 39, 44, 112, 117, 140, 144

London BL IOLR 1842: 235ff

MS Jamnagar GAU 114: 215, 220, 232

Thanjavur TMSSML 10773: 246



# Bibliography

- Ācārya, Yādavaśarma Trivikrama (1933) (ed.), *महर्षिणा अग्निवेशेन प्रणीता चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता* (3rd edn., Mumbayyām: Nirnaya Sagara Press), [ark:/13960/t42s3kk45](https://nirnayasangraha.org/ark:/13960/t42s3kk45).
- (1941) (ed.), *महर्षिणा पुनर्वसुनोपदिष्टा, तच्छिष्येणाग्निवेशेन प्रणीता, चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता, श्रीचक्रपाणिदत्तविरचितया आयुर्वेददीपिकाव्याख्यया संवलिता* (3rd edn., Mumbayyām: Nirnaya Sagara Press), [ark:/13960/t48q2f20n](https://nirnayasangraha.org/ark:/13960/t48q2f20n).
- 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:/13960/t8kd4jh7n](https://nirnayasangraha.org/ark:/13960/t8kd4jh7n).
- Acharya, Diwakar (2012), “Description of Microfilm A 45/5,” NGMCP, [URL](https://ngmcp.org/URL), accessed 27/02/2023.
- 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.
- Adriaensen, Rob, Barkhuis, Roelf, and Ruijters, Jean-Louis (1984), “An English Translation of Suśrutasaṃhitā, Nidānasthāna 1, 1–39, Together with Gayadāsa’s Nyāyacandrikā,” in Gerrit Jan Meulenbeld (ed.), *Proceedings of the International Workshop on Priorities in the Study of Indian Medicine* (Groningen: Forsten), 277–310. DOI: [10.5281/zenodo.8201537](https://doi.org/10.5281/zenodo.8201537).

- Āgāṣe, Ve. Śā. Rā. Rā. Kāśīnātha Śāstrī, and Āpaṭe, Hari Nārāyaṇa (1904) (eds.), वाचस्पतिमिश्रविरचितटीकासंवलितव्यासभाष्यसमेतानि पातञ्जल-योगसूत्राणि तथा भोजदेवविरचिताजमार्तण्डाभिधवृत्तिसमेतानि पातञ्जलयोगसूत्राणि (Ānandāśramasaṃskṛtagranthāvaliḥ, 47; Puṇyākhyā-pattana: Ānand-āśramamudraṇālaya), [ark:/13960/t40s27g36](https://nbn-resolving.org/urn:nbn:de:bsz:13960-t40s27g36).
- Agrawal, V. S. (1963), *India As Known to Pāṇini: A Study of the Cultural Material in the Aṣṭādhyāyī* (2nd edn., Varanasi: Prthvi Prakashan); First published in 1953.
- Angermeier, Vitus (2020), *Regenzeiten, Feuchtgebiete, Körpersäfte. Das Wasser in der klassischen indischen Medizin* (Wien: Österreichische Akademie der Wissenschaften).
- (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: [10.1163/9789004438224\\_004](https://doi.org/10.1163/9789004438224_004).
- 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.
- Baber, Zaheer (1996), *The Science of Empire: Scientific Knowledge, Civilization, and Colonial Rule in India* (Albany: State University of New York Press).
- Bakker, Hans T. (2019), “Some Methodological Considerations with Respect to the Critical Edition of Puranic Literature,” in *Holy Ground: Where Art and Text Meet* (Leiden: Brill), 175–84. doi: [10.1163/9789004412071\\_010](https://doi.org/10.1163/9789004412071_010).
- 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.
- Bausi, Alessandro, et al. (2015), *Comparative Oriental Manuscript Studies. An Introduction* (Hamburg: Tredition). doi: [10.5281/ZENODO.46784](https://doi.org/10.5281/ZENODO.46784).
- 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:/13960/t57d2r97r](https://nbn-resolving.org/urn:nbn:de:bsz:13960-t57d2r97r).



- Bendall, Cecil (1883), *Catalogue of the Buddhist Sanskrit Manuscripts in The University Library, Cambridge: With Introductory Notices and Illustrations of the Palaeography and Chronology of Nepal and Bengal* (Cambridge: University Press), [ark:/13960/t03x8vz7b](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63862-p0033-9).
- Bhaṭṭācārya, Candrakānta (1910–17) (ed.), *सुश्रुतसंहिता प्रथमखण्डम् सूत्रस्थानात्मकम् हाराणचन्द्रचक्रवर्तिकविराजविरचितसुश्रुतार्थसन्दीपनभाष्यसमेतम्...चन्द्रकान्त भट्टाचार्य-प्रमुखैः संशोधितम्* = [The *Suśrutasaṃhitā* with the Commentary *Suśrutārthasandīpanabhāṣya* by Hārāṇacandra Cakravartī] (Kalikātā: Satya Press); Edition "t" in [HIML](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63862-p0033-9): IB, 312.
- Bhattarai, Bidur (2020), *Dividing Texts. Conventions of Visual Text-Organisation in Nepalese and North Indian Manuscripts* (Studies in Manuscript Cultures; Berlin/Boston: de Gruyter), 388.
- Biardeau, Madeleine (1964), *Théorie de la connaissance et la philosophie de la parole dans la brahmanisme classique* (Paris & La Haye: Mouton & Co.), [ark:/13960/t42r7g950](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63862-p0033-9).
- 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 *Suśrutasaṃhitā*," *Academia Letters*. DOI: [10.20935/AL2992](https://doi.org/10.20935/AL2992).
- Birch, Jason, Wujastyk, Dominik, Klebanov, Andrey, Rimal, Madhusudan, et al. (2021), "Ḍalhaṇa and the Early 'Nepalese' Version of the *Suśrutasaṃhitā*." DOI: [10.20935/a13733](https://doi.org/10.20935/a13733).
- Böhtlingk, Otto (1879), *Sanskrit-wörterbuch in kürzerer fassung* (St. Petersburg: Kaiserlichen Akademie der Wissenschaften), [URL](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63862-p0033-9), accessed 18/05/2023.
- Böhtlingk, Otto, and Roth, Rudolph (1855–75), *Sanskrit-Wörterbuch* (St. Petersburg: Kaiserlichen Akademie der Wissenschaften), [URL](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63862-p0033-9), accessed 18/05/2023.
- Bollée, Willem (2010), "Remarks on the Cultural History of the Ear in India," in Nalini Balbir (ed.), *Svasti: Essays in Honour of Professor Hampa Nagarajaiah for His 75th Birthday* (Bangalore: K. S. Mudappa Smaraka Trust), 141–67, [URL](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63862-p0033-9), accessed 23/01/2022.
- Breton, P. (1826), "On the Native Mode of Couching," *Transactions of the Medical and Physical Society of Calcutta*, 2: 341–82, [ark:/13960/t3dz8nn5t](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63862-p0033-9), [URL](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63862-p0033-9), accessed 02/06/2021.

- Bronkhorst, Johannes (2016), *How the Brahmins Won: From Alexander to the Guptas* (Leiden: Brill). doi: [10.1163/9789004315518](https://doi.org/10.1163/9789004315518).
- (2021), “Patañjali’s Āryāvarta = Śuṅga realm?,” *Academia Letters*. doi: [10.20935/al291](https://doi.org/10.20935/al291); Article 291.
- Bronner, Yigal (2021) (ed.), “The Pandit Project” (30 Sept.), [URL](#).
- Brooks, Lisa Allette (2018), “Epistemology and Embodiment: Diagnosis and the Senses in Classical Ayurvedic Medicine,” *Asian Review of World Histories*, 6: 98–135. doi: [10.1163/22879811-12340027](https://doi.org/10.1163/22879811-12340027).
- (2020a), “A Surgeon’s Hand: Reflections on Surgical Tactility in Early Ayurveda,” *Asian Medicine*, 15/1: 30–62. doi: [10.1163/15734218-12341460](https://doi.org/10.1163/15734218-12341460).
- (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: [10.22459/fm.2020](https://doi.org/10.22459/fm.2020).
- (2021a), “The Vascularity of Ayurvedic Leech Therapy: Sensory Translations and Emergent Agencies in Interspecies Medicine,” *Medical Anthropology Quarterly*, 35/1: 82–101. doi: [10.1111/maq.12595](https://doi.org/10.1111/maq.12595).
- (2021b), “Translating Touch in Āyurveda: Medicine, Sense, and Subjectivity in Early south Asia and Contemporary Kerala,” PhD thesis (University of California, Berkeley).
- (forthcoming), “Leech Logic,” in An Editor (ed.), *A Book*.
- Brunton, Lauder (1909) (ed.), *On the Poison of Venomous Snakes and the Methods of Preventing Death from their Bite: Reprinted Papers of Joseph Fayrer and T. Lauder Brunton and Leonard Rogers* (London: Macmillan and Co.), 1–22, 23–110, [ark:/13960/t0bv7ts2c](https://nbn-resolving.org/urn:nbn:uk:2019-06-13-13960-t0bv7ts2c).
- Brunton, T. Lauder, and Fayrer, J. (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:/13960/t0bv7ts2c](https://nbn-resolving.org/urn:nbn:uk:2019-06-13-13960-t0bv7ts2c).

- Burghart, Marjorie (2016), "The TEI Critical Apparatus Toolbox: Empowering Textual Scholars through Display, Control, and Comparison Features," *Journal of the Text Encoding Initiative*, 10/Issue 10. DOI: [10.4000/jtei.1520](https://doi.org/10.4000/jtei.1520).
- (2017), "Textual Variants," in Marjorie Burghart, James Cummings, and Elena Pierazzo (eds.), *Digital Editing of Medieval Texts: A Textbook* (DEMM), [URL](#), accessed 04/07/2021.
- Burnell, Arthur Coke (1880), *A Classified Index to the Sanskrit Mss. in the Palace at Tanjore* (London: Trübner), [ark:/13960/t4xh86j61](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-t4xh86j61); Bhelaṣaṃhitā described on pp. 67 ff.
- 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:/13960/s2mtq72w6s2](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-s2mtq72w6s2).
- Carpue, J. C. (1816), *An Account of Two Successful Operations for Restoring a Lost Nose from the Integuments of the Forehead...Including Descriptions of the Indian and Italian Methods* (London: Longman et al.), [ark:/13960/t2q57fn42](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-t2q57fn42), accessed 20/03/2019.
- Chadha, Gita, and Thomas, Renny (2022) (eds.), *Mapping Scientific Method: Disciplinary Narrations* (Science and Technology Studies; Abingdon and New York: Routledge). DOI: [10.4324/9781003298908](https://doi.org/10.4324/9781003298908).
- Chevillard, Jean-Luc (2009), "The Metagrammatical Vocabulary inside the Lists of 32 Tantrayukti-s 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](#), accessed 15/11/2023.
- Cohen, Jack (1990), "The Function of Human Semen Coagulation and Liquefaction In Vivo," in *Advances in Assisted Reproductive Technologies*, ed. Shlomo Mashiach et al. (NY & London: Plenum Press), 443–52, ISBN: 9781461306450. DOI: [10.1007/978-1-4613-0645-0\\_49](https://doi.org/10.1007/978-1-4613-0645-0_49).
- Comba, Antonella (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:/13960/s2mb8kpr6px](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-s2mb8kpr6px).

- Cone, Margaret (2001), *A Dictionary of Pāli* (Oxford: The Pali Text Society), ISBN: 0 86013 394 x.
- Cordier, P. (1903), "Récentes découvertes de mss. médicaux sanscrits dans l'Inde (1898–1902)," *Muséon, Nouvelle Série*, 4: 321–52, [ark : / 13960 / t26b2j457](https://nbn-resolving.org/urn:nbn:fr:shs-266b2j457), accessed 02/01/2020; Reprinted in Roşu 1989: 539–70.
- Coult, Ro. (1731), "An Account of the Diseases of Bengall," in *Indian Science and Technology in the Eighteenth Century* (Impex India), 141 f., 276.
- Crawford, D. G. (1930), *Roll of the Indian Medical Service, 1615–1930* (London, Calcutta, Simla: Thacker).
- Das, Rahul Peter (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. (1952), "Speculations in the Medical Schools," in *A History of Indian Philosophy*, ii (Reprint of 1932 edition, Cambridge: Cambridge University Press), chap. 13, 273–436, [URL](#), accessed 26/01/2018.
- Dave, K. N. (1985), *Birds in Sanskrit Literature* (Delhi: Motilal Banarsidass), ISBN: 0-89581-676-8, [ark : / 13960 / t2c94cv80](https://nbn-resolving.org/urn:nbn:fr:shs-2c94cv80).
- 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: [10.3390/tropicalmed7060108](https://doi.org/10.3390/tropicalmed7060108).
- Deshpande, Madhav (1988), "Pāṇini and the Northwestern Dialect: Some Suggestions on Sūtra 3.3.10," in Mohammad Ali Jazayery and Werner Winter (eds.), *Languages and Cultures: Studies in Honor of Edgar C. Polomé*, xxxvi (Trends in linguistics. Studies and monographs; Berlin, New York: Mouton de Gruyter), 111–23.
- Deshpande, Madhav M. (2010), "Pañca Gauḍa and Pañca Drāviḍa: Contested Borders of a Traditonal Classification," in Klaus Karttunen (ed.), *Anantaṃ Śāstram. Indological and Linguistic Studies in Honour of Bertil Tikkane* (Studia Orientalia, 108; Helsinki: Finnish Oriental Society), 29–58, ISBN: 9789519380742.
- 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: [10.1017/S0041977X00016724](https://doi.org/10.1017/S0041977X00016724).

- (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: [10.1017/s0041977x00008454](https://doi.org/10.1017/s0041977x00008454).
- Deshpande, Vijaya Jayant (2019), "An Investigation into Ancient Greco-Indian Medical Exchanges: Sostratus vs Suśruta," *Indian Journal of History of Science*, 54/2: 144–61. DOI: [10.16943/ijhs/2019/v54i2/49659](https://doi.org/10.16943/ijhs/2019/v54i2/49659).
- Deuti, Kaushik (2020), *Skinks of India*, ed. Sujoy Raha and Probath Bag (Kolkata: Zoological Survey of India), ISBN: 9788181715517.
- Dikshitar, V. R. Ramachandra (1930), "Tantrayukti," *Journal of Oriental Research*, 4: 82–9, [ark:/13960/t3b04m19g](https://doi.org/10.13960/t3b04m19g).
- Dimitrov, Dragomir, and Tamot, Kashinath (2007), "Kaiser Shamsheer, His Library and His Manuscript Collection," *Kaiser Shamsheer, His Library and His Manuscript Collection*, 3 (Jan.): 26–36, [URL](https://doi.org/10.13960/t3b04m19g).
- Dixit, U., and Deole, Y. S. (2020), "Tantrayukti," in Basisht G. (ed.), *Charak Samhita New Edition* (Charak Samhita Research, Training and Skill Development Centre (CSRTSDC)), 151–1. DOI: [10.47468/csne.2020.e01.s09.022](https://doi.org/10.47468/csne.2020.e01.s09.022).
- 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: [10.4159/9780674089136-intro](https://doi.org/10.4159/9780674089136-intro).
- Eaton, Richard M. (1993), *The Rise of Islam and the Bengal Frontier, 1204–1760* (Berkeley: University of California Press), [ark:/13030/ft067n99v9/](https://doi.org/10.13030/ft067n99v9/).
- Edgerton, Franklin (1939), "The Epic Triṣṭubh and Its Hypermetric Varieties," *Journal of the American Oriental Society*, 59/2: 159–74. DOI: [10.2307/594060](https://doi.org/10.2307/594060).
- (1953), *Buddhist Hybrid Sanskrit Grammar and Dictionary* (William Dwight Whitney Linguistic Series; New Haven: Yale University Press); vol. 1: Grammar, vol. 2: Dictionary.
- Eggeling, Julius, et al. (1887–1935), *Catalogue of the Sanskrit Manuscripts in the Library of the India Office* (London: Secretary of State for India), [ark:/13960/s2kbb5zcrg9](https://doi.org/10.13960/s2kbb5zcrg9).

- 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:/13960/s2bf83pchxw](https://nbn-resolving.org/urn:nbn:nl:po:book-13960-s2bf83pchxw).
- Ellenhorn, Matthew J. (1997), *Ellenhorn's Medical Toxicology. Diagnosis and Treatment of Human Poisoning* (2. ed., Baltimore, MD: Williams & Wilkins), ISBN: 0683300318, [ark:/13960/s21qsb3jff1v](https://nbn-resolving.org/urn:nbn:nl:po:book-13960-s21qsb3jff1v); 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: [10.1086/595767](https://doi.org/10.1086/595767), URL, accessed 24/02/2019.
- 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: [10.5281/zenodo.10798623](https://doi.org/10.5281/zenodo.10798623).
- 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:/13960/t9z07w72g](https://nbn-resolving.org/urn:nbn:nl:po:book-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: [10.1080/02666030.1991.9628430](https://doi.org/10.1080/02666030.1991.9628430).
- 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: [10.1111/j.1442-9071.2005.00978.x](https://doi.org/10.1111/j.1442-9071.2005.00978.x); unaware of V. Deshpande 1999; 2000.
- 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:/13960/t9h49dg5c](https://nbn-resolving.org/urn:nbn:nl:po:book-13960-t9h49dg5c); First edition 1872.



- Fitzgerald, James L. (2009), "A Preliminary Study of the 681 Triṣṭubh Passages of the Mahābhārata," in Robert P. Goldman and Muneo Tokunaga (eds.), *Epic Undertakings* (Papers of the 12th World Sanskrit Conference; Delhi: Motilal Banarsidass Publishe), 95–117.
- Flood, Gavin D. (2022) (ed.), *Wiley Blackwell Companion to Hinduism* (2nd edn., Hoboken, NJ: Wiley & Sons, Limited), ISBN: 9781119144861.
- 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:/13960/s2sdmmt8nf8](https://nbn-resolving.org/urn:nbn:de:bsz:551-s2sdmmt8nf8).
- Froese, R., and Pauly, D. (2022) (eds.), "Fishbase: The Global Encyclopedia about Fish," [URL](https://www.fishbase.org/).
- Gaṇapatiśāstrī, T. (1920–25), *Āryamañjuśrīmūlakalpaḥ* (Trivandrum Sanskrit Series, 70; Anantaśayane: Rājākīyamudraṇayantrālaye), [ark:/13960/t4pk5sj0j](https://nbn-resolving.org/urn:nbn:de:bsz:551-t4pk5sj0j).
- Ghosh, Ritwik, 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: [10.1016/j.nrleng.2022.06.001](https://doi.org/10.1016/j.nrleng.2022.06.001).
- Giesche, Alena, et al. (2023), "Recurring Summer and Winter Droughts from 4.2–3.97 Thousand Years Ago in North India," *Nature: Communications Earth & Environment*, 4/1: 1–10. DOI: [10.1038/s43247-023-00763-z](https://doi.org/10.1038/s43247-023-00763-z).
- Gode, P. K., and Karve, C. G. (1957–59) (eds.), *Revised and Enlarged Edition of Prin. V. S. Apte's the Practical Sanskrit-English Dictionary* (Poona: Prasad Prakashan), [ark:/13960/t3gx47212](https://nbn-resolving.org/urn:nbn:de:bsz:551-t3gx47212), accessed 20/10/2017.
- Gombrich, Richard (1979), "'He Cooks Softly': Adverbs in Sanskrit Grammar," *Bulletin of the School of Oriental and African Studies*, 42/2: 244–56. DOI: [10.1017/s0041977x0014580x](https://doi.org/10.1017/s0041977x0014580x).
- 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: [10.4103/0974-8520.92540](https://doi.org/10.4103/0974-8520.92540).
- Gupta, Parmanand (1973), *Geography In Ancient Indian Inscriptions (Up to 650 A.D.)* (Delhi: D. K. Publishing House), [ark:/13960/t3907cf2d](https://nbn-resolving.org/urn:nbn:de:bsz:551-t3907cf2d).

- (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 Suśruta-saṃhitā] 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:/13960/t6841qw6x](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63841-qw6x).
- Haas, E. (1876), “Über die Ursprünge der Indischen Medizin, mit besonderem Bezug auf Suśruta,” *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, 30/4: 617–70, [URL](#).
- Hamza, Muhammad, et al. (2021), “Clinical Management of Snakebite Envenoming: Future Perspectives,” *Toxicon: X* 11/100079: 1–12, ISSN: 2590-1710. DOI: [10.1016/j.toxcx.2021.100079](https://doi.org/10.1016/j.toxcx.2021.100079).
- Harimoto, Kengo (2010), “[Preliminary Edition of the Nepalese MSS of the Suśrutasaṃhitā, adhyāyas 1.1–3, 6.4]” (prepublished).
- (2011), “In Search of the Oldest Nepalese Manuscript,” *Rivista degli Studi Orientali*, 84/1–4: 85–106, ISSN: 0392-4866, [URL](#), accessed 08/09/2019.
- (2013), “Description of microfilm C 80/7,” NGMCP, [URL](#), accessed 27/02/2023.
- (2014), “Nepalese Manuscripts of the Suśrutasaṃhitā,” *Journal of Indian and Buddhist Studies (Indogaku Bukkyogaku Kenkyu)*, 62/3: 23–29 (1087–1093). DOI: [10.4259/ibk.62.3\\_1087](https://doi.org/10.4259/ibk.62.3_1087), [URL](#), accessed 08/09/2019.
- Hayashi, Takao (2017), “The Units of Time in Ancient and Medieval India,” *History of Science in South Asia*, 5/1: 1–116. DOI: [10.18732/h2ht0h](https://doi.org/10.18732/h2ht0h).
- Hellwig, Oliver (2009), *Wörterbuch Der Mittelalterlichen Indischen Alchemie* (Groningen: Barkhuis & University of Groningen, University Library), ISBN: 9789077922620. DOI: [10.2307/j.ctt22728hs](https://doi.org/10.2307/j.ctt22728hs), [URL](#), accessed 19/06/2020.
- Hemarāja Śarman (1938) (ed.), *काश्यपसंहिता (वृद्धजीवकीयं तन्त्रं वा) महर्षिणा मारीचकश्यपेनोपदिष्टा ... हेमराजशर्मणा लिखितेन विस्तृतेन उपोद्धातेन सहिता ... सत्यपाल भिषगा कृतया विद्योतिनी हिन्दीव्याख्यया ... समुल्लसिता* (1st edn., Mumba: Nirṇayasāgara Press), [ark:/13960/t3mw5gb9p](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63841-qw6x).



- 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).
- Henkel, Friedrich-Wilhelm, and Schmidt, Wolfgang (1995), *Geckoes: Biology, Husbandry, and Reproduction*, trans. John Hackworth (Malabar, Florida: Krieger), ISBN: 0894649191, [ark:/13960/t6xx2kb2c](https://nbn-resolving.org/urn:nbn:de:bsz:551-1995010113960-t6xx2kb2c).
- Hessler, Franciscus (1844–55), *Suśrutas Ayurvédas: id est Medicinae Systema a Venerabili D'hanvantare Demonstratum a Susruta Discipulo Compositum; Nunc Primum Ex Sanskrita in Latinum Sermonem Vertit, Introductionem, Annotationes Et Rerum Indice Franciscus Hessler* (Erlangen: Ferdinandum Enke), [ark:/13960/t17m45r97](https://nbn-resolving.org/urn:nbn:de:bsz:551-1995010113960-t17m45r97).
- 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:/13960/t05z1bg4q](https://nbn-resolving.org/urn:nbn:de:bsz:551-1995010113960-t05z1bg4q).
- (1897), *सुश्रुतसंहिता = The Suśruta-Saṃhitā or the Hindū System of Medicine According to Suśruta Translated from the Original Sanskrit* (Bibliotheca Indica, 911; Calcutta: Asiatic Society), [ark:/13960/t8pd1kw9r](https://nbn-resolving.org/urn:nbn:de:bsz:551-1995010113960-t8pd1kw9r), accessed 03/01/2018; No more published; Hoernle does not state which edition he is translating, but it includes the "Dhanvantari phrase".
- (1906a), "Studies in Ancient Indian Medicine I: The Commentaries on Suśruta," *Journal of the Royal Asiatic Society of Great Britain and Ireland*: 283–302, [URL](https://nbn-resolving.org/urn:nbn:de:bsz:551-1995010113960-t8pd1kw9r), accessed 26/06/2019.
- Hoernle, A. F. Rudolf (1906b), "Studies in Ancient Indian Medicine II: On Some Obscure Anatomical Terms," *Journal of the Royal Asiatic Society of Great Britain and Ireland*, 4: 915–41, [URL](https://nbn-resolving.org/urn:nbn:de:bsz:551-1995010113960-t8pd1kw9r), accessed 25/06/2019.
- (1907a), "Studies in Ancient Indian Medicine II: On Some Obscure Anatomical Terms (Continued from the the Journal, 1906, p. 941)," *Journal of the Royal Asiatic Society of Great Britain and Ireland*: 1–18, [URL](https://nbn-resolving.org/urn:nbn:de:bsz:551-1995010113960-t8pd1kw9r), accessed 25/06/2019.
- (1907b), *Studies in the Medicine of Ancient India: Osteology or the Bones of the Human Body* (Oxford: Clarendon Press), [ark:/13960/t1pg9cq8b](https://nbn-resolving.org/urn:nbn:de:bsz:551-1995010113960-t1pg9cq8b).

- Hofer, Theresia (2007), "Swami Laxmi Ram's Ayurvedic Pharmacy in Jaipur, India," *Wellcome History*, 34: 2–3, [URL](#), accessed 16/03/2022.
- (2017) (ed.), *Bodies in Balance. The Art of Tibetan Medicine: The Art of Tibetan Medicine* (Seattle: University of Washington Press), 1360 pp., ISBN: 9780295993591.
- Holwell, J. Z. (1767), *An Account of the Manner of Inoculating for the Small Pox in the East Indies With...Observations on The...Mode of Treating That Disease in Those Parts* (London: T. Becket & P. A. de Hondt), [ark:/13960/t3ws9h63c](#).
- 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](#), accessed 24/01/2024.
- Jack, David Morton (1884), "A Thesis on Cataract in India: Its Pathology and Treatment," Wellcome Library, London, MS 3007, [URL](#), accessed 02/06/2021.
- Jamison, Stephanie W., and Brereton, Joel P. (2014), *The Rigveda* (South Asia Research; New York: Oxford University Press), ISBN: 9780199370184; With commentary at <http://rigvedacommentary.alc.ucla.edu/>.
- Jhalakīkar, Bhīmācārya (1978), न्यायकोशः (सकलशास्त्रोपकारकन्यायादिशास्त्रीयपदार्थप्रकाशकः) = *Nyāyakośa or Dictionary of Technical Terms of Indian Philosophy* (Poona: Bhandarkar Oriental Research Institute), [ark:/13960/t4cp7242f](#).
- Jolly, Julius (1951), *Indian Medicine, Translated from the German...by C. G. Kashikar* (Poona: C. G. Kashikar), [URL](#), 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).
- Kangle, R. P. (1965a), *The Kauṭīlīya Arthaśāstra*, 3 vols. (2nd edn., Delhi: Motilal Banarsidass), ISBN: 978-81-208-0042-7, [ark:/13960/t3gz6qh1s](#); reprint of 2010, i: *The Kauṭīlīya Arthaśāstra: Part I, Sanskrit Text with a Glossary* (1969), ii: *The Kauṭīlīya Arthaśāstra: Part II, Translation with Critical and Explanatory Notes* (1972), iii: *The Kauṭīlīya Arthaśāstra: Part III A Study* (1965).

- (1965b), *The Kauṭīlīya Arthaśāstra: Part III A Study* (2nd edn., Delhi: Motilal Banarsidass), [ark:/13960/t3gz6qh1s](https://nbn-resolving.org/urn:nbn:in:cc0-t3gz6qh1s); reprint of 2010.
- (1969), *The Kauṭīlīya Arthaśāstra: Part I, Sanskrit Text with a Glossary* (2nd edn., Delhi: Motilal Banarsidass), ISBN: 978-81-208-0039-7, [ark:/13960/t3gz6qh1s](https://nbn-resolving.org/urn:nbn:in:cc0-t3gz6qh1s); reprint of 2010.
- (1972), *The Kauṭīlīya Arthaśāstra: Part II, Translation with Critical and Explanatory Notes* (2nd edn., Delhi: Motilal Banarsidass), ISBN: 978-81-208-0040-3, [ark:/13960/t3gz6qh1s](https://nbn-resolving.org/urn:nbn:in:cc0-t3gz6qh1s); reprint of 2010.
- 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://nbn-resolving.org/urn:nbn:in:cc0-t3gz6qh1s); Published electronically in 2016 as a back issue of *Studia Orientalia*.
- Keith, Arthur Berriedale (1908), review of A. F. Rudolf Hoernle (1907), “Studies in Ancient Indian Medicine II: On Some Obscure Anatomical Terms (Continued from the the Journal, 1906, p. 941),” *Journal of the Royal Asiatic Society of Great Britain and Ireland*: 1–18, [URL](https://nbn-resolving.org/urn:nbn:in:cc0-t3gz6qh1s), accessed 25/06/2019, in *Zeitschrift Der Deutschen Morgenländischen Gesellschaft*, 1/62: 134–9, [URL](https://nbn-resolving.org/urn:nbn:in:cc0-t3gz6qh1s), accessed 17/04/2021.
- 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: [10.4103/2221-1691.225615](https://doi.org/10.4103/2221-1691.225615).
- Khosroheidari, Mahdieh (2008), “Antimicrobial activity of *C. cordifolius*,” *Journal of Young Investigators*, 11/6 (1 Aug.), [URL](https://nbn-resolving.org/urn:nbn:in:cc0-t3gz6qh1s).
- 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://nbn-resolving.org/urn:nbn:in:cc0-t3gz6qh1s), accessed 17/05/2023.
- Klebanov, Andrey (2010), “The \*Nepalese Version of the *Suśrutasaṃhitā* and Its Interrelation with Buddhism and the Buddhists,” MA thesis (Hamburg: Hamburg University, Sept.), [URL](https://nbn-resolving.org/urn:nbn:in:cc0-t3gz6qh1s), accessed 08/09/2019.
- (2012), “Description of microfilm B 29/19,” NGMCP, [URL](https://nbn-resolving.org/urn:nbn:in:cc0-t3gz6qh1s), accessed 27/02/2023.

- (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: [10.21827/ejim.12.1.37385](https://doi.org/10.21827/ejim.12.1.37385).
- (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: [10.1163/9789004438224\\_008](https://doi.org/10.1163/9789004438224_008).
- Kuist, James M. (1982), *The Nichols File of The Gentleman's Magazine* (Madison: University of Wisconsin Press), ISBN: 0-299-08480-9, [ark:/13960/t53g2ct2z](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-37385).
- 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: [10.1553/wzksls27](https://doi.org/10.1553/wzksls27), URL.
- Kutumbiah, P. (1962), *Ancient Indian Medicine* (Bombay, etc.: Orient Longmans), [ark:/13960/t6r01v93g](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-37385); 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.
- Lariviere, Richard W. (2003), *The Nāradaśmṛti. Critically Edited with an Introduction, annotated Translation, and Appendices* (2nd edn., Delhi: Motilal Banarsidass), ISBN: 8120818040; First edition: Philadelphia, 1989.
- Law, Bimala Churn (1984), *Historical Geography of Ancient India* (New Delhi: Orient Books Reprint), [ark:/13960/t3d01t737](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-37385); Reprint of 1954 Paris edition.
- Leffler, Christopher T., et al. (2020), “The History of Cataract Surgery: From Couching to Phacoemulsification,” *Annals of Translational Medicine*, 8/22: 1551–97, ISSN: 2305-5847. DOI: [10.21037/atm-2019-rcs-04](https://doi.org/10.21037/atm-2019-rcs-04), URL, 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:/13960/s28vqzhkdjq](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-37385).

- (2006), *Methodology of Ancient Indian Sciences* (The Chaukhamba Surbharati Studies, 3; Varanasi: Chaukhamba Surbharati Prakashan), [ark:/13960/s2dc7zd8hf1](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63862-p0011-9).
- Leslie, I. Julia (1989), *The Perfect Wife* (New Delhi: Oxford University Press).
- Li, Charles (2017), “Critical Diplomatic Editing: Applying Text-critical Principles As Algorithms,” in Peter Boot et al. (eds.), *Advances in Digital Scholarly Editing. Papers Presented at the Dixit Conferences in the Hague, Cologne, and Antwerp* (Leiden: Sidestone Press), 305–10, ISBN: 978-90-8890-485-1, [URL](https://www.sidestone.com/en/publications/advances-in-digital-scholarly-editing), accessed 10/11/2020.
- (2017–), “Saktumiva,” [URL](https://saktumiva.github.io/), accessed 21/01/2023.
- (2018), “Limits of the Real: A Hypertext Critical Edition of Bhartṛhari’s *Dravyasamuddeśa*, with the Commentary of Helārāja,” en, PhD thesis (Cambridge: University of Cambridge). doi: [10.17863/CAM.31454](https://doi.org/10.17863/CAM.31454).
- (2022a), “Helayo: Reconstructing Sanskrit Texts from Manuscript Witnesses,” *Journal of Open Source Software*, 7/71: 4022. doi: [10.21105/joss.04022](https://doi.org/10.21105/joss.04022).
- (2022b), “Reconstructing a Sanskrit Text” (19 Nov.), [URL](https://saktumiva.github.io/), accessed 20/01/2023.
- Lienhard, Siegfried (1978), “On the Meaning and Use of the Word *Indragopa*,” *Indologica taurinensia*, 6: 177–88, [URL](https://www.indologica.turin.it/), accessed 06/02/2021; The *indragopa* is a ‘red velvet mite’.
- Longmate, Barak (1794), “A Curious Chirurgical Operation,” *The Gentleman’s Magazine and Historical Chronicle*, 64.4 (Oct.): 883, 891, 892; I am grateful to the late John Symons of the Wellcome Library who identified the author ‘B. L.’ as the journalist Barak Longmate. See also Kuist [1982](https://doi.org/10.1017/S0022243X19820008): 87.
- Maas, Philipp André (2013), “A Concise Historiography of Classical Yoga Philosophy: leslie,” in Eli Franco (ed.), *Historiography and Periodization of Indian Philosophy* (Vienna: Sammlung de Nobili), 53–90, [URL](https://www.sammlung.de/nobili/), accessed 27/05/2016.

- Mahādeva Śāstrī, K. (1958) (ed.), ജ്യോത്സനിക: വിഷവൈദ്യം *Jyotsnika* (*Viṣa Vaidya*) [*The Jyotsnikā of Kārāṭṭu Nārāyaṇan Nampūtir*] (Śrī Vañci Setu Lakṣmī series, 9; 3rd edn., Trivandrum: The Government of His Highness The Maharaja of Travancore); First published in 1927.
- 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: [10.1525/9780520959545](https://doi.org/10.1525/9780520959545).
- Majno, Guido (1975), *The Healing Hand. Man and Wound in the Ancient World* (Cambridge, MA: Harvard University Press), [ark:/13960/t4hm7xf2c](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-39660-p0044-7).
- Malamoud, Charles (1996), "Paths of the Knife: Carving up the Victim in Vedic Sacrifice," in *Cooking the World: Ritual and Thought in Ancient India. Translated from the French by David White* (Delhi, Bombay, etc.: Oxford University Press), 169–80.
- Mānasa-taraṅgiṇī (2019), "Kaiṭabha, Poison and Death: Meanderings through Tradition," mAnasa-taraMgiNI Blog (1 Sept.), [URL](https://manasa-taramgini.org/), 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.
- Manucci, Niccolò (1907–08), *Storia Do Mogor or, Mogul India, 1653–1708 by Niccolao Manucci, Venetian; Translated with Introduction and Notes, by William Irvine* (The Indian Texts Series; London: J. Murray), [URL](https://www.indian-texts.com/manucci.htm), accessed 04/10/2021.
- Masai, François (1950), "Principes et conventions de l'édition diplomatique," *Scriptorium*, 4: 177–93. DOI: [10.3406/scrip.1950.2294](https://doi.org/10.3406/scrip.1950.2294).
- 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: [10.7817/jameroriesoci.132.2.0245](https://doi.org/10.7817/jameroriesoci.132.2.0245).



- (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: [10.1016/s0377-1237\(02\)80140-x](https://doi.org/10.1016/s0377-1237(02)80140-x).
- Mejor, Marek (2000), "Some Observations on the Date of the *Yukti-dīpikā* (apropos of a New Edition)," in Piotr Błecrowicz and Marek Mejor (eds.), *On the Understanding of Other Cultures*, vii (Studia Indologiczne; Warszawa: Instytut Orientalistyczny, Uniwersytet Warszawski), 255–89.
- Meulenbeld, Gerrit Jan (1974b), *The Mādhavanidāna and Its Chief Commentary: Chapters 1–10. Introduction, Translation, and Notes* (Leiden: Brill), ISBN: 978-90-04-03892-9, [ark:/13960/t25b8q97g](https://nbn-resolving.org/urn:nbn:nl:0:13960-t25b8q97g).
- (1984), "The Surveying of Sanskrit Medical Literature," in id. (ed.), *Proceedings of the International Workshop on Priorities in the Study of Indian Medicine* (Groningen: Forsten), 37–56.
- (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](#), 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](#).
- Meulenbeld, Gerrit Jan (1992), "The Characteristics of a Doṣa," *Journal of the European Ayurvedic Society*, 2/1: 1–5, [ark:/13960/t8hf69z8j](https://nbn-resolving.org/urn:nbn:nl:0:13960-t8hf69z8j).
- (2008a), "A Quest for Poison Trees in Indian Literature, Along with Notes on Some Plants and Animals of the Kauṭīliya Arthaśāstra," *Wiener Zeitschrift für die Kunde Südasiens / Vienna Journal of South Asian Studies*, 51 (2007–2008): 5–75, [URL](#).
- (2008b), *The Mādhavanidāna with "Madhukośa," the Commentary by Vijayarakṣita and Śrīkaṇṭhadatta (Ch. 1-10). Introduction, Translation, and Notes* (Delhi: Motilal Banarsidass).

- (2011), "The Relationships between Doṣas and Dūṣyas: A Study on the Meaning(s) of the Root Murch-/murch," *eJournal of Indian Medicine*, 4/2: 35–135, [URL](#), accessed 13/10/2017.
- Meyer, Johann Jakob (1926), *Das altindische Buch vom Welt- und Staatsleben. Das Arthaśāstra des Kauṭilya* (Leipzig: Otto Harrassowitz), [ark:/13960/s21gb96bcxv](#).
- Miles, M. (1999), "Personal Communication," Mar.; Letter of 4 March.
- Minton, Sherman A., and Minton, Madge Rutherford (1969), *Venomous Reptiles* (New York: Charles Scribners' Sons), [ark:/13960/t9k423s9k](#).
- Moureau, Sébastien. (2015), "The Apparatus Criticus," in Alessandro Bausi et al. (eds.), *Comparative Oriental Manuscript Studies: An Introduction* (Hamburg: Tredition), 348–52, ISBN: 978-3-7323-1768-4, [URL](#), accessed 04/07/2021.
- 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:13960/t1zd2pq29](#), accessed 29/01/2018; Vol.2: [ark:/13960/t9r25qd8m](#). Reprinted as a single volume, New Delhi, 1987.
- Narayana, Ala, and Thrigulla, Saketh Ram (2011), "Tangible Evidences of Surgical Practice in Ancient India," *Journal of Indian Medical Heritage*, 16: 1–18, [URL](#), accessed 02/06/2021.
- NGMCP (2014), "Nepal-german Manuscript Cataloguing Project. Online Title List and Descriptive Catalogue," Universität Hamburg and Deutsche Forschungsgemeinschaft, [URL](#).
- Oberhammer, Gerhard (1968), "Notes on the Tantrayukti-s," *The Adyar Library Bulletin*, 31–32 (1967–1968): 600–16. DOI: [10.5281/zenodo.10440052](#).
- Oberhammer, Gerhard, Prets, Ernst, and Prandstetter, Joachim (1991), *Terminologie der frühen philosophischen Scholastik in Indien: Ein Begriffswörterbuch zur altindischen Dialektik, Erkenntnislehre und Methodologie* (Österreichische Akademie der Wissenschaften, Philosophisch-Historische Klasse, Denkschriften, 223; Wien: Verlag der Österreichischen Akademie der Wissenschaften); Beiträge zur Kultur- und Geistesgeschichte Asiens; Nr. 9.



- Oberlies, Thomas (2003), *A Grammar of Epic Sanskrit* (Indian Philology and South Asian Studies, 5; Berlin: De Gruyter), ISBN: 9783110144482. DOI: [10.1515/9783110899344](https://doi.org/10.1515/9783110899344).
- Olivelle, Patrick (1995), "Food in India," *Journal of Indian Philosophy*, 23/3: 367–80. DOI: [10.1007/bf01463136](https://doi.org/10.1007/bf01463136).
- (2001), *Food for Thought. Dietary Rules and Social Organization in Ancient India* (Gonda Lectures, 9; Amsterdam: Royal Netherlands Academy of Arts and Sciences), [URL](#), accessed 28/06/2023.
- (2005), *Manu's Code of Law: A Critical Edition and Translation of the Manava-dharmasastra*, 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: Kauṭilya's Arthaśāstra. a New Annotated Translation* (New York: Oxford University Press), ISBN: 9780199891825. DOI: [10.1093/acprof:osobl/9780199891825.003.0001](https://doi.org/10.1093/acprof:osobl/9780199891825.003.0001).
- 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: 0-620-23435-0, [URL](#).
- Özbulat, Mehmet, et al. (2021), "Factors Affecting Prognosis in Patients with Snakebite," *Eurasian Journal of Emergency Medicine*, 20/1 (Mar.): 6–11, ISSN: 2149-6048. DOI: [10.4274/eajem.galenos.2020.69885](https://doi.org/10.4274/eajem.galenos.2020.69885).
- Pandey, Anshuman (2012), "Proposal to Encode the Newar Script in ISO/IEC 10646," [URL](#).
- Pāṇḍeya, Rāmateja (1963) (ed.), *श्रीकृष्णद्वैपायनव्यासप्रणीतं गरुडपुराणम्* (Vidyabhawan Prachyavidya Granthamala, 3; reprint, Caukhambā Vidyābhavana, Paṇḍita-Pustakālaya: Kāśī), [ark:/13960/t6pz7tg7j](https://nbn-resolving.org/urn:nbn:in:cnr-panipat-13960-t6pz7tg7j).
- Paramesvaran, Madhu K. (2023), "Personal email communication," 26 Dec.
- Pass, Gregory (2003), *Descriptive Cataloging of Ancient, Medieval, Renaissance, and Early Modern Manuscripts* (Chicago: American Library Association), ISBN: 0-8389-8218-2, [URL](#).

- PBS (2020), "Modern Day Blood-letting in North Africa," PBS (11 Dec.), [URL](#); Filmed in Farchana, Chad, amongst Sudanese refugees from Darfur, for the series *Our Human Planet*.
- 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: [10.5005/jp-journals-10071-23302](#).
- Poudel, Ram C., 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: [10.1016/j.jep.2013.02.031](#).
- Preisendanz, Karin (2007), "The Initiation of the Medical Student in Early Classical Āyurveda: Caraka's Treatment in Context," in Birgit Kellner et al. (eds.), *Pramāṇakīrtiḥ. Papers Dedicated to Ernst Steinkellner on the Occasion of His 70th Birthday. Part 2*, ii, 2 vols. (Wiener Studien zur Tibetologie und Buddhismuskunde, 70.2; Wien: Arbeitskreis für Tibetische Und Buddhistische Studien Universität Wien), 629–68, ISBN: 9783902501097, [URL](#).
- (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.

- Price, Kenneth M. (2013), "Electronic Scholarly Editions," in Ray Siemens and Susan Schreibman (eds.), *A Companion to Digital Literary Studies* (Chichester, UK: John Wiley & Sons, Ltd), 434–50. DOI: [10 . 1002 / 9781405177504 . ch24](https://doi.org/10.1002/9781405177504.ch24), URL, accessed 04/07/2021.
- 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:/13960/t9x10x61b](https://nbn-resolving.org/urn:nbn:in:shabdkalpadrumah).
- 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 . 1177 / 0019464619873820](https://doi.org/10.1177/0019464619873820); Online first.
- Rama Rao, B., et al. (2005), *Sanskrit Medical Manuscripts in India* (New Delhi: Central Council for Research in Ayurveda & Siddha), [ark:/13960/t88h7763b](https://nbn-resolving.org/urn:nbn:in:sanskritmedicalmanuscripts).
- Rama Sastri and Krishnamurthi Sastri, S. R. (1952) (eds.), *पातञ्जलयोगसूत्रभाष्यविवरणम् । (शङ्करभगवत्पादप्रणीतम्) = Pātñjala[sic]-yogasūtra-bhāṣya Vivaraṇam of Śaṅkara-Bhagavatpāda. Critically Edited with Introduction* (Madras Government Oriental Series, 94; Madras: Government Oriental Manuscripts Library), [ark:/13960/t7jq3m14w](https://nbn-resolving.org/urn:nbn:in:patanjalyogasutra), accessed 20/10/2017.
- Rây, Priyadarajan, Gupta, Hirendra Nath, and Roy, Mira (1980), *Suśruta Saṁhita (a Scientific Synopsis)* (New Delhi: Indian National Science Academy), [ark:/13960/t64511t6v](https://nbn-resolving.org/urn:nbn:in:sushrutasaṁhita), accessed 13/09/2019.
- Raychaudhuri, Hemachandra (1953), *Political History of Ancient India* (Calcutta: University of Calcutta), [ark:/13960/s25hz0hz29p](https://nbn-resolving.org/urn:nbn:in:raychaudhuri).
- Renou, Louis (1940), "Sur certaines anomalies de l'optatif Sanskrit," *Bulletin de la Société de Linguistique de Paris*, 41: 5–17, [ark:/12148/bpt6k121049](https://nbn-resolving.org/urn:nbn:fr:bsl).
- Rhys Davids, Thomas William, and Stede, William (1921–25), *The Pali Text Society's Pali-English Dictionary* (London: The Pali Text Society), [ark:/13960/t4nk3nc12](https://nbn-resolving.org/urn:nbn:in:palienglishdictionary).
- Rimal, Madhusudana, and Wujastyk, Dominik (2022), "MS Kathmandu NAK 1/1146," Pandit Project (18 May), URL.
- Roelli, Philipp (2020) (ed.), *Handbook of Stemmataology* (Berlin: De Gruyter). DOI: [10 . 1515 / 9783110684384](https://doi.org/10.1515/9783110684384).

- Roelli, Philipp, and Macé, Caroline (2015), "Parvum Lexicon Stemmatologicum. A Brief Lexicon of Stemmatology." doi: [10.5167/uzh-121539](https://doi.org/10.5167/uzh-121539).
- Roşu, Arion (1989), *Un demi-siècle de recherches āyurvédiques. Gustave Liétard et Palmyr Cordier: Travaux sur l'histoire de la médecine indienne* (Paris: Institut de Civilisation Indienne).
- Roşu, 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:/13960/t5p85ds09](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-t5p85ds09).
- Ruben, Walter (1926), "Zur Frühgeschichte der indischen Philosophie," in W. Kirfel (ed.), *Beiträge zur Literaturwissenschaft und Geistesgeschichte Indiens – Festgabe Hermann Jacobi zum 75. Geburtstag <11. Februar 1925> dargebracht von Freunden, Kollegen und Schülern* (Bonn: Kommissionsverlag Fritz Klopp), 346–57.
- (1954a), *Geschichte der indischen Philosophie [collected articles]* (Berlin: Deutscher Verlag), [ark:/13960/t9v18cc78](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-t9v18cc78).
- (1954b), "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:/13960/t9v18cc78](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-t9v18cc78).
- Saha, Mridula (2015), *The History of Indian Medicine Based on the Vedic Literature Satapatha Brahmana* (Kolkata: The Asiatic Society), ISBN: 978-9381574294.
- Saraswat, K. S. (1991), "Archaeobotanical Remains in Ancient Cultural and Socio-Economical Dynamics of the Indian Subcontinent," *Palaeobotanist*, 40: 514–45. doi: [10.54991/jop.1991.1797](https://doi.org/10.54991/jop.1991.1797).
- 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: [10.1163/9789004251410\\_014](https://doi.org/10.1163/9789004251410_014).
- Sastri, Hrishikesh, and Gui, Siva Chandra (1895–1917), *A Descriptive Catalogue of Sanskrit Manuscripts in the Library of Calcutta Sanskrit College* (Calcutta: Baptist Mission Press).
- Sastri, P. P. S. (1933), *A Descriptive Catalogue of the Sanskrit Manuscripts in the Tanjore Maharaja Serfoji's Sarasvati Mahal Library Tanjore: Natya, Sangita, Kamasutra, Vaidya & Jyotisa*, nos. 10650–11737 (Srirangam: Sri Vani Vilas Press), [ark:/13960/t3nw8bc12](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-t3nw8bc12).

- Sastri, P. S. Subrahmanya (2002), *Tolkāppiyam. The Earliest Extant Tamil Grammar, with a Short Commentary in English: Volume II. Poruḷatikāram* (2nd edn., Chennai: The Kuppaswami Sastri Research Institute), ISBN: 81-85170-27-4, [ark:/13960/t7jq8k19s](https://nbn-resolving.org/urn:nbn:in:cc0:t7jq8k19s); reprint of 1936 edition.
- Śāstrī, Paraśurāma (1931) (ed.), *DāmodarasūnuŚārṅgadharācāryaviracitā Śārṅgadharasamhitā. BhiṣagvarĀḍhamallaviracitadīpikāKāśīrāmavaidyaviracitagūḍhārthadīpikābhyāṃ, ṭīkābhyāṃ, samvalitā* (2nd edn., Mumbai: Nirṇayasāgara Press), [ark:/13960/t7wn11g9r](https://nbn-resolving.org/urn:nbn:in:cc0:t7wn11g9r); 1st ed. 1920.
- Śāstrī, Vardhamāna Pārśvanātha (1940) (ed.), *उग्रादित्याचार्यकृत कल्याणकारक (राष्ट्रभाषानुवादसहित) = The Kalyāṇa-kārikam of Ugrādityacharya, Edited with Introduction, Translation, Notes, Indexes and Dictionary* (Sakhārāma Nemacanda Gramthamālā, 129; Solāpura: Seṭha Govindajī Rāvājī Dośī), [ark:/13960/t2q617g4d](https://nbn-resolving.org/urn:nbn:in:cc0:t2q617g4d).
- Scharfe, Hartmut (1993), *Investigations in Kauṭalya's Manual of Political Science* (2nd edn., Oxford: Harrassowitz), ISBN: 3447033304, [URL](https://nbn-resolving.org/urn:nbn:in:cc0:t2q617g4d); 2nd. rev. ed. of Untersuchungen zur Staatsrechtslehre des Kauṭalya.
- Schwartzberg, Joseph E., Bajpai, Shiva G., et al. (1978) (eds.), *A Historical Atlas of South Asia* (Chicago: University of Chicago Press), [URL](https://nbn-resolving.org/urn:nbn:in:cc0:t2q617g4d).
- 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:/13960/t9870jt4g](https://nbn-resolving.org/urn:nbn:in:cc0:t9870jt4g); Breton 1826: 358–363 cites Scott's description of cataract couching.
- Selby, Martha Ann (2005a), "Narratives of Conception, Gestation, and Labour in Sanskrit Ayurvedic Texts," *Asian Medicine*, 1/2: 254–75, ISSN: 1573-420X. doi: 10.1163/157342105777996638.
- (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://nbn-resolving.org/urn:nbn:in:cc0:t2q617g4d), accessed 22/03/2018.
- 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: 10.1515/9783110823134-009; 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:/13960/t8gf8pz34](https://nopr.scribd.org/13960/t8gf8pz34).
- Sena, Gaṅgāprasād, et al. (1886–93) (eds.), *सुश्रुतसंहिता...दल्लनाचार्य-कृत-निबन्ध-संग्रह, चक्रपाणिदत्त-कृत-भानुमती-टीका...वङ्गानुवाद...इरेजि प्रतिशब्द* (Calcutta: Maṇirāma Press); Edition "g" in HIML: IB, 311.
- Shamasastri, R. (1951), *Kauṭilya's Arthaśāstra* (4th edn., Mysore: Sri Raghuvver Printing Press), [ark:/13960/t04z1mp6c](https://nopr.scribd.org/13960/t04z1mp6c).
- Sharma, Har Dutt (1939), *Descriptive Catalogue of the Government Collections of Manuscripts Deposited at the Bhandarkar Oriental Research Institute, Vol. XVI, Part I, Vaidyaka* (Descriptive Catalogue of Manuscripts in the Government Manuscripts Library, XVI.I; Pune: Bhandarkar Oriental Research Institute), [ark:/13960/t0ms6rc70](https://nopr.scribd.org/13960/t0ms6rc70), accessed 23/10/2019.
- Sharma, Priya Vrat (1972), *Indian Medicine in the Classical Age* (Varanasi: Chowkhamba Sanskrit Series Office).
- (1975), *Āyurved Kā Vaijñānik Itihās* (Jayakṛṣṇadāsa Āyurveda Granthamālā; Vārāṇasī: Caukhambā Orientalia).
- (1982), *Ḍalhaṇa and his Comments on Drugs* (Delhi: Munshiram Manoharlal).
- (1999–2001), *Suśruta-Saṃhitā, with English Translation of Text and Ḍalhaṇa's Commentary Alongwith (sic) Critical Notes*, 3 vols. (Haridas Ayurveda Series, 9; Varanasi: Chaukhambha Visvabharati).
- Sharma, Priyavrat (1994), *Caraka-saṃhitā. Critical Notes (Incorporating the commentaries of Jejjāta, 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:/13960/t2t492622](https://nopr.scribd.org/13960/t2t492622).
- Shaw, Miranda Eberle (2006), *Buddhist Goddesses of India* (Princeton, NJ: Princeton University Press), 571 pp., ISBN: 9789780691127; Includes bibliographical references and index.



- Shiffman, Melvin A. (2013), "History of Otoplasty: Review of Literature," in id. (ed.), *Advanced Cosmetic Otoplasty: Art, Science, and New Clinical Techniques* (Berlin, Heidelberg: Springer), chap. 5, 43–64. doi: [10.1007/978-3-642-35431-1\\_5](https://doi.org/10.1007/978-3-642-35431-1_5).
- Shree Gulabkunverba Ayurvedic Society (1949), *The Caraka Saṃhitā. Expounded by the Worshipful Ātreya 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 Gulabkunverba Ayurvedic Society), [ark:/13960/t5m95n971](https://nbn-resolving.org/urn:nbn:in:shreegulabkunverba:13960/t5m95n971).
- Siddiqi, Muhammad Zubayr (1959), *Studies in Arabic and Persian Medical Literature*, [ark:/13960/s25bxqt84xm](https://nbn-resolving.org/urn:nbn:in:siddiqi:13960/s25bxqt84xm).
- Sieler, Roman (2015), *Lethal Spots, Vital Secrets. Medicine and Martial Arts in South India* (New York: Oxford University Press), ISBN: 9780190243869.
- Singh, A. (2003), "Tantra Yukti: Method of Theorization in Ayurveda," *Ancient Science Of Life*, 22/3: 64–74.
- Singhal, G. D., et al. (1972–82), *Diagnostic [and Other] Considerations in Ancient Indian Surgery* (Varanasi: Singhal Publications); A translation of the *Suśrutasaṃhitā* in 10v.
- Singhal, G. D., and Mitra, Jyotir (1980), *Paediatric & Gynaecological Considerations and Aphorisms in Ancient Indian Surgery* (Varanasi: Singhal Publications); Based on *Suśruta Saṃhitā*, Uttara-tantra Chapters 27–38 & 63–66.
- Sircar, Dinesh Chandra (1966), *Indian Epigraphical Glossary* (Delhi: Motilal Banarsidass), [ark:/13960/t85h7f98n](https://nbn-resolving.org/urn:nbn:in:sircar:13960/t85h7f98n).
- (1971), *Studies in the Geography of Ancient and Medieval India* (2nd edn., Delhi: Motilal Banarsidass), [ark:/13960/t72w2zd8w](https://nbn-resolving.org/urn:nbn:in:sircar:13960/t72w2zd8w).
- Sircar, Dinesh Chandra (1987), "6. Rākshashkāli (Sundarban) Plate; Śaka 1118," *Epigraphia Indica* (1953–54), 30: 42–3, [ark:/13960/t80m25q3w](https://nbn-resolving.org/urn:nbn:in:sircar:13960/t80m25q3w).
- Śiromaṇi, Bharatacandra (1873) (ed.), *चतुर्वर्गचिन्तामणि-दानखण्डम्* (Calcutta: Asiatic Society of Bengal), [ark:/13960/t1rf9jd94](https://nbn-resolving.org/urn:nbn:in:siromaṇi:13960/t1rf9jd94).
- Sleeman, W. H. (1893), *Rambles and Recollections of an Indian Official* (London: Constable), [ark:/13960/t22c4bx7w](https://nbn-resolving.org/urn:nbn:in:sleeman:13960/t22c4bx7w); v. 2 at [ark:/13960/t2s52bq7w](https://nbn-resolving.org/urn:nbn:in:sleeman:13960/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 Bheruṇḍā: 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.
- Smith, Brian K. (1994), *Classifying the Universe: The Ancient Indian Varna System and the Origins of Caste* (New York, Oxford: Oxford University Press), ISBN: 0-19-508498-5.
- Solomon, Esther A. (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 Vidya Sabha), [ark:/13960/t5jb4x70d](https://nbn-resolving.org/urn:nbn:in:csir-2019-03-00001).
- 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://nbn-resolving.org/urn:nbn:in:csir-2019-03-00001), 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: [10.18732/hssa.v7i0.40](https://doi.org/10.18732/hssa.v7i0.40).
- Spink, M. S., and Lewis, G. L. (1973) (eds.), *Albucasis on Surgery and Instruments: A Definitive Edition of the Arabic Text with English Translation and Commentary* (London: Wellcome Institute of the History of Medicine), [ark:/13960/t95823n1k](https://nbn-resolving.org/urn:nbn:in:csir-2019-03-00001).
- Srikantha Murthy, K. R. (2000–02), *Illustrated Suśruta Saṃhitā: Text, English Translation, Notes, Appendices and Index* (Jaikrishnadas Ayurveda Series, 102; 1st edn., Varanasi: Chaukhambha Orientalia).
- 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:/13960/s25bwz0337d](https://nbn-resolving.org/urn:nbn:in:csir-2019-03-00001); 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:/13960/t9v18bf68](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63868-p0091-9).
- Strauss, Bettina (1934), "Das Giftbuch des Šānāq: eine Literaturgeschichtliche Untersuchung," *Quellen und Studien zur Geschichte der Naturwissenschaften und der Medizin*, 4/2: [89]–[152] followed by Arabic text, [ark:/13960/s2hb5j66s95](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63868-p0091-9).
- Suvedī, K. S., and Tivārī, N. (2000) (eds.), *सौश्रुतनिघण्टुः ग्रन्थादौ विस्तृतेन ग्रन्थ-वैशिष्ट्यप्रकाशकेनोपोद्धातेन अवसाने च द्रव्याणामनेकभाषानामावली-पर्यायसङ्ग्रहाभ्यां समलङ्कृतः सुश्रुतसंहितायां प्रयुक्तानामौषधद्रव्याणां पर्याय-गुणकर्मवर्णात्मकोऽपूर्वग्रन्थः* (Belajhunḍī, Ḍāṇ: Mahendrasaṃskṛtavīśvavidyālayaḥ).
- Talwar, P. K., and Kacker, R. K. (1984), *Commercial Sea Fishes of India* (Calcutt: Zoological Survey of India), [ark:/13960/t5s841v5m](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63868-p0091-9).
- Tavernier, Jean-Baptiste (1684), *Collections of Travels through Turkey (sic), into Persia, and the East-Indies* (London: M. Pitt), [ark:/13960/t9g45vn74](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63868-p0091-9).
- TEI Consortium (2010), *TEI P5: Guidelines for Electronic Text Encoding and Interchange*, ed. C. M. Sperberg-McQueen et al. (Oxford, Providence, Charlottesville, Nancy: TEI Consortium), [URL](https://www.tei-c.org/).
- Thorburn, S. S. (1876), *Bannu; or Our Afghan Frontier* (London: Trübner & Co.), [ark:/13960/t39z96g7m](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63868-p0091-9); Reprinted Lahore: Niaz Ahmad, 1978.
- Tivārī, Premvatī (1990), *Āyurvedīya prasūti-tantra evaṃ strī-roga; pratham bhāga: Prasūti-tantra, dvitīya bhāga: Strī-roga* (Jayakṛṣṇadāsa Āyurvedīya Granthamālā, 41; Varanas: Caukhamba Orientalia).
- UNESCO (2013), "International Memory of the World Register Susruta Samhita (Nepal)," UNESCO, [URL](https://www.unesco.org/), accessed 11/09/2019.
- Unicode Consortium (1991), "The Unicode Standard 15.0, Newa Range," [url: https://unicode.org/charts/PDF/U11400.pdf](https://unicode.org/charts/PDF/U11400.pdf).
- Unni, N. P. (2006), *The Arthaśāstra of Kauṭalya with the Commentary "Śrīmūlā" of Mahāmāhopādhyāya T. Gaṇapati Śāstrī: Part III—8, 9, 10, 11, 12, 13, 14 & 15 Adhikaraṇas* (Delhi: New Bharatiya Corporation), [ark:/13960/t41s58879](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63868-p0091-9).
- Unschuld, Paul Ulrich (1984), *Medicine in China: A History of Ideas* (Berkeley: University of California Press), ISBN: 0520050231.

- Vaidyopādhyāya, Rāmaprasāda (1911) (ed.), चरकसंहिता । श्रीमन्महर्षिप्रवरचरकप्रणीता । पण्डितरामप्रसादवैद्योपाध्यायविरचितप्रसादनी-भाषाटीकासहिता । (mumbai: Kṣemarāja-Śrīkṛṣṇadāsaśreṣṭhin), [ark:/13960/t2r59q189](https://nopr.scribd.org/handle/123456789/13960/t2r59q189).
- Valiathan, M. S. (2007), *The Legacy of Suśruta* (Hyderabad, Chennai, etc.: Orient Longman).
- Velankar, H. D (1925–30), *Descriptive Catalogue of the Sanskr̥ta and Prākṛta Manuscripts in the Library of the Bombay Branch of the Royal Asiatic Society* (Bombay: Royal Asiatic Society, Bombay), [ark:/13960/t53g00h0n](https://nopr.scribd.org/handle/123456789/13960/t53g00h0n); Biswas #0115.
- Vosjoli, Philippe de (1997), *Lizard Keeper's Handbook* (Herpetocultural Library; Mission Viejo, California: Advanced Vivarium Systems), 176, ISBN: 9781882770250, [ark:/13960/t1pg5rf79](https://nopr.scribd.org/handle/123456789/13960/t1pg5rf79).
- 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:/13960/t1zc8g94b](https://nopr.scribd.org/handle/123456789/13960/t1zc8g94b).
- (1921), *Ophidia Taprobanica or the Snakes of Ceylon* (Colombo: Cottle, Government Printer), [ark:/13960/t39z9q93n](https://nopr.scribd.org/handle/123456789/13960/t39z9q93n).
- Weinstein, Scott, 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).
- 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:/13960/t3qv3p906](https://nopr.scribd.org/handle/123456789/13960/t3qv3p906).
- WHO (2019), *Snakebite Envenoming: A Strategy for Prevention and Control* (Geneva: WHO), ISBN: 978-92-4-151564-1.
- Wilson, H. H. (1823), “On the Medical and Surgical Sciences of the Hindus,” *The Oriental Magazine and Calcutta Review*, 1: 207–12, 349–56, [URL](https://nopr.scribd.org/handle/123456789/13960/t3qv3p906).
- 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.

- Wujastyk, Dagmar (2012), *Well-mannered Medicine: Medical Ethics and Etiquette in Classical Ayurveda* (New York: Oxford University Press). DOI: [10.1093/acprof:oso/9780199856268.001.0001](https://doi.org/10.1093/acprof:oso/9780199856268.001.0001).
- (2013a), “Perfect Medicine. Mercury in Sanskrit Medical Literature,” *Asian Medicine: Tradition & Modernity*, 8/1 (Sept.): 15–40, ISSN: 1573-4218. DOI: [10.1163/15734218-12341278](https://doi.org/10.1163/15734218-12341278).
- (2019), “Iron Tonics: Tracing the Development from Classical to Iatrochemical Formulations in Ayurveda,” *HIMALAYA: The Journal of the Association for Nepal and Himalayan Studies*, 39/1. DOI: [10.5281/zenodo.7746874](https://doi.org/10.5281/zenodo.7746874).
- Wujastyk, Dominik (1993), “Indian Medicine,” in W. F. Bynum and Roy Porter (eds.), *Companion Encyclopedia of the History of Medicine*, i (London: Routledge), chap. 33, 755–78, ISBN: 0-415-04771-4, [URL](#).
- (2000), “The Combinatorics of Tastes and Humours in Classical Indian Medicine and Mathematics,” *Journal of Indian Philosophy*, 28: 479–95. DOI: [10.1023/a:1017514013759](https://doi.org/10.1023/a:1017514013759).
- (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](#), 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.
- Wujastyk, Dominik (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. DOI: [10.5281/zenodo.7742068](https://doi.org/10.5281/zenodo.7742068).
- (2013b), “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](#).

- (2016), “Models of Disease in Ayurvedic Medicine,” in Mark Jackson (ed.), *The Routledge History of Disease* (Abingdon: Routledge), chap. 3, 38–53, ISBN: 9780415720014. DOI: [10.4324/9781315543420-4](https://doi.org/10.4324/9781315543420-4).
- Wujastyk, Dominik, et al. (2020), “Suśrutasaṃhitā,” PanditProject (6 Oct.), [URL](#), accessed 14/09/2022.
- Wujastyk, Dominik (2021a), “A New Translation of Carakasamhitā, 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: [10.1163/9789004438224\\_007](https://doi.org/10.1163/9789004438224_007).
- (2021b), “MS London BL H. T. Colebrooke 908,” [URL](#), accessed 03/07/2021.
- (2021–), “Sushrutaproject: Version Control for Suśruta Text TEI Transcriptions: Suśruta Project Manuscript Transcriptions,” University of Alberta, [URL](#), accessed 21/01/2023; archived at DOI: [10.5281/zenodo.6471655](https://doi.org/10.5281/zenodo.6471655).
- Wujastyk, Dominik, et al. (2021–), “The Suśruta Project: The Textual and Cultural History of Medicine in South Asia Based on Newly-Discovered Manuscript Evidenc,” ed. Dominik Wujastyk, Jason Birch, Andrey Klebanov, et al., [URL](#), 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: [10.1002/9781119144892.ch23](https://doi.org/10.1002/9781119144892.ch23).
- Wujastyk, Dominik, Birch, Jason, Klebanov, Andrey, et al. (2021–) (eds.), “New Digital Edition of the Suśrutasaṃhitā: The Suśruta Project at Sak-tumiva,” University of Alberta, [URL](#).
- Wujastyk, Dominik, Birch, Jason, Klebanov, Andrey, et al. (2023), *On the Plastic Surgery of the Ears and Nose. The Nepalese Version of the Suśrutasaṃhitā* (Heidelberg: Heidelberg Asian Studies Publishing), ISBN: 978-3-948791-63-6. DOI: [10.11588/hasp.1203](https://doi.org/10.11588/hasp.1203).
- Wujastyk, Dominik, Pollock, Sheldon, et al. (2008–), “SARIT: Search and Retrieval of Indic Texts,” [URL](#), accessed 21/01/2023.

- 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).
- Yano, Michio (1986), "A Comparative Study of *Sūtrasthānas*: Caraka, Suśruta, and Vāgbhaṭa," in Teizo Ogawa (ed.), *History of Traditional Medicine: Proceedings of the 1st and 2nd International Symposia on the Comparative History of Medicine—East and West* (Osaka: Division of Medical History, the Taniguchi Foundation), 325–44.
- Zhang, Zhi-Yun, Lu, Anmin, and D'Arcy, William G (2024), "Flora of China: *Mandragora caulescens*," ed. Zhengyi Wu, Peter H. Raven, and Deyuan Hong, [URL](#), accessed 30/03/2015.
- Zimmermann, Francis (1983), "Suśrutasamhita," review of G. D. Singhal et al. (1972–82), *Diagnostic [and Other] Considerations in Ancient Indian Surgery* (Varanasi: Singhal Publications); A translation of the *Suśruta-samhitā* in 10v. In *Bulletin of the History of Medicine*, 57/2: 291–3, ISSN: 00075140, eprint: [44441590](#), [URL](#).
- (1999), *The Jungle and the Aroma of Meats* (2nd edn., Delhi: Motilal Banarsidass), ISBN: 8120816188.
- Zysk, Kenneth G. (1984), "An Annotated Bibliography of Translations into Western Languages of Principle Sanskrit Medical Treatises," *Clio Medica*, 19/3–4: 281–91.
- Zysk, Kenneth G. (1985), *Religious Healing in the Veda: With Translations and Annotations of Medical Hymns from the Rgveda and the Atharvaveda and Renderings from the Corresponding Ritual Texts* (Transactions of the American Philosophical Society; Philadelphia: American Philosophical Society), ISBN: 0871697572.
- (1986), "The Evolution of Anatomical Knowledge in Ancient India with Special Reference to Cross-cultural Influences," *Journal of the American Oriental Society*, 106: 687–705. DOI: [10.2307/603532](#).
- (2000), *Asceticism and Healing in Ancient India: Medicine in the Buddhist Monastery* (Indian Medical Tradition; 2nd edn., Delhi: Motilal Banarsidass); First published 1991. Reprint of 1998 edition.



# Materia Medica

## Abbreviations

ADPS	Sivarajan, V. V., and Balachandran, Indira (1994), <i>Ayurvedic Drugs and Their Plant Sources</i> (New Delhi, Bombay, Calcutta: Oxford & IBH Publishing).
AVS	Warrier, P. K., Nambiar, V. P. K., and Ramankutty, C. (1994–96) (eds.), <i>Indian Medicinal Plants: A Compendium of 500 Species</i> . Vaidyaratnam P. S. Varier's Arya Vaidya Sala, Kottakal (Madras: Orient Longman).
BIA	Prater, S. H. (1993), <i>The Book of Indian Animals</i> (3rd edn., Bombay, Delhi, etc.: Oxford University Press), <a href="#">ark : / 13960 / t6356w32f</a> ; 4th impression of 3rd corrected 1980 edition.
Chevillard	Chevallier, Andrew (2000), <i>The Encyclopedia of Herbal Medicine</i> , ed. Penny Warren et al. (1st edn., New York: Dorling Kindersley), ISBN: 9780751303148, <a href="#">ark : / 13960 / s2bh76qc88s</a> .
Chopra	Chopra, R. N., Nayar, S. L., and Chopra, I. C. (1956), <i>Glossary of Indian Medicinal Plants</i> (3rd reprint, 1992, New Delhi: Council of Scientific and Industrial Research); vol. 2: R. N. Chopra, I. C. Chopra, and Varma ( <a href="#">Chopra<sub>sup</sub></a> ).
Chopra IDG	Chopra, R. N., Chopra, I. C., Handa, K. L., et al. (1958), <i>Chopra's Indigenous Drugs of India</i> (2nd edn., Calcutta: Dhur & Sons), <a href="#">ark : / 13960 / t9673t140</a> .



- Chopra<sub>sup</sub> Chopra, R. N., Chopra, I. C., and Varma, B. S. (1969), *Supplement to Glossary of Indian Medicinal Plants* (Reprint 1986, New Delhi: National Institute of Science Communication), ISBN: 8185038872.
- 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: [10.1093/med/9780199204854.003.090302](https://doi.org/10.1093/med/9780199204854.003.090302).
- 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:/13960/t59c7tg9z](https://nbn-resolving.org/urn:nbn:in:13960-t59c7tg9z); Reprinted Varanasi: Chowkhamba Saraswatibhavan, 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](#), accessed 16/03/2023.
- GJM<sub>1</sub> 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:/13960/t25b8q97g](https://nbn-resolving.org/urn:nbn:in:13960-t25b8q97g).
- GJM<sub>2</sub> 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 [GJM<sub>1</sub>](#).
- GVDB Singh, Thakur Balwant, and Chunekar, K. C. (1972), *Glossary of Vegetable Drugs in Brhatṭrayī* (Varanasi: Chowkhamba Sanskrit Series Office), [ark:/13960/s2cvp72x58j](https://nbn-resolving.org/urn:nbn:in:13960-s2cvp72x58j).



- HK Hilgenberg, Luise, and Kirfel, Willibald (1941), *Vāgbhaṭa's Aṣṭāṅgahrdayasaṃhitā, ein altindisches Lehrbuch der Heilkunde, aus dem Sanskrit ins Deutsche übertragen mit Einleitung, Anmerkungen und Indices* (Leiden: Brill), [ark:/13960/t52h05616](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63862-p0071-9).
- IGP Griffiths, Mark (1994), *The New Royal Horticultural Society Index of Garden Plants* (London: Macmillan).
- Issar Issar, T. P. (1994), *Blossoms of Bangalore* (Bangalore: T. P. Issar).
- IW Israel, Samuel, et al. (1988), *Indian Wildlife: Sri Lanka Nepal* (Insight Guides; Singapore etc.: APA Publications), ISBN: 9780245545238, [ark:/13960/s2p9d5pqd1w](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-63862-p0071-9).
- 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); First published in Allahabad, 1918.
- Kew Kew Gardens (2024), "Plants of the World," Royal Botanic Gardens, [URL](https://www.kew.org/plants-of-the-world).
- MBG Missouri Botanical Garden (2024), "Missouri Botanical Garden: Plant Finder," Missouri Botanical Garden, [URL](https://www.mbg.org/plant-finder).
- 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://nbn-resolving.org/urn:nbn:de:hbz:5:1-63862-p0071-9); 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 : / 13960 / t14n65c9g](https://nbn-resolving.org/urn:nbn:uk:2019-06-01-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.
- Reptiles Daniel, J. C. (1983), *The Book of Indian Reptiles* (Bombay: Oxford University Press).
- Trees Bole, P. V., and Vaghani, Yogini (1986), *Field Guide to the Common Trees of India* (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), *The Commercial Products of India, Being an Abridgement of "the Dictionary of the Economic Products of India"* (London: John Murray), [ark : / 13960 / t8cg7dm79](https://nbn-resolving.org/urn:nbn:uk:2019-06-01-t8cg7dm79).
- Watt<sub>Dict</sub> Watt, George (1889–96), *A Dictionary of the Economic Products of India* (Calcutta: Dept. Revenue and Agriculture, Government of India), [URL](https://nbn-resolving.org/urn:nbn:uk:2019-06-01-t8cg7dm79), accessed 28/04/2021.

## Flora

- aconite leaf (?) (*viṣapatrikā*) Unknown. Cf. perhaps, *vatsanābha* ([wolfsbane](#)). Cf. [GVDB](#): 373 : 127
- Alexandrian laurel (*punnāga*)  
Calophyllum inophyllum, L. See [AVS](#): 1, 338, [NK](#): 1, #425 : 171
- amaranth (*tanḍulīya*) see [amaranth](#) (*tanḍulīyaka*) : 173
- 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 the first millennium BCE ([Saraswat 1991](#)) : 122, 290
- arjun (*arjuna*) *Terminalia arjuna*, Bedd. See [HK](#): 738 : 38, 72
- Asoka tree (*aśoka*) *Saraca indica* Linn., [GVDB](#): 26 : 93, 95, 172, 182
- axlewood (*dhava*) *Anogeissus latifolia* (Roxb. ex DC.) Wall. ex Guill & Perr. See [AVS](#): 1, 163 f, [Chopra](#): 20 : 38, 71, 141
- bamboo leaves (*veṇupatrikā*) *Bambusa bambos*, Druce. See [NK](#): 1, #307 : 122

- banyan (*vaṭa*) *Ficus benghalensis* Linn.,  
GVDB: 356 : 72, 75, 76
- barley (*yava*) *Hordeum vulgare*, L. See  
HK: 752 : 103
- bayberry (*kaṭphala*) *M. esculenta*  
Buch.-Ham. ex D. Don, which is 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 Chuneekar  
(GVDB: 66), is native to East Asia, not  
India : 172
- bearded premna (*vasuka*) *Premna barbata*  
Wall. (← *vasuhaṭṭa*), according to  
Cakrapāṇidatta. See the discussion by  
T. B. Singh and Chuneekar  
(GVDB: 362–363), where other  
candidate species such as *Osmanthus*,  
*Calotropis*, and *Trianthema* are  
discussed. T. B. Singh and Chuneekar  
(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 : 72
- beautyberry (*śyāmā*) *Callicarpa*  
*macrophylla*, Vahl. See AVS: 1, 334,  
NK: 1, #420 : 98, 120, 122, 173
- beggarweed (*aṃśumatī*) *Desmodium*  
*gangeticum* (L.) DC (Dymock: 1, 428,  
GJM1: 602, NK: 1, #1192; ADPS: 382,  
414 and AVS: 2, 319, 4.366 are  
confusing) : 137
- beggarweed (*vidārigandhā*) → *śālaparṇī*.  
*Desmodium gangeticum* (L.) DC. See  
Dymock: 1, 428, GJM1: 602, cf. NK: 1,  
#1192; ADPS: 382, 414 and AVS: 2, 319,  
4.366 are confusing : 47, 103, 299
- beleric myrobalan (*bibhītaka*) *Terminalia*  
*bellirica* Roxb. One of the components  
of the three myrobalans (*triphalā*)  
GVDB: 274, 196 : 303
- Bengal quince (*bilva*) *Aegle marmelos* (L.)  
Corr. See AVS: 1, 62, chev-200, NK: 1,  
#62, i(MW: 732a) : 71, 93, 95, 100,  
173, 295
- big thorn apple (?) (*mahākarambha*)  
Perhaps *Datura metel*, L.?. See thorn  
apple (*karambha*) : 127, 128
- bitter gourd (*paṭolī*) see pointed gourd  
(*paṭola*), cite[233]gvdb : 172
- bitumen (*adrija*) → *śilājī*. A tar-like, black,  
resinous rock exudate. See  
*Mahākośa*: 1, 21 : 153
- 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 *kālānusārīṇī*,  
*kālānusārīvā*. *kālānusārīya* may be a  
synonym of *tagara*, itself hard to  
identify : 171
- 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. Ḍalhaṇa on SS 5.1.82  
identified *pālindī* with *trivṛt* (*turpeth*)  
and T. B. Singh and Chuneekar  
(GVDB: 246) supported this as a usual  
identification : 122, 125, 136, 137, 172
- black pepper (*marica*) *Piper nigrum*, L. See  
ADPS: 294, NK: 1, #1929 : 104, 182, 303
- blackboard tree (*saptachada*) *Alstonia*  
*scholaris* R. Br. GVDB: 420 : 121
- blackbuck (*hariṇa*) *Antelope cervicapra*, L.  
See BIA: 270 IW: 95, 165, *et passim* : 125
- blue water-lily (*utpala*) *Nymphaea stellata*,  
Willd. See GJM1: 528, IGP 790;  
Dutt: 110, NK: 1, #1726 : 29, 120, 136,  
137, 182, 183
- bluebell barleria (*kuravaka*) see bluebell  
barleria (*kuruvaka*) : 173

- bluebell barleria (*kuruvaka*) Or *kurubaka*.  
T. B. Singh and Chunekar (GVDB: 108)  
notes that this is sometimes listed as a  
type of rice, as at *Suśrutasaṃhitā* 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 : 127, 291
- 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 : 292
- bull's head (*gokṣura*) *Tribulus terrestris* L.  
GVDB: 144–145, 193. A component of  
lesser five roots : 292
- bull's head (*trikaṇṭaka*) → bull's head  
(*gokṣura*) GVDB: 193. A component of  
lesser five roots : 299
- bulrush (*kaṣeru*) "Two species, *Scirpus*  
*kysoor* Roxb., and *S. grossus* Linn. f.  
are used" GVDB: 85. Also *kaṣeruka*  
and *kaseru* : 98, 99, 102
- calabash gourd (*kūṣmāṇḍa*) → *puṣpaphala*.  
*Beninkasa hispida*, (Thunb.) Cogn. See  
AVS: 2, 1127; cf. AVS: 1, 261 : 300
- cardamom (*elā*) *Elettaria cardamomum*,  
Maton. See AVS: 2, 360, NK: 1, #924,  
Potter<sub>rev</sub>: 66 : 92, 93, 137, 143, 171, 172
- carray cheddie (*viśvadevā*) → *gāṅgerukī*  
*Canthium parviflorum*, Lam. See  
AVS: 1, 366 f. Or *Sida rhombifolia* Linn.  
(GVDB: 372, 444 ff. et passim) : 75, 76
- cassia cinnamon (*patra*) *Cinnamomum*  
*tamala*, (Buch.-Ham.) Nees. See  
AVS: 2, 84, NK: 1, #589 : 92, 93, 100,  
122, 137
- castor oil tree (*gandharvahaṣṭa*) → *eraṇḍa*.  
GVDB: 135, K&B: 3, 2277 : 43, 95
- castor-oil (*eraṇḍa*) *Ricinus communis*, L.  
See NK: 1, #2145, Chopra: 214 : 48
- catechu (*khadira*) *Senegalia catechu* (L.f.)  
P. J. Hurter & Mabb = *Acacia catechu*  
Willd. GVDB: 129–130 : 72
- certain minerals (*tārāvitāra*) Unknown. It is  
not even certain that these are minerals.  
The variant reading in the vulgate,  
*tāraḥ sutāraḥ* was glossed by Ḍalhaṇa on  
5.3.14 (Su 1938: 568) as follows *tāro*  
*rūpyaṃ, sutāraḥ pāradah*, "tāra means  
silver; sutāra means mercury." : 142
- chaff (*kāṇḍana*) The word *kāṇḍana* is not  
found in dictionaries; *kaṇḍana* is  
threshing, separating the chaff from the  
grain in a mortar. Cf. Hemādri's  
*Caturvargacintāmaṇi* (PWK: 2, 8)  
(Śiromaṇi 1873: 1, 138: 21, citing the  
*Vāyupurāṇa*) : 31, 302
- chebulic myrobalan (*harītakī*) *Terminalia*  
*chebula* Retz. GVDB: 466 : 101, 121, 303
- cherry (*elavālu*) *Prunus cerasus*, L.?. See  
BVDB 58, NK: 1, #2037, GVDB: 58 : 137
- chir pine (*sarala*) *Pinus roxburghii*, Sarg.  
GVDB: 423 : 71, 102
- cinnamon (*tvac*) *Cinnamomum cassia*,  
Blume. See NK: 1, #579 : 292
- cinnamon (*tvak*) see cinnamon (*tvac*) : 172
- citron (*mātuluṅga*) *Citrus medica*, Linn.  
GVDB: 276, 306. Also spelled  
*mātuliṅga, mātulaṅga, mātulāṅga* : 71,  
100, 105, 106, 172
- cobra's saffron (*nāgapuṣpa*) → *nāgakeśara*.  
*Mesua ferrea*, L. See NK: 1, #1595,  
GVDB: 220 : 137
- colocynth (*indravāruṇī*) *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 : 292
- colocynth (*mṛgādani*) see colocynth  
(*indravāruṇī*) GVDB: 46, 318 : 172
- common smilax (*śvadamṣṭra*) *Smilax*

- aspera L., [GVDB](#): 414 : 71
- 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 officinalum*, Linn., known as *putrada* : 75, 76
- corky coral tree (*pāribhadra*) *Erythrina suberosa* Roxb. See [GVDB](#): 245 : 141
- costus (*kuṣṭha*) *Saussurea costus*, Clarke. See [NK](#): 1, #2239 : 92, 93, 100, 122, 137, 143, 171, 172
- cottony jujube (*kākolī*) *Ziziphus mauritana*, Lam. See [IGP](#): 1233, [NK](#): 1, #2663; [IGP](#) 1233. Cf. [NK](#): 1, #1170 : 91, 99, 100, 168
- country mallow (*atibālā*) *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 : 47, 99, 102, 240
- country mallow (*sahadevā*) → *balā* ([GVDB](#): 428). Contains ephedrine : 75, 76, 102
- country sarsaparilla (*anantā*) *Hemidesmus indicus*, (L.) R. Br. See [ADPS](#): 434, [AVS](#): 3, 141–5, [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) : 47, 127, 136, 137, 142
- crape jasmine (*tagara*) *Tabernaemontana divaricata* (L.) R.Br. ex Roem. & Schultes. See [GJM](#): 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 ??), 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 : 92, 93, 100, 122, 137, 171, 296, 304
- crimson trumpet-flower tree (*pāṭalā*) *Stereospermum chelonides*, (L. f.) A. DC. See [GJM](#): 573, [AVS](#): 5, 192 ff, [ADPS](#): 362 f, [AVS](#): 3, 1848 f, [IGP](#) 1120, [Dymock](#): 3, 20 ff : 295
- croton tree (*nāgadantī*) *Croton persimilis* Müll.Arg. [GVDB](#): 222 : 293
- croton tree (*nāgavinnā*) *Croton persimilis* Müll.Arg. [GVDB](#): 222 I have taken this as *croton tree* (*nāgadantī*) because of context in *Suśrutasaṃhitā* Kalpasthāna 5 : 173
- crow (?) (*kāka*2) an unidentified poisonous plant apparently called “crow.” T. B. Singh and Chuneekar ([GVDB](#): 86) note that several drugs named after the crow are unidentifiable : 127
- cuscut grass (*uśīra*) *Andropogon murcatus*, Retz. Also “vetiver grass.” See [NK](#): 1, #180 : 72, 122, 166
- datura (*dhattūra*) *Datura metel*, L. See [AVS](#): 2, 305 (cf. *Abhidhānamāñjarī*), [NK](#): 1, #796 ff. [Potter](#)<sub>rev</sub>: 292 f, [ADPS](#): 132 : 44
- deodar (*bhadradāru*) *Cedrus deodara*, (Roxb.ex D.Don) G. Don. See [AVS](#) 41, [NK](#): 1, #516 : 38, 99, 103, 137
- deodar (*devadāru*) *Cedrus deodara* (Roxb.) Loud. [GVDB](#): 206–207 : 71, 100,



- 240, 294  
 deodar (*suradāru*) see **deodar** (*devadāru*): 171  
 devil's dung (*hiṅgu*) *Ferula foetida* Regel., **GVDB**: 471–472: 72, 74, 171  
 dried ginger (*nāgara*) → **dried ginger** (*śuṇṭhī*) **GVDB**: 221–222: 74, 172  
 dried ginger (*śuṇṭhī*) *Zingiber officinale*, Roscoe. See **ADPS**: 50, **NK**: 1, #2658, **AVS**: 5, 435, **IGP**: 1232: 98, 294, 303  
 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): 30  
 drum-giver (?) (*lambaradā*) Unknown; cf. **GVDB**: 348: 127  
 elixir salve (*rasāñjana*) → *añjana*. See **Indian barberry**: 38, 48  
 embelia (*viḍariga*) *Embelia ribes*, Burm. f. See **ADPS**: 507, **AVS**: 2, 368, **NK**: 1, #929, *Potter<sub>rev</sub>*: 113: 38, 71, 93, 137, 171, 172  
 emblic myrobalan (*āmalaka*) *Phyllanthus emblica*, L. See **AVS**: 4, 256: 72, 101, 102, 182, 303  
 emetic nut (*karaghāṭa*) Probably a synonym for *karahāṭa* (**emetic nut**), q.v., **GVDB**: 74: 294  
 emetic nut (*karahāṭa*) *Randia dumetorum*, Lamk. See **GVDB**: 291–292 and **NK**: 1, #2091. T. B. Singh and Chuneekar (**GVDB**: 74, 77–78) noted that it may be a synonym for *karaghāṭa*, **emetic nut**, and pointed rather to *Gardenia turgida* Roxb. on the basis of local knowledge in U. P.: 294  
 emetic nut (?) (*karaṭā*) Not in **GVDB**. Cf. perhaps *karahāṭa* (**emetic nut**): 127  
 emetic nut (*madana*) *Randia dumetorum*, Lamk. See **NK**: 1, #2091: 121, 242  
 false daisy (*bhṛṅga*) *Eclipta prostrata* (L.) L. See **GVDB**: 288: 71  
 false daisy (*subhaṅgurā*) (*su*)bhaṅgura = *bhṛṅga*? *Eclipta prostrata* (L.) L. See **GVDB**: 288: 126  
 fermented rice-water (*dhānyāmla*) → *kāñjī*, *kāñjikā*, *sauvīra*. **GVDB**: 458, **NK**: 2, appendix VI, #18: 45, 46  
 fern (*ajaruhā*) *Nephrodium* species **GVDB**: 7, uncertain. Perhaps *Christella dentata* (Forssk.) Brownsey & Jermy, which is reported to have folk applications against skin diseases in India: 124  
 fire-flame bush (*dhātakī*) *Woodfordia fruticosa* (L.) Kurz. See **AVS**: 5, 412, **NK**: 1, #2626: 72, 121  
 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: 71  
 flame-of-the-forest (*palāśa*) *Butea monosperma* (Lam.) Taub. **GVDB**: 241. *pālāśa* in some sources: 72, 95  
 flax (*atasī*) *Linum usitatissimum*, L. See **NK**#1495: 99  
 foxtail millet (*priyaṅgu*) → *śyāmā*. *Setaria italica* (L.) P. Beauvois **GVDB**: 263–264, **GJM**<sub>1</sub>: 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*: 38, 137, 143, 171, 172, 182  
 fragrant lotus (*saugandhika*) A type of *kumuda* or *utpala* (**GVDB**: 457): 29  
 fruit of the marking-nut (*āruṣkara*) see **marking-nut** (*aruṣkara*). “*āruṣkara* = *aruṣkara phala*” **ADPS**: 23; see also

- MW: 151: 172  
galangal (*galaṅḡala*) *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) : 295  
garjan oil tree (*aśvakarṇa*) *Dipterocarpus turbinatus* Gaertn. f. See GVDB: 28, Chopra: 100 : 141  
giant potato (*kṣīraavidārī*) possibly → *kṣīraśukla*. *Ipomoea mauritiana*, Jacq. See ADPS: 510, AVS: 3, 222, AVS: 3, 1717 ff: 99, 297, 300, 301  
ginger (*mahaṣadha*) *Zingiber officinale*, Roscoe. See ADPS: 50, NK: 1, #2658, IGP: 1232 : 125  
gold (*hema*) gold : 137  
gold and sarsaparilla (*surendragopa*) Unknown. Ḍalhaṇa 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” : 142  
golden shower tree (*rājadruma*) *rājadruma* = *āragvadha*. *Cassia fistula* L. See GVDB 37 : 142  
golden shower tree (*rājavarṇa*) → *rājadruma* = *āragvadha*. *Cassia fistula* L. See GVDB: 37 : 71  
golden shower tree (*āragvadha*) *Cassia fistula* L. GVDB: 37–38. The plant has many synonyms. : 101, 170  
gourd (*alābu*) *Lagenaria siceraria* Standl. GVDB: 25. Some say *Lagenaria vulgaris*, Seringe (NK: 1, #1419) but this is not appropriate for blood-letting : 25, 26, 121, 168  
grapes (*drākṣā*) *Vitis vinifera* L. GVDB: 208–209 : 173  
greater five roots (*bṛhatpañcamūla*) Described at *Suśrutasaṃhitā* 1.38.68–69 (Su 1938: 169). Consists of **Bengal quince**, **migraine tree**, **Indian trumpet tree**, **crimson trumpet-flower tree**, and **white teak** : 294, 298, 303  
green gram (*māṣa*) *Vigna radiata* (L.) R. Wilcz. See ADPS: 296, IGP 1204 : 38, 99, 241  
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.” : 71, 98, 100, 171, 295  
gummy gardenia (*prthvīkā*) ← *hinḡupatrikā*, *Gardenia gummifera* L.f., GVDB: 257, q.v. for discussion : 172  
hairy bergenia (*pāṣāṇabheda*) *Bergenia ligulata* (Wall.) Engl. GVDB: 246–247 : 72  
halfa grass (*darbha*) *Demostachya bipinnata* Stapf. GVDB: 201. Synonym of *kuśa* : 74, 99  
halfa grass (*kuśa*) *Desmostachya bipinnata*, (L.) Stapf. GVDB: 111, AVS: 2, 326 : 99, 165  
hare foot uraria (*kroṣṭakamekhalā*) see **hare foot uraria** (*prśniparṇī*) *Mahākośa*: 1, 246. *kroṣṭaka* can mean “jackal” *śṛgāla*, as in *śṛgālavinna*, “a kind of *prśniparṇī*” *Mahākośa*: 1, 839 : 172  
hare foot uraria (*prthakparṇī*) → **hare foot uraria** (*prśniparṇī*) and **rajmahal hemp** (*mūrvā*) GVDB: 257. A component of **lesser five roots** : 101, 299  
hare foot uraria (*prśniparṇī*) → *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 *prthakparṇī*. A component of *lesser five roots*: [98](#), [99](#), [295](#)
- heart-leaf sida (*balā*) *Sida cordifolia*, Linn. See [ADPS](#): 71, [NK](#): 1, #2297: [47](#), [99](#), [102](#), [104](#), [137](#), [240](#)
- heart-leaved moonseed (*amṛtā*) → *guḍūcī*. *Tinospora cordifolia*, (Willd.) Hook.f. & Thoms.? See [ADPS](#): 38, [NK](#): 1, #2472, 624, [Dastur](#) #229: [122](#), [136](#)
- 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](#)): [71](#), [100](#)
- heart-leaved moonseed (*somavallī*) *Tinospora cordifolia* (Thunb.) Miers. [GVDB](#): 456. Likely, but uncertain: [122](#)
- heart-leaved moonseed creeper (*amṛtavallī*) See *amṛtā*: [240](#)
- henna (*madayantikā*) *Lawsonia inermis*, L. See [AVS](#): 3, 303, [NK](#): 1, #1448, [Potter<sub>rev</sub>](#): 151: [123](#)
- hibiscus (?) (*ambaṣṭhā*) possibly *Hibiscus rosa-sinensis* L.? T. B. Singh and Chuneekar ([GVDB](#): 18–19) discuss the confusions surrounding the identity of this plant, and especially between this plant and *velvet-leaf* (*pāṭhā*); they must be different items. T. B. Singh and Chuneekar propose that *ambaṣṭhā* is either the fruit of *Hibiscus* or the galls of a *Quercus* or *Tamarix* species. According to **meul-madh**, *vanakārpāsī* is more likely a name for a hibiscus: [173](#)
- 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)): [143](#), [171](#), [172](#)
- Himalayan monkshood (*ativiṣā*) → *viṣā* *Aconitum heterophyllum* Wall. [GVDB](#): 12, [NK](#): 1, #39. Also “atis roots”: [90](#), [123](#), [125](#), [143](#)
- Himalayan monkshood (*viṣā*) → *ativiṣā* [GVDB](#): 12, 373: [301](#)
- Himalayan yew (*sthaṇṇeyaka*) T. B. Singh and Chuneekar ([GVDB](#): 458–459) suggested *Taxus baccata* L., but that tree is endemic to the Mediterranean and not South Asia. Poudel 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 *Thuneraka* is etymologically cognate with the Sanskrit name. *T. contorta* is of medicinal importance, so its common name is used here: [171](#)
- hogweed (*punarnavā*) *Boerhaavia diffusa*, L. See [ADPS](#): 387, [AVS](#): 1, 281, [NK](#): 1, #363: [101](#), [123](#), [136](#), [173](#)
- Holostemma creeper (*jīvantī*) → *sūryavallī*? *Holostemma ada-kodien*, Schultes. See [ADPS](#): 195, [AVS](#): 3, 167, 169, [NK](#): 1, #1242: [102](#), [300](#)
- holy basil (*surasa*) *Ocimum tenuiflorum*, Linn. [GVDB](#): 438–439: [173](#)
- honey (*kṣaudra*) Eight varieties of honey are described in the *Suśrutasaṃhitā* ([NK](#): 2, Appendix 192). *Kṣaudra* is the product of a small bee of tawny colour, called *kṣudra*: [107](#), [125](#), [182](#), [183](#)
- horned pondweed (*śaivāla*) also *śaivāla*, *śevāra*. *Zannichellia palustris* L. The uncertainties of this identification are discussed by T. B. Singh and Chuneekar ([GVDB](#): 409). Sometimes identified with **scutch grass** (*dūrṇā*) ([GVDB](#): 409). Identified as *Ceratophyllum demersum* Linn. (“hornwort”) by [AVS](#): 2, 56–57x: [100](#), [297](#), [301](#)
- hornwort (*jalaśūka*) → *jalanīlikā*. *Ceratophyllum demersum*, L. See



- AVS: 2, 56, IGP: 232. T. B. Singh and Chuneekar (GVDB: 166) suggest **horned pondweed**. Ḍalhaṇa noted on 1.16.19 (Su 1938: 79) that some people interpret it as a poisonous, hairy, air-breathing, underwater creature: 47
- horse gram (*kaulattha*) See **horse gram** (*kulattha*): 166
- horse gram (*kulattha*) *Macrotyloma uniflorum* (Lam.) Verdcourt, syn. *Dolichos biflorus*, L., *D. uniflorus*, Lam., GVDB: 109, Kew: sub *Macrotyloma uniflorum*: 103, 104, 170, 297
- horseradish tree (*murungī*) see **horseradish tree** (*śigru*) (GVDB: 311): 172
- horseradish tree (*śigru*) *Moringa oleifera* Lam. See IGP 759, GJM1: 603, Dymock: 1, 396: 100, 101, 297
- hyacinth beans (*niṣpāva*) *Lablab purpureus* (L.) Sweet (1826) GVDB: 228: 89
- Indian barberry (*añjana*) → *rasāñjana*, *dāruharidrā*. *Berberis aristata*, DC. Dymock: 1, 65, NK: 1, #335, GJM1: 562, IGP: 141: 48, 124, 294
- Indian barberry (*dāruharidrā*) *Berberis aristata*, DC. See Dymock: 1, 65, NK: 1, #685, GJM1: 562, IGP 141: 136, 137, 297
- Indian barberry (*dārvi*) → **Indian barberry** (*dāruharidrā*) GVDB: 203: 183
- Indian barberry (*kālīyaka*) → *dāruharidrā*, *añjana*. *Berberis aristata*, DC. See Dymock: 1, 65, NK: 1, #685, GJM1: 562, IGP: 141: 122
- Indian bat tree (*śuṅgā*) → *parkaṭīvrkṣa* according to *Śabdasindhu*: 1058; idem also suggests *vaṭavrkṣa*, i.e., *Ficus benghalensis* Linn. and *āmṛātaka*, *Spondias pinnata* (L.f.) Kurz. (native to S.E Asia but naturalized in S. Asia). Contrasted with *vaṭa* at *Suśrutasaṃhitā* 3.2.32. Cf. MW: 1081.: 75, 76
- Indian bdellium-tree (*guggula*) See **Indian bdellium-tree** *guggulu*: 171
- 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: 107, 297
- Indian beech (*naktamāla*) *Pongamia pinnata*, (L.) Pierre. See AVS: 4, 339, NK: 1, #2003: 38, 95
- Indian cherry (*śleṣmātakī*) *Cordia dichotoma* G. Forst., AVS: 2, 180–183. See Kew, sub *C. dichotoma*; *Cordia myxa* L., according to T. B. Singh and Chuneekar (GVDB: 413–414), although they also suggest *C. dichotoma* (synonym of *C. wallichii* G. Don.) and *C. rothii* (synonym of *Cordia sinensis* Lam.): 172
- Indian frankincense (*gajavṛttikā*) *Boswellia serrata* Roxb.; equated with **Indian frankincense** (*śallakī*) by some, GVDB: 392: 173
- Indian frankincense (*śallakī*) *Boswellia serrata* Roxb., GVDB: 392: 297
- Indian ipecac (*payasyā*) Uncertain. Possibly *Tylophora indica* (Burm.f.) Merr. Perhaps a synonym of **panacea twiner**, **giant potato**, **purple roscoe**, and **plants like asthma plant and Gulf sandmat** (GVDB: 237–238). Also “curds” when not a plant: 47, 100, 300
- Indian jujube (*sauvīraka*) *Zizphus jujuba* Mill., GVDB: 458, MBG: sub *jujuba*: 99, 166
- Indian kudzu (*vidārī*) → *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: 47, 71
- Indian madder (*mañjiṣṭhā*) *Rubia cordifolia*, L. See IGP, Chopra: 215, GVDB: 289: 43, 137, 171, 172
- 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): 27
- Indian mustard (*sarṣapa*) *Brassica juncea*, Czern. & Coss. See AVS: 1, 301, NK: 1, #378: 30
- Indian pennywort (*maṇḍūkapaṇī*) *Centella asiatica* (L.) Urban. See GVDB: 290, ADPS: 289–291: 173
- Indian sarsaparilla (*sugandhikā*) see Indian sarsaparilla (*śvetasārivā*) GVDB: 430, 436: 172
- 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, *pāṇḍī*. *Ichnocarpus frutescens*, (L.) R.Br. or *Cryptolepis buechanani*, Roemer & Schultes AVS: 3, 141, 145, 203, NK: 1, #1283, 1210, ADPS: 429–430: 136, 137, 295, 298
- Indian sarsaparilla (*śvetasārivā*) *Hemidesmus indicus*, (L.) R. Br. See Indian sarsaparilla (*sārivā*). ADPS: 434, AVS: 3, 141–145, NK: 1, #1210, GVDB: 430: 298
- Indian snakeroot (*sarpagandhā*) *Rauvolfia serpentina*, (L.) Benth. ex Kurz. See NK: 1, #2099, ADPS: 439, GVDB: 425; cf. SS 5.5.76–78: 173
- Indian symphorema (*sinduvāra*) T. B. Singh and Chuneekar (GVDB: 435) settles on *Symphorema 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: 171, 173
- Indian trumpet tree (*śyonāka*) *Oroxylum indicum* (L.) Benth. ex Kurz. GVDB: 172–173. A component of greater five roots: 298
- Indian trumpet tree (*ṭiṇṭuka*) → Indian trumpet tree (*śyonāka*). *Oroxylum indicum* (L.) Benth. ex Kurz. GVDB: 172–173. A component of greater five roots: 295
- Indrajao (*indrayava*) see *vrkṣaka* (Indrajao) *Holarrhena pubescens* Wall. ex G.Don 1837 GVDB: 376, 45 and 84: 90
- Indrajao (*vrkṣaka*) → *indrayava*, *indrabīja*, *kaliṅga*, and *kuṭaja*. *Holarrhena pubescens* Wall. ex G.Don 1837 GVDB: 376, 45 and 84: 74, 240, 298
- jambul (*jambū*) *Syzygium cumini*, (L.) Skeels. See ADPS: 188, NK: 1, #967, Potter<sub>rev</sub>: 168, Wujastyk 2003a: 121, 182
- jasmine (*mālatī*) *Jasminum grandiflorum*, L. See NK: 1, #1364: 122
- jequirity (*guñjā*) *Abrus precatorius*, L. See AVS: 1, 10, NK: 1, #6, Potter<sub>rev</sub>: 168: 126, 127
- kadam flowers (?) (*kādamba*) *kādamba* is a hapax, meaning “a kind of flower poison” GVDB: 90. But *kādamba* is *Neolamarckia cadamba* (Roxb.) Bosser, wild chinchona, NK: 1, #204, GVDB: 70. Kadam flowers are not reported to be toxic: 128
- kutki (*kaṭukā*) *Picrorhiza kurroa* Royle ex Benth. (GVDB: 64–65): 90, 107, 298
- kutki (*kaṭurohaṇī*) → *kutki* (*kaṭukā*) GVDB: 66: 171
- lac (*lākṣā*) *Kerria lacca* (Kerr.). See GJM1: 445, NK: 2, #32. Watt (Watt<sub>Comm</sub>: 1053–1066) is characteristically informative, and is definite about the antiquity of lac in India: 143, 172
- leadwort (*agnīśikhā*) *Plumbago zeylanica* (or *rosea*?), L. See NK: 1, #1966, 1967:

- 299
- leadwort (*citraka*) *Plumbago zeylanica* (or *indica*?), L. See RĀ. 6.124, ADPS: 119, NK: 1, #1966, 1967: 38, 72, 90, 95, 106, 171
- leadwort (*vidyutśikhā*) Synonym of *agniśikhā* (leadwort), q.v.: 127
- lesser five roots (*laghupañcamūla*) Described at *Suśrutasaṃhitā* 1.38.66–67 (Su 1938: 169). Consists of bull's head, poison berry, yellow-fruit nightshade, hare foot uraria, and beggarweed: 292, 294–296, 303, 306
- liquorice (?) (*klītaka*) *Glycyrrhiza glabra*, L.? GVDB: 123–124 discuss the many difficulties in identifying this plant: 126
- liquorice (*madhuka*) also *yaṣṭi*(*ka/kā*), *yaṣṭīmadhuka*, *Glycyrrhiza glabra*, L. AVS: 3, 84, NK: 1, #1136, GVDB: 329 f.: 47, 71, 98–103, 105, 125, 135, 137, 171, 183, 299
- liquorice (*yaṣṭī*) see liquorice (*madhuka*): 172
- liquorice (*yaṣṭīmadhuka*) see liquorice (*madhuka*): 48
- lodh tree (*lodhra*) *Symplocos racemosa*, Roxb. See GJM1: 597, ADPS: 279 f, NK: 1, #2420. T. B. Singh and Chuneekar (GVDB: 351–352) notes that there are two varieties, *S. racemosa*, qualified as *sāvāra*, and *S. crataegoides* Buch.-Ham. for *paṭṭikā lodhra*: 38, 137, 171, 183
- long pepper (*kṛṣṇā*) see long pepper (*pippalī*): 182
- long pepper (*māgadha*) see long pepper (*pippalī*): 124
- long pepper (*pippalī*) see long pepper (*pippalī*): 172
- long pepper (*pippalī*) *Piper longum*, L. See ADPS: 374, NK: 1, #1928, GVDB: 249–250, but cf. AVS: 3, 245: 71, 72, 95, 101, 102, 106, 107, 125, 137, 182, 240, 299, 303
- lotus (*nalina*) → sacred lotus (*kamala*) GVDB: 218: 182, 183
- lotus stalk (*mṛṇāla*) “Leaf stalk of sacred lotus” GVDB: 318: 100
- luffa (*koṣṭakī*) = *koṣṭakī*. *Luffa cylindrica*, (L.) M. J. Roem. or *L. acutangula*, (L.) Roxb. ADPS: 252–253, NK: 1, #1514 etc. GVDB: 121: 121, 136, 299
- luffa gourd (*koṣavatī*) = *koṣṭakī*, luffa: 136
- mahua (*madhūka*) *Madhuca longifolia*, (Koenig) Macbride. See AVS: 3, 362 f: 71, 186–188
- maidenhair fern (*haṃsāhvayā*) *Adiantum lunulatum* Burm f. GVDB: 463: 240
- Malay beechwood (*śrīparṇī*) → *kāśmarī*. *Gmelina arborea* Linn., GVDB: 412, 96–97: 71
- maloo creeper (*aśmantaka*) T. B. Singh and Chuneekar (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: 173
- mango (*āmra*) *Mangifera indica* Linn. GVDB: 37: 121, 173, 182
- mangosteen (*amla*) *Garcinia pedunculata* Roxb. ex Buch.-Ham. See GVDB: 20–21: 170
- marking-nut (*aruṣkara*) *Semecarpus anacardium* L. See *bhallātaka* (marking-nut tree), GVDB: 23, ADPS: 85–86: 127, 294
- marking-nut tree (*bhallātaka*) *Semecarpus anacardium*, L. See NK: 1, #2269, AVS: 5, 98, ADPS: 85–86: 95, 124, 299
- migraine tree (*agnimantha*) *Premna corymbosa*, Rottl. See AVS 1927, ADPS: 21, NK: 1, #2025, AVS: 4, 348; GJM1: 523: = *P. integrifolia/serratifolia*, L: 136, 295
- milk-white (*kṣīraśuklā*) An unidentified

- plant. **GVDB**: 126: see [purple roscoea](#) and [giant potato](#) : 47, 301
- mulberry (*kramuka*) probably the [mulberry](#) (*tūda*); see discussion by T. B. Singh and Chunekar (**GVDB**: 122) : 172
- mulberry (*tūda*) *Morus indica* L., **GVDB**: 189: 300
- mung beans (*mudga*) *Phaseolus radiatus* L. **GVDB**: 310–311: 99, 102, 188
- mung beans (*māṣaka*) *Phaseolus mungo* Linn. **GVDB**: 308: 122
- mung beans (*vallīja*) This is a guess. According to some lexical sources, → marica. *Piper nigrum*, L. (**moni-dict**), but this seems unlikely. See **NK**: 1, #1929. T. B. Singh and Chunekar (**GVDB**: 362) note that *vallīphalam* may be [calabash gourd](#); the related ?? has poisonous seeds, but not flowers. Commenting on *Brhatsaṃhitā* 8.13ab and 16.24ab, Bhaṭṭotpala glossed it as *mudgādi*, “mung beans etc.” : 128
- myrobalan (*abhayā*) *Terminalia chebula*, Retz. See **ADPS**: 172, **NK**: 1, #2451, **Potter**<sub>rev</sub>: 214: 90, 136, 143
- myrobalans (*pathyā*) *Terminalia chebula* Retz. See **NK**: 1, #2451: 182
- natron (*suvarcikā*) Sodium carbonate. **NK**: 2, #45. Ḍalhaṇa identifies *suvarcikā* with svarjikṣāra 4.8.50 (**Su** 1938: 441) : 106, 137, 171
- neem tree (*nimba*) *Azadirachta indica* A. Juss. **GVDB**: 226: 44, 240
- nutgrass (*kuruvinda*) Unknown. Ḍalhaṇa 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, *ṣaṣṭika dhānya* : 142
- nutgrass (*mustā*) *Cyperus rotundus*, L. See **ADPS**: 316, **AVS**: 2, 296, **NK**: 1, #782: 300
- orchid tree (*kovidāra*) *Bauhinia purpurea* Linn. or *B. variegata* Linn. (probably the former), **GVDB**: 120, **AVS**: 1, 256–260: 166
- paddy rice (*śāli*) *Oriza sativa*, Linn. **GVDB**: 395–396 mentioning 33 Sanskrit sub-variety names; **AVS**: 4, 193: 31, 302
- panacea twiner (*arkapuṣpī*) → *arkaparnī*, *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 annuus* Linn., but this plant is native to the Americas : 136, 297
- peas (*hareṇu*) *hareṇu* = *satīna*. *Pisum sativum*, L. T. B. Singh and Chunekar (**GVDB**: 419–420, 467–468) notes that two plants are usually meant under this name, but there is no agreement on the identity of the second : 100, 136, 137, 143, 172, 182, 301
- peepul tree (*aśvattha*) *Ficus religiosa*, L. See **ADPS**: 63: 145
- periploca of the woods (*meṣaśṛṅga*) *Gymnema sylvestre* (Retz.) R. Br. See **AVS**: 3, 107, **NK**: 1, #1173: 124
- phalsa (*parūṣaka*) *Grewia asiatica* Linn., **GVDB**: 238: 72
- 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) : 297
- plumed cockscomb (*indīvara*) Uncertain; possibly *Celosia argentea* Linn. But see the useful discussion in **GVDB**: 44–45. Possibly another name for [thorn apple](#) (*karambha*), q.v. : 303
- pointed gourd (*paṭola*) *Trichosanthes dioica*, Roxb., **GVDB**: 232–233: 100,

- 136, 291  
 poison berry (*brhatī*) *Solanum violaceum*, Ortega. See ADPS: 100, NK: 1, #2329, AVS: 5, 151: 95, 101, 136, 137, 299  
 poison-altar (?) (*viṣavedikā*) Unknown. Possibly, at a guess, *viṣamuṣṭika* (*strychnine tree*)? GVDB: 373 Or *viṣā* (*Himalayan monkshood*): 127  
 pollen (?) (*reṇukā*) An unidentifiable plant. Perhaps a misreading for *peas* (*hareṇu*), although this is a long shot. T. B. Singh and Chuneekar (GVDB: 339) suggests, on no authority, the synonyms *vrkṣaruhā*, *māṃsarohiṇī*, or *durvā*, none of which help: 127  
 pomegranate (*dāḍima*) *Punica granatum* Linn. GVDB: 201–202: 71, 72, 105, 106, 173  
 pondweed (*paripelavā*) Normally a neuter noun. T. B. Singh and Chuneekar (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.: 137  
 pondweed (*śevāla*) *Zannichellia palustris* L. See *horned pondweed*: 29, 30  
 powdered ruffle lichen (*śaileyaka*) *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: 171  
 prickly chaff-flower (*apāmārga*) *Achyranthes aspera*, L. See GJM1: 524 f, AVS: 1, 39, ADPS: 44 f, AVS: 3, 2066 f, Dymock: 3, 135: 43, 47, 99, 301  
 prickly chaff-flower (*vasira*) also *vaśīra*. Perhaps *Achyranthes aspera*, L. GVDB: 362 describes several possible identities, including *sūryāvarta*, *prickly chaff-flower* and *markatatrṇa*. See also *vasukavasira* (GVDB: 363): 72  
 purging nut (*mūṣikā*) *Jatropha curcas*, L. See AVS: 3, 261, NK: 1, #1374: 124  
 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: 38, 47, 95, 166  
 purple roscoeia (*kṣīrakākoli*) GVDB: 89 notes that many physicians use *Roscoeia procera* Wall. in this context. But the identification is uncertain. Possibly connected to *milk-white* or *giant potato*: 99, 297, 300  
 radish (*mūlaka*) *Raphanus sativus*, L. See NK: 1, #2098: 104  
 rajmahal hemp (*moraṭa*) → *mūrvī*, *Marsdenia tenacissima* (Roxb.) Wight et Arn. Good discussion at GVDB: 314–316, 324: 136  
 rajmahal hemp (*mūrvā*) *Gongronemopsis tenacissima* (Roxb.) S.Reuss, Liede & Meve (= *Marsdenia tenacissima* (Roxb.) Moon), GVDB: 314–316. One of the twenty-two drugs in the group *madanādi*. T. B. Singh and Chuneekar 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 the plant is not a creeper: 102, 295  
 rattan (*vetra*) *Calamus rotang*, L. See AVS: 1, 330, NK: 1, #413. T. B. Singh and Chuneekar (GVDB: 381) prefer *C. tenuis*, Roxb., which is also native to S. and S.E. Asia: 128  
 realgar (*manahśilā*) *Arsenii disulphidium* NK: 2, #11: 182  
 red gourd (*bimbī*) *Coccinia indica*, W. & A. See PVS 1994.4.715; NK: 1, #534: 121  
 red ochre (*gairika*) Hellwig 2009: 140–141. NK: 2, #40; the same source, at #6, gives kaolinum or china clay: 137, 172,



- 173, 182, 183  
 rice grains (*taṇḍula*) *Oriza sativa*, Linn.  
 Same as **paddy rice** (*śāli*) **GVDB**: 174; or  
 just "grains": 31  
 rice-grain chaff (*śālitaṇḍulakāṇḍana*) See  
**chaff**: 31  
 rock salt (*saindhava*) See **NK**: 2, M#48,  
**Watt<sub>Comm</sub>**: 963–971: 30, 71, 106,  
 172, 182  
 rosha grass (*dhyāmaka*) *Cymbopogon*  
*martinii* (Roxb.) Wats. See **AVS**: 2, 285,  
**NK**: 1, #177: 137, 171  
 sacred lotus (*kamala*) *Nelumbo nucifera*  
 Gaertn., **GVDB**: 73–74: 299  
 sacred lotus (*padma*) *Nelumbo nucifera*,  
 Gaertn. See **NK**: 1, #1698: 29, 100, 122  
 sacred lotus (*prapaunḍarika*) see **sacred**  
**lotus** (*prapaunḍarika*): 171  
 sacred lotus (*prapaunḍarika*) *Nelumbo*  
*nucifera*, Gaertn. See **Dutt** 110, **NK**: 1,  
 #1698: 302  
 sage-leaved alangium (*aṅikolla*) *Alangium*  
*salvifolium* (Linn. f.) Wang.  
**GVDB**: 5–6. See also **AVS**: 1, 77; cf.  
**NK**: 1, #88: 121, 173  
 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: 72  
 sal tree (*śālā*) *Shorea robusta*, Gaertn.f. See  
**AVS**: 5, 124: 182  
 sandalwood (*bhadraśrīya*) *Santalum*  
*album* Linn. See **white sandalwood**  
*(bhadraśrī)*: 100  
 sandalwood (*candana*) *Santalum album*, L.  
 See **ADPS**: 111, **NK**: 1, #2217: 73, 100,  
 102, 137, 166, 172, 305  
 sappanwood (*pattāṅga*) Also *pattāṅga*.  
*Caesalpinia sappan*, L. **AVS**: 1, 323,  
**K&B**: 2, 847 f, **GVDB**: 234: 38, 48  
 scarlet mallow (*bandhujīva*) *Pentapetes*  
*phoenicea*, L. **NK**: #1836, **GVDB**: 268:  
 123  
 scented pavonia (*bālaka*) *Pavonia odorata*,  
 Willd. See **ADPS**: 498, **NK**: 1, #1822:  
 137  
 scrambling (*tālisa*) see **scramberry** (*tālisa*):  
 171, 172  
 scrambling (*tālisa*) 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 *Flacourtia*  
*jangomas* (Lour.) Raeusch.  
*(scramberry)*: 100, 183, 302  
 scutch grass (*dūrvā*) *Cynodon dactylon*  
 (Linn.) Pers. (**GVDB**: 205): 296  
 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: 171  
 selu plum (*śelu*) *Cordia myxa*, L. non  
 Forssk. See **GJM**1: 529 (2), **IGP**: 291b, cf.  
**AVS**: 3, 1677 f; cf. **AVS**: 2, 180 (*C.*  
*dichotoma*, Forst.f.), **NK**: 1, #672 (*C.*  
*latifolia*, Roxb.): 101, 136  
 sesame oil (*taila*) *Sesamum indicum* L.  
**GVDB**: 183: 47, 166  
 siris (*śirīṣa*) *Albizia lebbbeck*, Benth. See  
**AVS**: 1, 81, **NK**: 1, #91, **GVDB**: 399–400.  
 Cf. **white siris**: 136, 166, 182, 305  
 siris seeds (*śirīṣamāśaka*) *Albizia lebbbeck*,  
 Benth. See **AVS**: 1, 81, **NK**: 1, #91: 121  
 small-flowered crape myrtle (*sidhraka*)  
*Lagerstroemia parviflora* Roxb. See  
**GVDB**: 432: 141  
 smooth angelica (*coraka*) *Angelica glauca*  
 Edgw. **GVDB**: 161: 173  
 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) : 126
- spikenard (*jaṭāmāṃsī*) Nardostachys  
jatamansi (D. Don) DC, GVDB: 163. See  
also NK: 1, #1691 : 303
- spikenard (*māṃsī*) see *spikenard*  
(*jaṭāmāṃsī*) : 137, 172
- spikenard (*nalada*) see *spikenard*  
(*jaṭāmāṃsī*) : 119, 172
- spurge (*saptalā*) T. B. Singh and Chuneekar  
(GVDB: 421–422) discuss the four  
candidates for this plant, three of  
which are Euphorbias : 104, 173
- strychnine tree (*viṣamuṣṭika*) Strychnos  
nux vomica Linn. GVDB: 373 : 301
- sugar (*sitā*) Ḍalhaṇa makes this equation  
at 1.37.25 (Su 1938: 162) : 137, 173
- sugar (*śarkara*) Saccharum officinarum,  
Linn. NK: #2182 : 125
- sugar cane (*ikṣu*) Saccharum officinarum,  
Linn. NK: #2182 : 125
- sunflower (*sūryavallī*) → *ādityavallī*,  
*sūryamukhī*, Helianthus annuus Linn.  
GVDB: 35, 443 : 136
- sweet flag (*vacā*) Acorus calamus Linn. See  
GVDB: 352–355 : 99, 106
- sweet plants (*madhuravarga*) The sweet  
plants are enumerated at  
Suśrutasaṃhitā 1.42.11. See also  
GVDB: 127 : 47
- sweet-scented oleander (*aśvamāraka*)  
Nerium oleander, L. See ADPS: 223,  
NK: 1, #1709, GVDB: 77, which  
discusses the white and red forms : 126
- Tellicherry bark (*kuṭāja*) Holarrhena  
pubescens Wall. ex G. Don, with  
Wrightia tinctoria and W. arborea  
considered GVDB: 101–102,  
ADPS: 267–270 : 95, 295
- ten roots (*daśamūla*) Described at  
Suśrutasaṃhitā 1.38.70–71 (Su 1938: 169)  
as a combination of the lesser five roots  
and the greater five roots : 294
- the three myrobalans (*triphalā*) chebulic  
myrobalan beleric myrobalan and  
emblic myrobalan (*haritakī bibhītaka*  
and *āmalaka*) One of the most-often  
mentioned drugs in the Bṛhatrayī  
GVDB: 194–196 : 93, 171, 172, 291
- the three pungent drugs (*trikaṭu*) dried  
ginger, long pepper, and black pepper  
(*śuṇṭhī*, *pippalī*, and *marica*) GVDB: 193 :  
171
- thorn apple (*karambha*) Datura metel, L.  
See GVDB: 76 for useful discussion.  
Also, AVS: 2, 305 (cf.  
Abhidhānamāñjarī), NK: 1, #796 ff.  
Potter<sub>rev</sub>: 292 f, ADPS: 132. Possibly the  
same plant as plumed cockscomb  
(*indīvara*) (GVDB: 76, 44–45) : 127, 128,  
291, 300
- three heating spices (*tryūṣaṇa*) *śuṇṭhī*  
(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 : 74, 136
- three-leaved caper (*varuṇa*) Crataeva  
magna (Lour.) DC. See AVS: 2, 202; cf.  
NK: 1, #696 : 124, 173
- toothed-leaf limonia (*surasī*) Naringi  
crenulata (Roxb.) Nicolson (formerly  
Limonia crenulata Roxb.), GVDB: 439 :  
172
- top layer of fermented liquor (*surāmaṇḍa*)  
K&B: 2, 502, NK: 2, appendix VI, #49,  
McHugh 2021: 39 : 45, 46
- tree cotton (*kārpāsa*) G. arboreum L.  
ADPS: 231. Pace the identifications of  
T. B. Singh and Chuneekar (GVDB: 92,  
247), since G. barbadense L. is native to  
South America and G. herbaceum L.  
which is native to Africa : 44, 303
- tree cotton (*picu*) See *tree cotton* (*kārpāsa*) :  
46, 48

- turmeric (*gaūrī*) *Curcuma longa*, L. See [ADPS: 169](#), [AVS: 2, 259](#), [NK: 1, #750: 100](#)
- turmeric (*haridrā*) *Curcuma longa* Linn. [GVDB: 465: 101, 136, 143, 171](#)
- turmeric (*rajanī*) *Curcuma longa*, L. [ADPS: 169](#), [AVS: 2, 259](#), [NK: 1, #750: 30, 137, 172](#)
- turpeth (*trivṛt*) → *trivṛtā*. Operculina turpethum (Linn.) Silva Manso = Ipomoea turpethum R. Br. [GVDB: 197: 93, 125, 171, 242, 291](#)
- two kinds of salt (*vasukavasira*) See the discussion by T. B. Singh and Chuneekar ([GVDB: 362–363](#)), who note that when *vasuka* is mentioned together with *vasira*, two varieties of salt are often meant (see *vasukavasirā*): [71](#)
- velvet bean (*svayamguptā*) *Mucuna pruriens* DC., [GVDB: 461: 182](#)
- velvet-leaf (*pāṭhā*) *Cissampelos pariera*, L. See [ADPS: 366](#), [NK: 1, #592](#), [GJM1: 573](#), [AVS: 1, 95](#); cf. [AVS: 2, 277: 38, 74, 90, 106, 136, 171, 172, 296](#)
- velvet-mite (*indragopa*) *Kerria lacca* (Kerr.). Lienhard [1978: 120](#)
- verbena (*bhārgī*) see [verbena](#) (*bhārigī*): [172](#)
- verbena (*bhārigī*) → *phañjī*. *Clerodendrum serratum* (L.) Moon or *C. serratum*; see [AVS: 2, 121](#), [ADPS: 87: 304](#)
- verbena (*phañjī*) *Clerodendrum serratum*, L. See [AVS: 2, 121](#), [ADPS: 87: 123](#)
- viburnum (*tilvaka*) *Viburnum nervosum* D. Don T. B. Singh and Chuneekar ([GVDB: 185–186](#)) separate *tilvaka* from *lodhra*, a conflation they attribute to Ṭṛḍhabala. 5[219]avs makes the same separation, noting that in Kerala the plant *Jatropha curcas* L. is used in this context. Cf. many varieties listed at Griffiths ([IGP: 1200 ff.](#)). Kew confirms that *V. nervosum* has an appropriate Himalayan distribution: [93, 304](#)
- viburnum extract (*tailvaka*) see [viburnum](#) (*tilvaka*): [182](#)
- 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](#)): [127](#)
- watered buttermilk (*udaśvit*) [MW: 183: 121](#)
- weaver's beam tree (*muṣkaka*) *Schrebera swietenoides*, Roxb. See [AVS: 5, 88](#), Lord, [NK: 1, #2246: 95, 141](#)
- weaver's beam tree (*viśalyā*) *Schrebera swietenoides* Roxb. ← *kuberākṣī*. T. B. Singh and Chuneekar ([GVDB: 371](#)) notes that this name is a synonym for many other plants, including *lāṅgālī*, *īndravārūṇī*, *guḍūcī* etc. Ḍalhaṇa identified it with *pāṭalā*, *kāṣṭhapāṭalā*, and *agnīśikhā* tree, all of which may be called *śvetamokṣaka* or *kuberākṣī*: [171](#)
- weevil wort (*tālamūlikā*) [GVDB: 178–179: 304](#)
- weevil wort (*tālapatrī*) → *tālamūlikā*, [weevil wort](#), q.v. [GVDB: 178: 173](#)
- white babool (*arimeda*) *Acacia leucophloea*, (Roxb.) Willd. See [AVS: 1, 23: 38](#)
- white calotropis (*alarka*) *Calotropis procera*, (Ait.) R. Br. See [NK: 1, #428](#), [Chopra: 46b](#), [Chopra IDG: 305–308: 47](#)
- 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 Ḍalhaṇa) and *mahā* (blue, , according



- to *Ḍalhaṇa*). Sometimes given as a synonym for [winged-stem canscora](#), but sometimes as a contrasting plant : [122](#), [172](#), [173](#)
- white cutch tree (*somavalka*) *Acacia polyacantha*, Willd. See [AVS](#): 1, 30, [IGP](#) 7, [GJM1](#): 602, [AVS](#): 2, 935; *pace* [NK](#): 1, #1038: [123](#), [142](#)
- white dammer tree (*sarja*) *Vateria indica*, L. See [NK](#): 1, #2571, [AVS](#): 5, 349 f, [AVS](#): 1, 292 f, [Chopra](#): 253a: [38](#), [71](#)
- white sandalwood (*bhadraśrī*) *Santalum album* Linn. see [sandalwood](#) (*candana*) [GVDB](#): 152, 282 and *Carakasamhitā* ci.4.102 ([Ca](#) 1941: 434) where it is contrasted with *lohitacandana*: [73](#), [302](#)
- white siris (*kaṭabhī*) *Albizia procera* (Roxb.) Benth. or *A. lebbek* (Linn.) Benth. [GVDB](#): 63–64, [AVS](#): 1, 81–84. Cf. [siris](#): [166](#), [302](#)
- white siris (*kiṇihī*) *Albizia procera* (Roxb.) Benth., [GVDB](#): 98, which also discusses past confusions; [NK](#): 1, #93: [136](#), [172](#), [173](#)
- white teak (*kāśmarī*) → *kāśmarī*: [183](#)
- white teak (*kāśmaryā*) → *kāśmarī*: [72](#)
- white teak (*kāśmarī*) → *kāśmaryā*, *kāśmarī*, *madhuparṇī*. *Gmelina arborea*, Roxb. See [GJM1](#): 543, [Trees](#): 51, [ADPS](#): 240: [100](#), [102](#), [295](#)
- white teak (*madhuparṇī*) → *kāśmarī*: [71](#)
- white water-lily (*kumuda*) *Nymphaea alba*, Linn. [GVDB](#): 105: [29](#)
- wild asparagus (*bahuputrā*) → *nandana*? *Asparagus racemosus*, Willd. See further [wild asparagus](#) (*śatāvarī*): [123](#)
- 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: [98–100](#), [102](#), [188](#), [305](#)
- wild celery (*agnika*) → may be *bhallātaka*, *lāṅgalī*, *ajamodā*, *moraṭa*, or *agnimantha*, [GVDB](#): 4. Uncertain A plant often cited in *Suśrutasamhitā*, but rarely in *Carakasamhitā* ([GVDB](#): 4). *Ḍalhaṇa* glossed it at 5.2.45 ([Su](#) 1938: 566) as *ajamodā* but noted that others consider it to be *moraṭa*. There is considerable complexity surrounding the identification of *moraṭa*/*mūrvā* itself and related synonyms ([GVDB](#): 314–316): [136](#), [305](#)
- wild celery (*ajamodā*) *Apium graveolens*, L. Sometimes identified with *agnika* ([wild celery](#)), q.v.: [136](#), [171](#)
- wild Himalayan cherry (*padmaka*) *Prunus cerasoides* D.Don, [GVDB](#): 236, [AVS](#): 4, 353–355. [MW](#): 585 is wide of the mark: [100–102](#), [171](#), [172](#)
- 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: [106](#)
- wild sugar cane (*kāṇḍekṣu*) *Saccharum spontaneum* L., [GVDB](#): 90: [71](#)
- winged-stem canscora (*giriḥvā*) see [winged-stem canscora](#) (*girikarṇikā*): [172](#)
- winged-stem canscora (*girikarṇikā*) sometimes → *śvetā*, in which case possibly *Clitoria ternatea*, L., see [AVS](#): 2, 129, [NK](#): 1, #621. Since *śvetā* and *giriḥvā* are cited as separate constituents of one formula (e.g., *Suśrutasamhitā* 5.5.75 ([Su](#) 1938: 579) they cannot be the same plant. [GVDB](#): 138–139 argued for *Symphorema polyandrum* Wight, which they also assigned to *sinduvāra*. When discussing *śaṅkhapuṣpī*, another possible synonym, Sivarajan and Balachandran ([ADPS](#): 425–427) also suggest *Canscora alata* (Roth) Wall. (syn of *Canscora decussata* Schultes & Schultes f.) and *Convolvulus pluricaulis* Choisy. The former has a

- more appropriate distribution and is chosen here: [305](#), [306](#)
- winged-stem canscora (*giryāhvā*) see [winged-stem canscora](#) (*girikarṇikā*): [305](#)
- Withania (*aśvagandhā*) Withania somnifera (L.) Dunal. See [AVS](#): 5, 409 f, [Dymock](#): 2, 566 f, 150, [GVDB](#): 29, [Chevallard](#): 152 : [47](#), [94](#), [101](#), [173](#)
- wolfsbane (*vatsanābha*) Aconitum napellus, L. See [AVS](#): 1, 47, [NK](#): 1, #42, [Potter<sub>rev</sub>](#): 4 f. Or Aconitum chasmanthum Stapf ex Holmes, [GVDB](#): 357 : [290](#)
- wood apple (*kapittha*) Limonia acidissima, L. See [AVS](#): 3, 327, [NK](#): 1, #1021 : [101](#), [122](#), [124](#), [173](#), [182](#)
- woodrose (*mūṣikakarṇī*) Jatopha curcas, L. [AVS](#): 3, 261, [NK](#): 1, #1374. [GVDB](#): 317; [ADPS](#): 23–25 discuss this issue well : [122](#), [123](#)
- yellow-berried nightshade (*kṣudrā*) Solanum virginianum, L. See [ADPS](#): 100, [NK](#): 1, #2329, [AVS](#): 5, 164 : [136](#), [137](#)
- yellow-fruit nightshade (*kaṇṭakārī*) Solanum virginianum L. (also called Solanthum xanthocarpum, Schrad. & Wendl.) [GVDB](#): 68–69. A component of [lesser five roots](#) : [299](#)

## Fauna

- chital deer (*pr̥ṣata*) Axis axis, Erxleben. [BIA](#): 295–296. In *Suśrutasaṃhitā* 5.5.71 ([Su 1938](#): 579) it seems to be specifically the musk that is meant. so the reference may be to the Musk Deer (Moschus moschiferus L.). But all species produce musk, so *pr̥ṣata* may also be simply Chital or Spotted Deer. See also [IW](#): 93 : [125](#), [172](#)
- civet (*mārjāra*) [BIA](#): ch. 4 et passim, [McHugh 2012](#) : [172](#)
- iguana (*godheraka*) The गौघेरक is described in the *Carakasamhitā* as a four-legged snake born of a ?? 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 : [177](#), [306](#)
- 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., गलगोलिका, गलदोडी, गलगोली. Cf. the remarks on geckos in note [419](#), p. [140](#). The similarity of names suggests that a गलगोडिका may be a non-domestic creature that looks similar to a domestic gecko. Cf. other IA parallels at [CDIAL](#): 1, #4324, 4431, which points 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 *Suśrutasaṃhitā*. See further [Deuti 2020](#); [IW](#): 40, 135–136. : [76](#)
- mongoose (*nakula*) Urva edwardsii or the often sympatric U. auropunctatus (small Indian mongoose, usually an

eater of smaller creatures than snakes)  
([BIA](#): ch. 5), On mongooses and snakes,

see [BIA](#): 98–99; [IW](#): 112 : [125](#), [172](#)



## Glossary

@ - *avabāhuka*: 61

- *pratitūnī*: 61 - *pratyādhmāna*: 61  
- *pratyāṣṭhīla*: 61

- *tūnī*: 61

- *vātakaṇṭaka*: 61 - *vātāṣṭhīlā*: 61

yoga - cohesion: 239

'angry beetles' - *toṭaka*: 140

'bellied' - *kukṣita*: 141

'cook-fish' - *pākamatsya*: 140

'darts' - *śārikā*: 141

'earth scorpions' - *viśvambhara*: 141

'flat insects' - *picciṭā*: 140

'lids' - *śārava*: 141

'liquors' - *medaka*: 141

'orange-dwellers' - *kaṣāyavāsika*: 140

'pepper snakes' - *sarṣapaka*: 140

'poisonous snakes' - *pracalāka*: 140

'pot insects' - *kaunḍinya*: 140

'speckle-heads' - *citraśīrṣa*: 141

'wing-scorpions' - *patravṛścika*: 141

'wood-enemies' - *dārukāri*: 141

√*pīḍ* - pain: 160

√*rakṣ* - protect: 70

√*sodh* - purge: 167

√*ūh* - propelled: 160

abdomen - *pakvāśa*: 86

abdominal lump - *gulma*: 200

*abhayā* - chebulic myrobalan: 183

*abhramukta* - free from clouds: 190

*abhyaṅga* - massage oil: 114, 120 - oil

massage: 118 - oil rub: 86, 225

*abhyāñjana* - oil rubs: 171

*abīja* - seedless: 66

*ācamana* - lavages: 69

*ācāra* - regimen: 13

*ācārika* - medical advice: 42

accents - *svara*: 166

accumulation - *samudāya*: 39 - *sañcaya*:

14

acidic - *amla*: 68

*ādarśamaṇḍala* - the mirror ring: 155

*adhikaraṇa* - topic: 239f

*adhimantha* - irritation: 191

*adhiṣṭhāna* - base, foundation: 139

- carriers: 139 - located: 13

*ādhmāna* - tympanites: 61

*ādhmāta* - swollen: 158

*adhodṛṣṭitva* - downward vision: 191

*adhyāya* - sections: 16

afflicted - *upasṛṣṭa*: 66

affliction - *upasarga*: 120

afterbirth - *aparā*: 105

*agada* - antidote: 166f, 172 - antitoxic: 166

*āgantū* - external factors: 15

*āgāradhūma* - soot from the chimney: 34,

87

aggregation - *samuccaya*: 239, 243

*agni* - heat: 54

*agnika* - the flame: 155

*agnikarma* - cauterization: 86

*agra* - supernatant layer: 187

*agramukta* - free from the point: 190

*āhāra* - diet: 13

*āhārya* - take away: 40

*ahipatāka* - the snake flag: 156

*ahorātra* - day and night: 14

aids - *aṅga*: 185

air - *samīraṇa*: 160

*ajagara* - constrictor: 158 - the goat

swallower: 156

*ajākṣīrārdita* - stirred with goat's milk:

192

*ajeya* - invincible: 121

*akriya* - inactive: 60

*ākṣepa* - contractions: 58

*ākṣepaka* - convulsion: 58, 61

- convulsions: 58

*alagardā* - sting-gush: 23

*alagarda* - the hungry sting: 154

*ālepa* - liniment: 182

*ālepana* - liniments: 23, 120 - ointments:

86

alleviated - *yāpya*: 184

- alleviation - *pratīkāra*: 14  
 along these lines - *evam*: 15  
*amla* - acidic: 68  
*amṛta* - immortal: 121  
*anāgatāpekṣaṇa* - future reference: 239, 243  
*aṇḍaja* - born from eggs: 14  
*aṇḍīnī* - with testicles: 201  
*anekānta* - variable statement: 239, 242  
*aṅga* - aids: 185 - parts: 15  
 anger - *krodha*: 13  
*aṅgulirāji* - the finger stripe: 155  
 animals - *paśu*: 14  
*añjana* - application of collyrium: 182, 187 - collyrium: 167f, 171f, 181–184, 186ff, 193 - eye make-up: 114, 120 - eye ointment: 120 - stibnite: 187  
*antarāyāma* - emprothotonos: 58  
 antidote - *agada*: 166f, 172  
 antitoxic - *agada*: 166  
*antra* - entrails: 184  
 ants - *pipīlika*: 14  
*anubandha* - indicatory sounds: 234  
*anulepana* - massage ointment: 114, 118 - ointment: 118  
*ānulomya* - rightness: 54  
*anumata* - consent: 239, 242  
*anuvāsana* - oily enema: 67  
*anya* - other: 228  
*apadeśa* - statement of reason: 239, 241  
*apakṣāghāta* - paralysis: 58  
*apāṅga* - outer corner of the eye: 189  
*aparā* - afterbirth: 105  
*apatānaka* - spasmodic contraction: 58  
*āpatantraka* - spasmodic contradiction: 59  
*apavarga* - exception: 239, 242  
 apertures of the head - *kha*: 119  
 aphorism - *sūtra*: 240  
 application of collyrium - *añjana*: 182, 187  
 application of oil to the head - *śīrobasti*: 88  
*apuṣpa* - the grass flower: 154  
*araga timira* - non-bloodshot blindness: 189  
*ardhakapāṭasandhika* - half door-hinge: 40  
*ardita* - paralysis of the jaw-bones: 59, 61 - spasm of the jaw-bones: 59  
 arid-land animals - *jāṅgala*: 187  
*ariṣṭā* - bandage: 164f, 169f  
*ariṣṭa* - omens: 47  
*aṛṇavamala* - cuttle fish: 184  
*arśas* - prolapses: 200  
*ārtava* - menstrual blood: 69, 200 - seasonal blood: 66  
*artha* - purpose: 228  
*arthāpatti* - implication: 239, 242  
*aruci* - disinterest in food: 169  
*asādhya* - incurable: 66, 181 - untreatable: 189  
*āsaṅgima* - fastening: 40  
*āśoka* - grief: 13  
*āśrayin* - substrate: 13  
*āśrupāta* - weeping tears: 70  
*āsthāpana* - enema: 67  
*asthi* - bones: 15  
*aṣṭhīlā* - pebble: 116  
*asūyā* - jealousy: 13  
*atibalā* - strong mallow: 185  
*atideśa* - prediction: 239, 241  
*atīkrāntāpekṣaṇa* - past reference: 239, 243  
*ātmaka* - nature: 12  
*āṭopa* - flatulence: 117  
 attribute - *guṇa*: 226  
*atyānandā* - extremely excited: 201  
*avabāhuka* - @: 61  
*avadāraṇa* - fissuring: 120  
*avalekhana* - combs: 114  
*avapīḍa* - sternutatory: 168  
*āvarta* - spiral: 189  
*avaśārdhita* - fart: 140  
 axelwood - *dhava*: 193  
*ayana* - half-year: 14  
*āyatta* - depends on: 13  
*āyu* - life: 22  
*āyur* - life, longevity: 9  
*āyurveda* - the science of life: 10

*babhru* - the brown: 155  
*babhrūkuṭīmukha* - the brown hut mouth: 154  
*baddham* - bound, connected: 44  
*balā* - country mallow: 185  
*bala* - strength: 13  
*balāsa* - phlegm: 87  
*bali* - morsel: 115 - sacrificial offerings: 165  
*bandage* - *ariṣṭā*: 164f, 169f - *bandha*: 164  
*bandha* - bandage: 164  
*base, foundation* - *adhiṣṭhāna*: 139  
*bāṣpa* - vapour: 115f, 119  
*basti* - enema: 88 - instillation: 67  
*bearers* - *voḍhāra*: 114  
*beauty berry* - *priyaṅgu*: 187  
*bent brow and eye* - *vakrabhrūnetra*: 191  
*benumbed* - *jāḍya*: 160  
*beryl* - *vaiḍūrya*: 193  
*between the shoulder-blades* - *trika*: 88  
*bhadradāru* - deodar: 192  
*bhakṣya* - masticable: 244  
*bhaṅga* - leaves: 190  
*bhavet* - it may be: 189  
*bhāvita* - cooked: 187 - infused: 183  
*bherī* - drum: 172  
*bheṣaja* - treatment: 201  
*bhojya* - edible: 244  
*bhramaraka* - drongo: 115  
*bhr̥ṅgarāja* - racket-tailed drongo: 115  
*bhūmī* - black earth: 173  
*bīja* - semen: 200  
*bile-fever* - *pittajvara*: 170  
*bile* - *pitta*: 185  
*bilious / choleric* - *pittalā*: 201  
*bindurāji* - the drop stripe: 155  
*black drongo* - *dhūmyāṭa*: 115  
*black earth* - *bhūmī*: 173  
*black part* - *kṛṣṇa*: 189  
*black soot* - *maṣī*: 182  
*black* - *kṛṣṇā*: 23  
*blanket sweating* - *prastara*: 86  
*blindness* - *timira*: 188  
*blink of the eye* - *nimeṣa*: 14

blockage of the vision - *dr̥ṣṭyavarodha*: 159  
*blood-bile* - *raktapitta*: 181  
*blood-bile* - *śonita-pitta*, *rakta-pitta*: 185  
*blood-letting* - *sirāvedha*: 182  
*blood* - *rakta*: 66 - *rudhira*: 14 - *śonita*: 185  
 - *śonita*: 65f  
*bloodshot blindness* - *rāgin timira*: 186  
 - *rāgiṇi timire*: 189  
*blossom* - *prasūna*: 172  
*blue dot cataract* - *mlāyin*: 188  
*blue vitriol* - *tuttha*: 187  
*bodily tissues* - *dhātu*: 54, 160  
*body language* - *iṅgita*: 114  
*bones* - *asthi*: 15  
*born from eggs* - *aṇḍaja*: 14  
*born in in a caul* - *jarāyuja*: 14  
*born of sweat* - *svedaja*: 14  
*bound, connected* - *baddham*: 44  
*box myrtle* - *kaṭphala*: 184  
*brahma* - holiness: 165  
*brahmacāriṇī* - chaste woman: 70  
*brahmarṣi* - holy sages: 165  
*brilliance* - *tejas*: 72  
*bristles* - *śūka*: 140  
*br̥ṇhaṇa* - nourishment: 13  
*bubbling* - *budbuda*: 191  
*budbuda* - bubbling: 191  
*bulbs* - *kanda*: 14  
*bull* - *vṛṣabha*: 115  
*burning sensation in feet* - *pādadaḥa*: 60  
  
*cakradhārā* - rim of a wheel: 41  
*cakraka* - the ringed: 155  
*cala* - liquid: 190  
*can be mitigated* - *yāpya*: 189  
*caraṇī* - *caraṇī*: 201  
*caraṇī* - *caraṇī*: 201  
*cardamom* - *elā*: 184  
*carman* - pelt: 14  
*carmānta* - leather: 164  
*carnivore* - *kravyabhuj*: 186  
*carriers* - *adhiṣṭhāna*: 139  
*cassia cinnamon* - *patra*: 192  
*castor oil* - *pañcāṅgulatāila*: 185  
*cataract* - *liṅganāśa*: 189

- caturvarga* - fourfold grouping: 15  
*catuṣṭaya* - four factors: 15  
 caused by wind - *pavanodbhava*: 185  
 causes - *hetu*: 201  
 causing a fall - *sraṃsanī*: 201  
 causing the destruction of actions such  
     as moving - *gamanādikriyāvināśakarī*:  
     191  
 caustic - *kṣāra*: 67, 70  
 cauterization - *agnikarma*: 86  
 chaste woman - *brahmacārīṇī*: 70  
 chebulic myrobalan - *abhayā*: 183  
*chedya* - excision: 15  
 cheek-ear - *gaṇḍakarṇa*: 40  
*chidra* - opening: 189  
 child bearing - *kaumārabhṛtya*: 196  
 child-murderess - *putraghnī*: 201  
*chinna* - segmented: 23  
 chital deer - *prṣata*: 115  
 cholera - *pitta*: 201  
 chyle - *rasa*: 29  
*cihna* - signs: 201  
 circuit of the pupil - *drṣṭimaṇḍala*: 190  
*citraka* - the mark: 155  
*citraśīrṣa* - 'speckle-heads': 141  
 citron - *mātuluṅga*: 192  
 clean - *pra*√ *sādh*: 120  
 cloth - *plota*: 164  
 clumps - *granthi*: 65, 70  
 clusters - *samplava*: 14  
 cock - *tāmracūḍa*: 186  
 cohesion - *yoga*: 239  
 cohesion - *yoga*: 240  
 collection - *varga*: 15  
 collyrium - *añjana*: 167f, 171f, 181–184,  
     186ff, 193  
 combined - *upahita*: 185  
 combs - *avalekhana*: 114  
 comfort - *sukha*: 15  
 compendium of diseases - *rogasamgraha*:  
     198  
 complexion - *varṇa*: 13, 47, 72  
 compounds - *yoga*: 182  
 compressed - *saṃkṣipta*: 41  
 compressed - *saṃkṣipta*: 40  
 compulsion - *niyoga*: 239, 243  
 conch - *salilotthita*: 188  
 cone snails - *śambūka*: 140  
 congenital blindness - *jātyandha*: 72  
 congested humours - *sannipāta*: 15  
 consent - *anumata*: 239, 242  
 constitution - *prakṛti*: 169  
 constrictor - *ajāgara*: 158  
 contractions - *ākṣepa*: 58  
 contraposition - *viparyaya*: 239, 242  
 convulsion - *ākṣepaka*: 58, 61  
 convulsions - *ākṣepaka*: 58  
 cooked barley - *yavaudana*: 188  
 cooked - *bhāvita*: 187 - *siddham*: 222  
 copper - *tāmra*: 191  
 coral - *vidrūma*: 193  
*coṣa* - driness: 191  
 cottony jujube - *kākolī*: 192  
 counteraction - *pratiśedha*: 181  
 country mallow - *balā*: 185  
 cow snout - *gonasa*: 156  
 cow-dung - *gośakṛt*: 183  
 cow-praising - *govandanā*: 23  
 cow's flesh - *gomāṃsa*: 182  
 cow's urine - *gomūtra*: 184  
 crabs - *uccīṭiṅga*: 141  
 creeper-ear - *vallīkarṇa*: 40  
 creepy-crawlies - *sarīrpa*: 11, 14  
 crow's lip - *kākaṣṭha*: 40  
*cuñcumālaka* - little ring of spots: 152  
 curable - *sādhya*: 66, 181  
 curds - *dadhi*: 117, 121  
 cuscus grass - *uśīra*: 187  
 cutting with a blade - *śastrakṣata*: 182  
 cuttle fish - *aṇṇavamala*: 184  
 cuttlefish bone - *phena*: 193  
     - *samudraphena*: 184  
*dadhi* - curds: 117, 121  
*dadhimukha* - the curd mouth: 154  
*dāha* - overheating: 181  
*dainya* - misery: 13  
*dais* - *pīṭha*: 40  
*daivakṛte* - naturally-occurring: 189  
*dantamāṃsa* - gum: 117  
*dantaveṣṭa* - tooth socket: 117



*darbhapuṣpa* - the grass flower: 155  
*darita* - torn: 151f  
 dark brown - *śyāma*: 72  
 dark - *kṛṣṇa*: 72  
 dart-mouth - *śaṅkumukhī* : 24  
*dārukāri* - 'wood-enemies': 141  
*datta* - given: 115  
 day and night - *ahorātra*: 14  
 deadly substance - *kālakalpa*: 160  
 decoction - *kaṣāya*: 67 - *kvātha*: 69  
     - *niḥkvātha*: 70  
 decoctions - *kaṣāya*: 114, 190  
 decomposition - *kuṇapa*: 65f  
 deducible - *ūhya*: 239, 244  
 deer - *eṇa*: 186  
 defect - *doṣa*: 69  
 defects - *doṣa*: 200  
 deity - *devatā*: 165  
 demons - *graha*: 196  
 demons - *graha*: 196  
 deodar - *bhadradāru*: 192  
 depends on - *āyatta*: 13  
 depression - *viśāda*: 13  
 desert date - *iṅgudī*: 187  
 desire - *icchā*: 13  
 determination - *nirṇaya*: 239  
*devadinna* - the gift of god: 155  
*devatā* - deity: 165  
*dhātrī* - emblic: 184  
*dhātu* - bodily tissues: 54, 160  
*dhava* - axelwood: 193  
*dhūma* - inhaled smoke: 114  
*dhūmadarśin* - seeing smoke: 181  
*dhūmyāṭa* - black drongo: 115  
*dhyāma* - grimy: 114  
 diet - *āhāra*: 13  
*digdha* - poisoned: 170f  
 dilator - *pravardhanaka*: 39  
*dīpyaka* - the stimulator: 156  
 discharge - *srāva*: 118, 120  
 disease - *vyadhi*: 15  
 diseases - *roga*: 200  
 disinterest in food - *aruci*: 169  
 disorders of the female reproductive  
     system - *yonivyāpat*: 200

door-hinge - *kapāṭasandhika*: 40  
*doṣa* - defect: 69 - defects: 200 - humour:  
     189, 240 - humours: 14, 54  
     - humours: 200 - pathology: 67  
*doṣapariplava* - unsteadiness of the  
     humours: 191  
 double - *yamalā*: 117  
 doubt - *saṁśaya*: 239, 243  
 downward vision - *adhodṛṣṭitva*: 191  
*drākṣā* - grapes: 192  
*dravāñjana* - liquid collyrium: 186  
*dravya* - liquid: 171 - substance: 47, 226  
 dried flesh - *vallūraka*: 40  
 dried ginger - *nāgara*: 183  
 driness - *coṣa*: 191  
 drinkable - *peya*: 244  
 drongo - *bhramaraka*: 115  
 drowsiness - *supti*: 87  
*drṣṭi* - eye: 72 - pupil: 181, 190  
*drṣṭimaṇḍala* - circuit of the pupil: 190  
*drṣṭivibhrama* - faulty vision: 120  
*drṣṭyavarodha* - blockage of the vision:  
     159  
 drum - *bherī*: 172  
 dry rub - *utsādana*: 118  
 dry rubs - *utsādana*: 114  
 duct - *sirā*: 166  
 ducts - *sirā*: 15, 86 - *srotas*: 157  
*duḥkha* - suffering: 13  
 dumb - *mūka*: 60  
 dung beetles - *varcaḥkīṭa*: 140  
*dūrvā* - panic grass: 192  
*dūṣīviṣa* - slow poisoning: 167  
*dūṣīviṣāri* - slow-acting poison antidote:  
     117  
 dust - *rajas*: 54  
*dveṣa* - hatred: 13  
*dvyāhika* - the two-day: 156  
*dvyāṅgulirāji* - the two finger stripe: 155  
  
 ear-ache - *karnaśūla*: 60  
 earth products - *pārthiva*: 14  
 earth - *pāṁśu*: 164  
 earthen products - *pārthiva*: 15  
 edible - *bhojya*: 244  
*ekāṅgaroga* - monoplegia: 58

- ekānta* - invariable statement: 239  
 - invariable statement: 242  
*ekarasa* - one essence: 173  
*elā* - cardamom: 184  
 elephant/snake - *nāga*: 141  
 elixir salve - *rasāñjana*: 183, 186f  
 elixir-salve - *rasāñjana*: 183  
 elixir-salve - *śīta*: 183  
 ellipsis - *vākyaśeṣa*: 239  
 ellipsis - *vākyaśeṣa*: 242  
 embelia - *vidaṅga*: 187  
 emblic - *dhātrī*: 184  
 emprosthotonos - *antarāyāma*: 58  
*eṇa* - deer: 186  
 enclosed roasting - *puṭākhyā*: 185  
 - *puṭapāka*: 187  
 ends - *vaktra*: 191  
 enema - *āsthāpana*: 67 - *basti*: 88  
 energy - *ojas*: 47  
*eṇipada* - the deer foot: 155  
 entrails - *antra*: 184  
 envy - *īrṣyā*: 13  
 errhine - *nasya*: 185  
 errhines - *nasya*: 120  
 essence - *sāra*: 14  
*evam* - along these lines: 15  
 exception - *apavarga*: 239, 242  
 excision - *chedya*: 15  
 expert - *vicakṣaṇa*: 71  
 explication - *vyākhyāna*: 239, 243  
 exposition - *nirdeśa*: 239, 241  
 expressed juice - *svarasa*: 182  
 extensive meaning of the collection of  
 statements - *vāksamūhārthavistāra*:  
 157  
 external factors - *āgantū*: 15  
 extract of rohu carp - *rauhita*: 183  
 extract - *niryāsa*: 120  
 extracted juice - *surasa*: 70  
 extracted juice - *svarasa*: 119  
 extracts - *rasa*: 187  
 extremely excited - *atyānandā*: 201  
 eye make-up - *añjana*: 114, 120  
 eye ointment - *añjana*: 120  
 eye - *drṣṭi*: 72  
 eyewash - *tarpaṇa*: 120, 182, 186f  
 fainting - *mūrcchā*: 170  
 fart - *avaśardhita*: 140  
 fastening - *āsaṅgima*: 40  
 fat - *vasā*: 186  
 faulty medical treatment - *mithyopacāra*:  
 200  
 faulty vision - *drṣṭivibhrama*: 120  
 feeling of heat all over - *paridāha*: 159  
 female reproductive organ - *yonī*: 200f  
 female reproductive system - *yonī*: 200  
 field-specific term - *svasaṃjñā*: 239, 243  
 filaments - *kiñjalka*: 183  
 first point of view - *pūrvapakṣa*: 242  
 fissuring - *avadāraṇa*: 120  
 flag - *patāka*: 172  
 flame of the forest - *palāśa*: 187  
 flatulence - *ātapa*: 117  
 flavour - *rasa*: 240  
 flavours - *rasa*: 13, 47  
 flesh - *māṃsa*: 15  
 flooded - *pariplutā*: 201  
 flowering trees - *vṛkṣa*: 13  
 flowers - *puṣpa*: 14  
 follicles - *kha*: 118  
 force - *vega*: 88  
 formulation - *yoga*: 85  
 fortnight - *pakṣa*: 14  
 foul-smelling pus - *pūtipūya*: 66  
 four factors - *catuṣṭaya*: 15  
 fourfold grouping - *caturvarga*: 15  
 free from clouds - *abhramukta*: 190  
 free from the point - *agramukta*: 190  
 frogs - *maṇḍūka*: 14  
 fruit trees - *vanaspati*: 13  
 fruits - *phala*: 14  
 future reference - *anāgatāpekṣaṇa*: 239,  
 243  
 gadgad - stammers: 60  
 gāḍha - pinched: 42  
 gairikaḥ - red chalk: 192  
 gamana - intercourse: 68

*gamanādikriyāvīnāśakarī* - causing the destruction of actions such as moving: 191  
*gaṇḍakarṇa* - cheek-ear: 40  
 garlands - *sraja*: 114  
*garuḍa* - *tārkaṣya*: 172  
 gauze - *plota*: 42  
*gavedhuka* - the gavedhuka: 154  
 geckos - *grhagoḍikā*: 140  
 general rule - *paribhāṣā*: 187  
 gently - *mṛdu*: 192  
 ghee - *sarpis*: 182 - *sarpis*: 121  
*girisarpa* - the mountain snake: 154  
 given - *datta*: 115  
 giving of fumes - *paridhūpāyana*: 157  
 giving off fumes - *paridhūpana*: 157  
 glassy opacity - *kāca*: 187  
*godhā* - monitor lizard: 184  
 gold - *śātakumbhī*: 191  
*gomāṃsa* - cow's flesh: 182  
*gomūtra* - cow's urine: 184  
*gonasa* - cow snout: 156  
*gośakṛt* - cow-dung: 183 - juice of cow-dung: 183  
 gout - *vātarakta*: 61  
*govandanā* - cow-praising: 23  
*graha* - demons: 196 - demons: 196  
*grahaṇī* - seat of fire in the gut: 159  
*grahaṇī* - seat of fire in the gut: 159  
*granthi* - clumps: 65, 70 - lumps: 118  
 grapes - *drākṣā*: 192  
*gr̥dhrasī* - sciatica: 59, 61  
 great antidote - *mahāgada*: 23  
 great fragrance - *mahāsugandha*: 120  
 greed - *lobha*: 13  
 green vitriol - *kāsīsa*: 187  
*gr̥hadhūma* - soot: 145  
*gr̥hagoḍikā* - geckos: 140  
 grief - *āśoka*: 13  
 grimy - *dhyāma*: 114  
 grooming - *vilekhana*: 70  
 cruel - *yavāgū*: 167  
*guḍikā* - pill: 183  
*gulma* - abdominal lump: 200  
 gum - *dantamāṃsa*: 117

*guṇa* - attribute: 226  
 haemorrhaging - *śonitāgamana*: 158  
 half door-hinge - *ardhakapāṭasandhika*: 40  
 half-year - *ayana*: 14  
 hare foot uraria - *pṛthakparṇī*: 192  
*hareṇu* - hareṇu: 183f  
*hareṇu* - *hareṇu*: 183f  
*hari* - sun: 190  
*haridrā* - turmeric: 187  
*harṣa* - overexcitement: 13  
*hastābharaṇaka* - the hand decoration: 155  
 hatred - *dveṣa*: 13  
 heat - *agni*: 54 - *tejas*: 72  
 herbs - *oṣadhi*: 13  
*hetu* - causes: 201 - reason: 228  
*hetvartha* - purpose of a reason: 239, 241  
 himalayan cherry - *padmaka*: 192  
*hīnakarṇa* - reduced-ear: 40  
 holiness - *brahma*: 165  
 holostemma - *payasyā*: 192  
 holy sages - *brahmarṣi*: 165  
 honey collyrium - *kṣaudrāñjana*: 184  
 honey - *madhu*: 182 - *madhus*: 115  
 horseradish tree - *śigru*: 188  
 hot all over - *samantatastāpaḥ*: 157  
 hot over the whole body - *sarvāṅgasantāpaḥ*: 158  
 huge - *mahatī*: 201  
 human being - *puruṣa*: 12f, 15  
 humoral colligation - *sannipāta*: 66  
 humour - *doṣa*: 189, 240  
 humours - *doṣa*: 14, 54  
 humours - *doṣa*: 200  
*icchā* - desire: 13  
 if, then not - *na ced*: 189  
*ilikinī* - the ilikinī: 156  
 illness - *ruj*: 183  
 illustration - *nidarśana*: 239, 243  
 immortal - *amṛta*: 121  
 implication - *arthāpatti*: 239, 242  
 impotent - *śaṇḍhī*: 201  
 in those cases - *tatra*: 184  
 in yama's direction - *yāmya*: 145  
 inactive - *akriya*: 60

- incised - *pracchāna*: 170 - *pracchita*: 170  
 incising - *pracchāna*: 166  
 incurable - *asādhya*: 66, 181  
 indian madder - *mañjiṣṭhā*: 192  
 indian sarsaparilla - *kālānusāriva*: 183  
     - *sāriva*: 183 - *śārivā*: 192  
 indication - *pradeśa*: 239, 241  
 indicatory sounds - *anubandha*: 234  
 indigo - *nīlī*: 117  
 individuality - *viśeṣa*: 226  
*indragopa* - red velvet mites: 14  
*indrāyudhā* - rainbow: 23  
 infertile - *vandhyā*: 201  
 inflamed - *saṃrambha*: 43 - *vidagdha*: 182  
 infused - *bhāvita*: 183  
*inḡita* - body language: 114  
*inḡudī* - desert date: 187  
 inhaled smoke - *dhūma*: 114  
 inherence - *samavāya*: 226  
 inherent factors - *svabhāva*: 15  
 inherent - *svābhāvika*: 13  
 injured - *utpīḍita*: 189  
 inspissation - *rasakriyā*: 187  
 instillation - *basti*: 67  
 intended - *vyākhyāta*: 15  
 intercourse - *gamana*: 68  
 interpretation - *nirvacana*: 239, 243  
 interstitial layers - *kalā*: 160  
 intestines - *pakvāśaya*: 117  
 invariable statement - *ekānta*: 239  
 invariable statement - *ekānta*: 242  
 investigation - *parīkṣā*: 232  
 invincible - *ajeya*: 121  
 irregularities - *vaiṣamya*: 13  
 irrigated - *pratipūraṇa*: 119  
 irrigation - *seka*: 182 - *tarpaṇa*: 200  
 irritation - *adhimantha*: 191 - *prakopa*: 14  
*īrṣyā* - envy: 13  
 it may be - *bhavet*: 189  
 itemization - *vidhāna*: 239, 242  
 items created by time - *kālakṛta*: 14f  
  
*jāḍya* - benumbed: 160  
*jāḍyatā* - rigidity: 169  
*jala* - water: 22  
*jalaukas* - water-dwellers: 22  
  
*jāṅgala* - arid-land animals: 187  
*jaṅgama* - moving: 13, 15  
*japa* - mantra repetition: 165  
*jarāyuja* - born in in a caul: 14  
*jātī* - royal jasmine: 193  
*jātyandha* - congenital blindness: 72  
 jealousy - *asūyā*: 13  
 joints - *sandhi*: 15  
 juice extract - *svarasa*: 14  
 juice of cow-dung - *gośakṛt*: 183  
 juice - *rasa*: 87  
 juices - *rasa*: 186  
*jyotīratha* - the chariot of light: 156  
  
*kāca* - glassy opacity: 187  
*kākausṭha* - crow's lip: 40  
*kākolī* - cottony jujube: 192  
*kalā* - interstitial layers: 160 - layer: 149  
     - layers of skin: 160 - minutes: 14  
*kālakalpa* - deadly substance: 160  
*kālakṛta* - items created by time: 14f  
*kālānusāriva* - indian sarsaparilla: 183  
*kalāyakhāṇja* - lathyrism: 60f  
*kalka* - paste: 67, 69  
*kalpa* - procedure: 150, 164 - rule: 139  
*kāma* - lust: 13  
*kaṇabha* - wasps: 141  
*kanda* - bulbs: 14  
*kaṇṭaka* - spots: 119  
*kapālacūrṇa* - powdered earthenware  
     crookery: 41  
*kapāṭasandhika* - door-hinge: 40  
*kapha* - mucus: 119 - phlegm: 159, 201  
*kapilā* - tawny: 24  
*kapittha* - wood apple: 182  
*karburā* - mottled: 23  
*kardama* - the mud: 155  
*karma* - regimen: 190  
*karman* - movement: 226 - therapies: 15  
*karṇaśūla* - ear-ache: 60  
*karṇavyadha* - piercing the ear: 37  
*karṇinī* - protuberant: 201  
*karṣū* - trench sweating: 86  
*kaśāya* - decoction: 67 - decoctions: 114,  
     190 - the ochre: 155  
*kaśāyavāsika* - 'orange-dwellers': 140

- kāśīpati* - lord of kāśī: 113  
*kāsīsa* - green vitriol: 187  
*kāṣṭhā* - trice: 14  
*kaṭphala* - box myrtle: 184  
*kaumārabhṛtya* - child bearing: 196  
*kaunḍīnya* - 'pot insects': 140  
*kavala* - mouthwash: 118  
*kevala* - simply: 168  
*kha* - apertures of the head: 119  
     - follicles: 118  
*khaluṣa* - the khaluṣa: 155  
*khaṇḍaphaṇa* - the break hood: 154  
*khañja* - limpness: 60  
*khara* - rough: 191  
*kikkisāda* - the worm eater: 155  
*kinihī* - white siris: 187  
*kiñjalka* - filaments: 183  
*kitchen* - *mahānasa*: 114  
*kiṭīpa* - lice: 140  
*knowledge* - *veda*: 9, 225  
*kohl* - *srotas*: 186 - *srotaja*: 183, 193  
*koṣṭha* - trunk of the body: 159  
*kravyabhuj* - carnivore: 186  
*kṛcchra* - with difficulty: 189  
*kriyā* - procedures: 12, 15 - treatment: 15, 67, 187  
*kriyākāla* - the time for therapies: 15  
*kriyāsaṅga* - loss of function: 191  
*kṛmi* - worms: 14  
*krodha* - anger: 13  
*kroṣṭukaśīrṣa* - synovitis of knee joint: 60f  
*kṛṣṇa* - black part: 189  
*kṛṣṇā* - black: 23  
*kṛṣṇa* - dark: 72  
*kṛṣṇasarpa* - the black snake: 154  
*kṛṣṇodara* - the black belly: 154  
*kṣaṇadāndhya* - night blindness: 183  
*kṣāra* - caustic: 67, 70  
*kṣāraka* - lye: 186  
*kṣaudrāñjana* - honey collyrium: 184  
*kṣīṇa* - low volume: 65 - wasted: 42  
*kṣīra* - sap: 14  
*kṣīrikāpuṣpa* - the milk flower: 156  
*kukṣita* - 'bellied': 141  
*kūkuṭa* - the kūkuṭa: 154  
*kunakha* - ugly nails: 70  
*kuṇapa* - decomposition: 65f - smell of decomposition: 66  
*kunta* - small insects: 14  
*kupyaka* - metal: 182  
*kuśa* grass - *kuśa*: 186  
*kuśa* - kuśa grass: 186  
*kuṣṭha* - pallid skin disease: 70  
*kuṭī* - sauna: 86  
*kvātha* - decoction: 69  
*lac* - *lākṣā*: 192  
*lākṣā* - lac: 192  
*lame* - *pañgu*: 60  
*lathyrism* - *kalāyakhañja*: 60f  
*lavages* - *ācamana*: 69  
*layer* - *kalā*: 149 - *paṭala*: 189  
*layers of skin* - *kalā*: 160  
*leather* - *carmānta*: 164  
*leaves* - *bhaṅga*: 190 - *patra*: 14  
*lehya* - suckable: 244  
*lekhana* - scarification: 13  
*lice* - *kiṭīpa*: 140  
*life, longevity* - *āyur*: 9  
*life* - *āyu*:- 22  
*limpness* - *khañja*: 60  
*liṅga* - symptom: 119  
*liṅganāśa* - cataract: 189  
*liniment* - *ālepa*: 182  
*liniments* - *ālepana*: 23, 120  
*liquid collyrium* - *dravāñjana*: 186  
*liquid* - *cala*: 190 - *dravya*: 171  
*liquorice* - *madhukair*: 192  
*little ring of spots* - *cuñcumālaka*: 152  
*liver extract* - *yakṛdrasa*: 183  
*liver* - *yakṛt*: 184  
*lobha* - greed: 13  
*located on the limb* - *śākhāśrayā*: 166  
*located* - *adhiṣṭhāna*: 13  
*lodh tree* - *lodhra*: 187  
*lodhra* - lodh tree: 187  
*logical methods of the system*  
     - *tantrayukti*: 239  
*lohitākṣa* - the red eye: 154f  
*long pepper* - *māgadha*: 187 - *māgadhi*: 184 - *māgadhi*: 184, 186

- loose stool - *viḍbheda*: 142  
 lord of kāśī - *kāśīpati*: 113  
 loss of function - *kriyāsaṅga*: 191  
 lotus-mouth - *puṇḍarīkamukhī*: 24  
 lotus-splittable - *utpalabhedyaka*: 40  
 lotus-spots - *padminikaṇṭaka*: 119  
 low volume - *kṣīṇa*: 65  
 lumps - *granthi*: 118  
 lust - *kāma*: 13  
 lūtā - spiders: 11  
 lye - *kṣāraka*: 186  
  
*madanaka* - the intoxicator: 155  
*madhu* - honey: 182 - mead: 165  
*madhukair* - liquorice: 192  
*madhus* - honey: 115  
*madira* - spirits: 187  
*madirā* - spirits: 184  
*māgadha* - long pepper: 187  
*māgadhi* - long pepper: 184  
*māgadhi* - long pepper: 184, 186  
*mahāgada* - great antidote: 23  
*mahākapota* - the big pigeon: 154  
*mahākṣṣṇa* - the big black: 154  
*mahānasa* - kitchen: 114  
*mahāpadma* - the great lotus: 154  
*mahāpanasaka* - the big jackfruit: 155  
*mahāsarpa* - the great snake: 154  
*mahāśīrṣa* - the big head: 154  
*mahāsugandha* - great fragrance: 120  
*mahatī* - huge: 201  
*mākuli* - mākuli: 156  
*mākuli* - mākuli: 156  
*malice* - *mātsarya*: 13  
*māṃsa* - flesh: 15  
*māṃsanirgama* - prolapse: 191  
*māṃsarasa* - meat broth: 87  
*manaḥśīlā* - realgar: 183, 186f, 193 - red  
     arsenic: 183  
*mānasa* - mental: 13  
*maṇḍūka* - frogs: 14  
*mañjiṣṭhā* - indian madder: 192  
*mantra* repetition - *japa*: 165  
*manual* agitation - *pāṇimantha*: 86  
*manyāstambha* - stiffness of the neck: 160  
*manyāsthambha* - rigidity of neck: 59  
  
*mardana* - rubbing: 86  
 marks with a knife - *śastrapada*: 26  
*māruta* - wind: 66  
*māsa* - month: 14  
*maṣī* - black soot: 182  
 massage oil - *abhyāṅga*: 114, 120  
 massage ointment - *anulepana*: 114, 118  
 masticable - *bhakṣya*: 244  
*mātrā* - measures: 88  
*mātsarya* - malice: 13  
*mātuluṅga* - citron: 192  
 matured - *vipakva*: 182  
 mead - *madhu*: 165  
 meaning of one or more words  
     - *padārtha*: 240  
 measures - *mātrā*: 88  
 meat broth - *māṃsarasa*: 87  
*medaka* - 'liquors': 141  
 medical advice - *ācārīka*: 42  
 medicines cooked in a crucible  
     - *puṭapāka*: 182  
 men - *nara*: 140  
 menstrual blood - *ārtava*: 69, 200  
 mental - *mānasa*: 13  
 mention - *samuddēśa*: 239, 241  
*meṣaśrīṅga* - periploca of the woods: 193  
*meṣaviṣāṇa* - periploca of the woods: 185  
 metal - *kupyaka*: 182  
 metamorphopsia - *viparītadarśana*: 158  
 milk - *payas*: 121  
*mimmira* - mumbles: 60  
 minutes - *kalā*: 14  
 misaligned eyes - *vikṛtākṣa*: 73  
 misery - *dainya*: 13  
*miśrakacikitsa* - various treatments: 44  
 misshapen eyeball - *vilocana*: 191  
*mithuna* - pair: 243 - triad: 243  
*mithyopacāra* - faulty medical treatment:  
     200  
 mitigatable - *yāpya*: 181  
*mlāyin* - blue dot cataract: 188  
 monitor lizard - *godhā*: 184  
 monkey - *vānara*: 140  
 monoplegia - *ekāṅgaroga*: 58  
 month - *māsa*: 14



morsel - *bali*: 115  
 mottled - *karburā*: 23  
 mouse - *mūṣikā*: 24  
 mouthwash - *kavala*: 118  
 movement - *karman*: 226  
 moving - *janṅama*: 13, 15  
 mṛdu - gently: 192  
 mucous - *śleṣman*: 159  
 mucus - *kapha*: 119  
 muhūrta - three-quarters of an hour: 14  
 mūka - dumb: 60  
 mukhasaṃdamśā - nipping with the mouth: 139  
 muktā - pearl: 189  
 muktā - separate: 189  
 mūla - root: 13 - roots: 14  
 multi-joins - *vyāyojima*: 40  
 mumbles - *mimmira*: 60  
 mūrcchā - fainting: 170 - stupor: 116  
 mūṣikā - mouse: 24  
 mūṣika - rodents: 11  
 mustā - nutgrass: 192  
  
 na ced - if, then not: 189  
 nādī - tube: 86  
 nadīja - salt: 183  
 nāga - elephant/snake: 141  
 nāgara - dried ginger: 183  
 nalada - spikenard: 187  
 nara - men: 140  
 nasal medicines - *nasya*: 182  
 nasya - errhine: 185 - errhines: 120 - nasal medicines: 182 - snuff: 114, 119  
 naturally-occurring - *daivakṛte*: 189  
 nature - *ātmaka*: 12  
 needle - *sūcī*: 190  
 nemisandhānaka - rim-join: 41 - rim-join: 40  
 newborn - *prasava*: 72  
 nidarśana - illustration: 239, 243  
 night blindness - *kṣaṇadāndhya*: 183  
 niḥkvātha - decoction: 70  
 nīlī - indigo: 117  
 nimeṣa - blink of the eye: 14  
 nipping with the mouth - *mukhasaṃdamśā*: 139

nirdeśa - exposition: 239, 241  
 nirṇaya - determination: 239  
 nirvacana - interpretation: 239, 243  
 nirvedhima - ready-split: 40  
 nirviṣa - without venom: 152  
 niryāsa - extract: 120 - resin: 14  
 niśācara - nocturnal creature: 188  
 niṣevita - prepared: 186 - used: 184  
 nivāta - no wind: 14  
 niyoga - compulsion: 239, 243  
 no wind - *nivāta*: 14  
 nocturnal creature - *niśācara*: 188  
 non-bloodshot blindness - *araga timira*: 189  
 non-flowering tree - *vanaspati*: 187  
 nourishment - *br̥mhaṇa*: 13  
 numb - *stabdha*: 87  
 numbness - *svāpa*: 120  
 nutgrass - *mustā*: 192  
  
 objection - *pūrvapakṣa*: 239  
 oblations - *upahāra*: 165  
 obligation - *ṛṇa*: 72  
 oceanic - *sāmudrikā*: 23  
 off his hand - *sapāṇa*: 185  
 oil massage - *abhyaṅga*: 118  
 oil rub - *abhyaṅga*: 86, 225  
 oil rubs - *abhyaṅjana*: 171  
 oil stripe - *snigdharāji*: 156  
 oil - *sneha*: 14  
 oily enema - *anuvāsana*: 67  
 oily stripe - *snigdharāji*: 156  
 ointment - *anulepana*: 118 - *pralepa*: 116, 119  
 ointments - *ālepana*: 86  
 ojas - energy: 47 - vital energy: 13  
 oleation - *sneha*: 86  
 omens - *ariṣṭa*: 47  
 one essence - *ekarasa*: 173  
 opening - *chidra*: 189  
 ophidian - *sarpita*: 152  
 option - *vikalpa*: 239, 243  
 or not distorted - *vāvikṛtā*: 117  
 oṣadhī- - remedies: 13  
 oṣadhi - herbs: 13 - remedies: 15  
 other - *anya*: 228

- outer corner of the eye - *apāṅga*: 189  
 overexcitement - *harṣa*: 13  
 overheating - *dāha*: 181
- pacification - *saṃśamana*: 13 - *upaśama*: 14  
*pada* - word: 225f  
*pādadaḥa* - burning sensation in feet: 60  
*padārtha* - meaning of one or more words: 240 - relevant meaning: 236, 239f - word-meaning: 227  
*padma* - the lotus: 154  
*padmaka* - himalayan cherry: 192  
*padminīkaṇṭaka* - lotus-spots: 119  
 pain and injury - *vedanābhīghāta*: 10  
 pain -  $\sqrt{pīḍ}$ : 160  
 pair - *mithuna*: 243  
*pāka* - sepsis: 120  
*pākamatsya* - 'cook-fish': 140  
*pakṣa* - fortnight: 14  
*pakṣāghāta* - paralysis of one side: 61  
   - paralysis: 58f  
*pakoḍāsa* - abdomen: 86  
*pakoḍāśaya* - intestines: 117  
*palāśa* - flame of the forest: 187  
*pāḷindaka* - the morning glory: 155  
*pallava* - shoots: 190  
 pallid skin disease - *kuṣṭha*: 70  
*pāṃśu* - earth: 164  
*panasaka* - the jackfruit: 155  
*pañcāṅgulataila* - castor oil: 185  
*pañgu* - lame: 60  
 panic grass - *dūrvā*: 192  
*pāṇimantha* - manual agitation: 86  
 paralysis of arms and back - *viśvañci*: 59, 61  
 paralysis of one side - *pakṣāghāta*: 61  
 paralysis of the jaw-bones - *ardita*: 59, 61  
 paralysis - *apakṣāghāta*: 58 - *pakṣāghāta*: 58f  
*pārāvata* - the pigeon: 155  
*paribhāṣā* - general rule: 187  
*paridāha* - feeling of heat all over: 159  
*paridhūpana* - giving off fumes: 157  
*paridhūpāyana* - giving of fumes: 157  
*parīkṣā* - investigation: 232
- pariplutā* - flooded: 201  
*parisarpa* - the snake around: 154  
*parīṣeka* - shower: 118  
*pārthiva* - earth products: 14 - earthen products: 15  
 partial blindness - *timira*: 185  
 particulars - *vikalpa*: 15  
 parts - *aṅga*: 15  
*paryuṣita* - stale: 68  
 past reference - *atīkrāntāpekṣaṇa*: 239, 243  
 paste - *kalka*: 67, 69  
*paśu* - animals: 14  
*paṭaha* - tabors: 172  
*patāka* - flag: 172  
*paṭala* - layer: 189  
*pāthā* - velvet leaf: 187  
 pathology - *doṣa*: 67  
*patra* - cassia cinnamon: 192 - leaves: 14  
*patravṛścika* - 'wing-scorpions': 141  
*paṭṭa* - strip of cloth: 87  
*pavanodbhava* - caused by wind: 185  
*payas* - milk: 121  
*payasyā* - holostemma: 192  
 pearl - *muktā*: 189  
 pebble - *aṣṭhīlā*: 116  
 pelt - *carman*: 14  
 periploca of the woods - *meṣaviśāṇa*: 185  
 periploca of the woods - *meṣaśṛṅga*: 193  
 person - *puruṣa*: 243  
*peya* - drinkable: 244  
*phala* - fruits: 14  
*phena* - cuttlefish bone: 193  
 phlegm - *balāsa*: 87 - *kapha*: 159, 201  
 phlegmatic - *śleṣmalā*: 201  
 physical - *śārīravat*: 15  
*piccīṭa* - 'flat insects': 140  
*pīḍ* - press: 189  
 piercing the ear - *kārṇavyadha*: 37  
 piercing - *vyadha*: 190  
 pigs' eye - *sūkarākṣitā*: 191  
*pilindaka* - the pilindaka: 155  
 pill - *guḍikā*: 183  
 pinched - *gāḍha*: 42  
*piṅgalā* - ruddy: 24



- pipīlika* - ants: 14  
*pīṭha* - dais: 40  
*pitta* - bile: 185 - choler: 201  
*pittajvara* - bile-fever: 170  
*pittalā* - bilious / choleric: 201  
*pittaviṣa* - poison in the bile: 165  
*plīhan* - spleen: 184  
*plota* - cloth: 164 - gauze: 42  
*plutā* - sprung: 201  
poison in the bile - *pittaviṣa*: 165  
poison-stink - *viṣapūti*: 170  
poisoned - *digdha*: 170f  
poṭa throat - *poṭagala*: 156  
*poṭagala* - poṭa throat: 156  
potency - *vīrya*: 171  
poultice - *upanāha*: 86  
powdered earthenware crockery  
- *kapālacūrṇa*: 41  
*pra*√ *sādh* - clean: 120  
*pra*√ *kuth* - rot: 117  
*prabha* - shine: 189  
*pracalāka* - 'poisonous snakes': 140  
*pracchāna* - incised: 170 - incising: 166  
*pracchita* - incised: 170  
practical purposes - *prayojanavat*: 14  
*pradeśa* - indication: 239, 241  
*pragāḍha* - steeped: 185  
*prakopa* - irritation: 14  
*prakṛti* - constitution: 169 - temperament:  
13  
*pralepa* - ointment: 116, 119  
*prasaṅga* - recontextualization: 239  
- recontextualization: 242  
*prasava* - newborn: 72  
*prastara* - blanket sweating: 86  
*prasūna* - blossom: 172  
*pratīkāra* - alleviation: 14 - remedy: 181  
*pratipūrāṇa* - irrigated: 119  
*pratisāraṇa* - rub: 117 - rubbing: 117  
*pratiśedha* - counteraction: 181  
*pratitūnī* - @: 61  
*pratyādhmāna* - @: 61  
*pratyāṣṭhīla* - @: 61  
*pravardhanaka* - dilator: 39  
*prayojanavat* - practical purposes: 14  
prediction - *atideśa*: 239, 241  
premise - *sādhana*: 228, 241  
prepared with turpeth - *traivṛta*: 182  
prepared - *niṣevita*: 186  
prescription - *upadeśa*: 239, 241  
press - *pīḍ* -: 189  
priest - *upādhyāya*: 71  
*priyaṅgu* - beauty berry: 187  
probe - *śalākā*: 189f  
procedure - *kalpa*: 150, 164  
procedures - *kriyā*: 12, 15  
prolapse - *māṃsanirgama*: 191  
prolapses - *arśas*: 200  
propelled - √ *ūh*: 160  
protect - √ *rakṣ*: 70  
protuberant - *karṇinī*: 201  
*prṣata* - chital deer: 115  
*prṣata* - the speckled: 155  
*prthakparṇī* - hare foot uraria: 192  
pulse interval - *vegāntara*: 160  
*puṇḍarīka* - the lotus: 155  
*puṇḍarikamukha* - the lotus mouth: 154  
*puṇḍarikamukhī* - lotus-mouth: 24  
pupil - *drṣṭi*: 181, 190  
purge - √ *sodh*: 167  
purification - *saṃśodhana*: 13  
purpose of a reason - *hetvartha*: 239, 241  
purpose - *artha*: 228  
*puruṣa* - human being: 12f, 15 - person:  
243  
*pūrvapakṣa* - first point of view: 242  
- objection: 239  
*puṣpa* - flowers: 14  
*puṣpābhikīrṇnābha* - the flower sprinkle  
beauty: 154  
*puṣpapāṇḍu* - the pale as a flower: 155  
*puṣpasakalī* - the flower all: 156  
*puṭāhvaya* - taken hot: 186  
*puṭākhyā* - enclosed roasting: 185  
*puṭapāka* - enclosed roasting: 187  
- medicines cooked in a crucible: 182  
- roasting: 200  
*pūtipūya* - foul-smelling pus: 66  
- stinking pus: 65  
*putraghnī* - child-murderess: 201

putrid - *śīrṇa*: 170

racket-tailed drongo - *bhr̥ṇgarāja*: 115  
*rāgin timira* - bloodshot blindness: 186  
*rāgiṇi timire* - bloodshot blindness: 189  
rainbow - *indrāyudhā*: 23  
rainy seasons - *varṣā*: 14  
*rajana* - turmeric: 183  
*rajas* - dust: 54  
*rājicitra* - the stripe speckle: 155  
*rakta* - blood: 66  
*raktakṣayā* - with bloodloss: 201  
*raktamaṇḍala* - the red ring: 155  
*raktapitta* - blood-bile: 181  
*rasa* - chyle: 29 - extracts: 187 - flavour: 240 - flavours: 13, 47 - juice: 87 - juices: 186 - the blood of birds and animals: 183  
*rasakriyā* - inspissation: 187  
*rasāñjana* - elixir salve: 183, 186f - elixir-salve: 183  
*rauhita* - extract of rohu carp: 183  
ready-split - *nirvedhima*: 40  
realgar - *maṇḥṣilā*: 183, 186f, 193  
reason - *hetu*: 228  
recontextualization - *prasaṅga*: 239  
recontextualization - *prasaṅga*: 242  
red arsenic - *maṇḥṣilā*: 183  
red chalk - *gairikaḥ*: 192  
red velvet mites - *indragopa*: 14  
reduced-ear - *hīnakarṇa*: 40  
regimen - *ācāra*: 13 - *karma*: 190  
relevant meaning - *padārtha*: 236, 239f  
religious power - *tapas*: 165  
remedies - *oṣadhī*:- 13 - *oṣadhi*: 15  
remedy - *pratikāra*: 181  
resin - *niryāsa*: 14  
restrictions - *yantraṇā*: 190  
resuscitator - *sañjīvoana*: 172  
*retas* - semen: 65  
rheum - *upadeha*: 120  
rightness - *ānulomya*: 54  
rigid - *sthirā*: 191  
rigidity of neck - *manyāsthambha*: 59  
rigidity - *jāḍyatā*: 169  
rim of a wheel - *cakradhārā*: 41

rim-join - *nemīsandhānaka*: 41  
rim-join - *nemīsandhānaka*: 40  
*ṛjusarpa* - the straight snake: 154  
*ṛṇa* - obligation: 72  
roasting - *puṭapāka*: 200  
rodents - *mūṣika*: 11  
*roga* - diseases: 200  
*rogasaṃgraha* - compendium of diseases: 198  
*rohita* tree - *rohita*: 187  
*rohita* - *rohita* tree: 187  
root - *mūla*: 13  
roots - *mūla*: 14  
rot - *prā√kuth*: 117  
rough - *khara*: 191  
royal jasmine - *jātī*: 193  
*ṛtu* - season: 14, 70  
rub - *pratisāraṇa*: 117  
rubbing - *mardana*: 86 - *pratisāraṇa*: 117 - *unmardana*: 86  
ruddy - *piṅgalā*: 24  
*rudhira* - blood: 14  
*ruj* - illness: 183  
*rūkṣa* - sere: 68  
rule - *kalpa*: 139

sacrificial offerings - *bali*: 165  
*ṣaḍaṅga* - the six part: 155  
*ṣaḍdharāṇa* - six-units: 85  
*sādhana* - premise: 228, 241  
*sādhya* - curable: 66, 181  
*śākhāśrayā* - located on the limb: 166  
*śalākā* - probe: 189f  
*salilotthita* - conch: 188 - water-born: 188  
*saliva* - *śleṣman*: 116  
salt - *nadīja*: 183  
*śalya* - spike: 230f, 241 - splinter: 241  
*samāñjana* - same collyrium: 187  
*samantatastāpaḥ* - hot all over: 157  
*sāmānya* - universality: 226  
*samavāya* - inherence: 226  
*śambūka* - cone snails: 140  
same collyrium - *samāñjana*: 187  
*samīraṇa* - air: 160  
*śaṃkhopāla* - the conch keeper: 154

- saṃkṣipta* - compressed: 41  
 - compressed: 40  
*samplava* - clusters: 14  
*saṃrambha* - inflamed: 43  
*saṃśamana* - pacification: 13  
*saṃśaya* - doubt: 239, 243  
*saṃśodhana* - purification: 13  
*samuccaya* - aggregation: 239, 243  
*samudāya* - accumulation: 39  
*samuddēśa* - mention: 239, 241  
*samudraphena* - cuttlefish bone: 184  
*sāmudrikā* - oceanic: 23  
*saṃvatsara* - year: 14  
*sañcaya* - accumulation: 14  
*sandal* - *sugandhi*: 185  
*śaṇḍhī* - impotent: 201  
*sandhi* - joints: 15  
*sañjīvana* - resuscitator: 172  
*śaṅkumukhī* - dart-mouth: 24  
*sannipāta* - congested humours: 15  
 - humoral colligation: 66  
*sap* - *kṣīra*: 14  
*sapāṇa* - off his hand: 185  
*sāra* - essence: 14  
*śārava* - 'lids': 141  
*śārikā* - 'darts': 141  
*śārīravat* - physical: 15  
*sarīsrpa* - creepy-crawlies: 11, 14  
*sāriva* - indian sarsaparilla: 183  
*śārivā* - indian sarsaparilla: 192  
*sarpis* - ghee: 182  
*sarpiṣ* - ghee: 121  
*sarpita* - ophidian: 152 - serpented: 151  
*sarṣapaka* - 'pepper snakes': 140  
*sarvakṛṣṇa* - the all black: 154  
*sarvāṅgasantāpahi* - hot over the whole body: 158  
*sarvātmikā* - *sarvātmikā*: 201  
*sarvātmikā* - *sarvātmikā*: 201  
*śastrakṣata* - cutting with a blade: 182  
*śastrapada* - marks with a knife: 26  
*śātakumbhī* - gold: 191  
*sātmya* - suitability: 169  
*sauna* - *kuṭī*: 86  
*sauvīraka* - stibnite: 183  
*sāvarikā* - *sāvarikā*: 24  
*sāvarikā* - *sāvarikā*: 24  
*scarification* - *lekhana*: 13  
*sciatica* - *gr̥dhrasī*: 59, 61  
*scramberry* - *tālīśapatra*: 183  
*season* - *ṛtu*: 14, 70  
*seasonal blood* - *ārtava*: 66  
*seat of fire in the gut* - *grahaṇī*: 159  
 - *grahaṇī*: 159  
*secondary ailments* - *upadrava*: 169  
*sections* - *adhyāya*: 16  
*seedless* - *abīja*: 66  
*seeing smoke* - *dhūmadarśin*: 181  
*segmented* - *chinna*: 23  
*seka* - irrigation: 182  
*semen* - *bīja*: 200  
*semen* - *retas*: 65  
*separate* - *muktavā*: 189  
*sepsis* - *pāka*: 120  
*sere* - *rūkṣa*: 68  
*serpented* - *sarpita*: 151  
*sesame oil* - *taila*: 170 - *tailam*: 222  
*sharp* - *tīkṣṇa*: 167  
*shine* - *prabha*: 189  
*shooting pain* - *śūla*: 191  
*shoots* - *pallava*: 190 - *udbhid*: 14  
*shower* - *parīṣeka*: 118  
*shrubs* - *vīrudh*: 13  
*siddham* - cooked: 222  
*siddhārthaka* - white mustard: 192  
*side-effects* - *upadrava*: 120  
*signs* - *cihna*: 201  
*śigru* - horseradish tree: 188  
*simply* - *kevala*: 168  
*sinews* - *snāyu*: 15  
*sirā* - duct: 166 - ducts: 15, 86  
*sirāvedha* - blood-letting: 182  
*siris* - *śirīṣa*: 193  
*śirīṣa* - *siris*: 193  
*śīrṇa* - putrid: 170  
*śīrobasti* - application of oil to the head: 88  
*śīśuka* - the kid: 155  
*śīta* - elixir-salve: 183  
*sitā* - white sugar: 192

- six-units - *ṣaḍdharmaṇa*: 85  
 skin - *tvac*: 149 - *tvak*: 14f  
*śleṣmalā* - phlegmatic: 201  
*śleṣman* - mucous: 159 - saliva: 116  
 slice of flesh - *vadhra*: 44f  
 slow poisoning - *dūṣṭviṣa*: 167  
 slow-acting poison antidote - *dūṣṭviṣāri*:  
 117  
 small insects - *kunta*: 14  
 smell of decomposition - *kuṇapa*: 66  
*snāyu* - sinews: 15  
*sneha* - oil: 14 - oleation: 86  
 sniffing - *ucchiṅgana*: 190  
*snigdharāji* - oil stripe: 156 - oily stripe:  
 156  
 snuff - *nasya*: 114, 119  
 sole-heart - *talahr̥daya*: 243  
 solid - *styāna*: 190  
 soma creeper - *somalatā*: 116  
*somalatā* - soma creeper: 116  
*śonita-pitta*, *rakta-pitta* - blood-bile: 185  
*śonita* - blood: 185  
*śoṇita* - blood: 65f  
*śonitāgamana* - haemorrhaging: 158  
*śonitena* - with blood: 191  
 soot from the chimney - *āgārādhūma*: 34,  
 87  
 soot - *gr̥hadhūma*: 145  
 sour - *śukta*: 68  
 spasm of the jaw-bones - *ardita*: 59  
 spasmodic contraction - *apatānaka*: 58  
 spasmodic contradiction - *āpatantraka*:  
 59  
 sperm - *śukra*: 65  
*sphoṭa* - spots: 119f  
 spiders - *lūtā*: 11  
 spike - *śalya*: 230f, 241  
 spikenard - *nalada*: 187  
 spiral - *āvarta*: 189  
 spirits - *madira*: 187 - *madirā*: 184  
 spleen - *plīhan*: 184  
 splinter - *śalya*: 241  
 spots - *kaṇṭaka*: 119 - *sphoṭa*: 119f  
 sprung - *plutā*: 201  
*sraj* - garlands: 114  
*sraṁsanī* - causing a fall: 201  
*srāva* - discharge: 118, 120  
*śreyas* - welfare: 10  
*srotas* - ducts: 157 - kohl: 186 - tubes: 159  
*srotoja* - kohl: 183, 193  
*stabdha* - numb: 87  
 stale - *paryuṣita*: 68  
 stalk - *vṛnta*: 182  
 stammers - *gadgad*: 60  
 stated - *ukta*: 229  
 statement of reason - *apadeśa*: 239, 241  
 stationary - *sthāvara*: 13, 15  
 steeped - *pragāḍha*: 185  
 sternutatory - *avapīḍa*: 168  
*sthāvara* - stationary: 13, 15  
*sthirā* - rigid: 191  
 stibnite - *añjana*: 187 - *sauvīraka*: 183  
 stick-ear - *yaṣṭikarṇa*: 40  
 stiffness of the neck - *manyāstambha*: 160  
 sting-gush - *alagardā*: 23  
 stings - *śūla*: 141  
 stinking pus - *pūtipūya*: 65  
 stirred with goat's milk - *ajākṣīrārdita*:  
 192  
 strength - *bala*: 13  
 strip of cloth - *paṭṭa*: 87  
 strong mallow - *atibalā*: 185  
 stupor - *mūrcchā*: 116  
*styāna* - solid: 190  
 substance - *dravya*: 47, 226  
 substrate - *āśrayin*: 13  
*sūcī* - needle: 190  
*sūcīvākrā* - with a needle-like opening:  
 201  
 suckable - *lehya*: 244  
 suffering - *duḥkha*: 13  
*sugandhi* - sandal: 185  
 suitability - *sātmya*: 169  
*śūka* - bristles: 140  
*śukapatra* - the white leaf: 156  
*sūkarākṣitā* - pigs' eye: 191  
*sukha* - comfort: 15  
*śukra* - sperm: 65  
*śukta* - sour: 68  
*śūla* - shooting pain: 191 - stings: 141

sun - *hari*: 190  
 supernatant layer - *agra*: 187  
 suppressing - *vegāghāta*: 68  
 supti - drowsiness: 87  
 surasa - extracted juice: 70  
 sūtra - aphorism: 240  
 svabhāva - inherent factors: 15  
 svābhāvika - inherent: 13  
 svāpa - numbness: 120  
 svāra - accents: 166  
 svarasa - expressed juice: 182 - extracted  
     juice: 119 - juice extract: 14  
 svasaṃjñā - field-specific term: 239, 243  
 svedaja - born of sweat: 14  
 śvetadara - the white rip: 154  
 svetahanu - the white jaw: 155  
 śvetakapota - the white pigeon: 154  
 śvetamaṇḍala - the white ring: 155  
 swollen - *ādhmāta*: 158  
 śyāma - dark brown: 72  
 syanda - watery eye: 188  
 symptom - *liṅga*: 119  
 synovitis of knee join - *kroṣṭukaśīrṣa*: 60f  
  
 tabors - *paṭaha*: 172  
 taila - sesame oil: 170  
 tailam - sesame oil: 222  
 tailasugandhi - the fragrant one in oil: 185  
 take away - *āhārya*: 40  
 taken hot - *puṭāhvaya*: 186  
 takṣaka - the snake prince takṣaka: 172  
 talahṛdaya - sole-heart: 243  
 tālīśapatra - scrambleberry: 183  
 tāmra - copper: 191  
 tāmracūḍa - cock: 186  
 tantrayukti - logical methods of the  
     system: 239  
 tantuka - the stretch: 155  
 tapas - religious power: 165  
 tārksya - garuḍa: 172  
 tarpaṇa - eyewash: 120, 182, 186f  
     - irrigation: 200  
 tatra - in those cases: 184 - the tatra: 155  
 tawny - *kapilā*: 24  
 tejas - brilliance: 72 - heat: 72  
 temperament - *prakṛti*: 13

the all black - *sarvakṛṣṇa*: 154  
 the bamboo leaf - *veṇupatraka*: 155  
 the big black - *mahākṛṣṇa*: 154  
 the big cow snout - *vṛddhagonasa*: 155  
 the big head - *mahāśīrṣa*: 154  
 the big jackfruit - *mahāpanasaka*: 155  
 the big pigeon - *mahākapota*: 154  
 the black belly - *kṛṣṇodara*: 154  
 the black snake - *kṛṣṇasarpa*: 154  
 the blood of birds and animals - *rasa*: 183  
 the break hood - *khaṇḍaphaṇa*: 154  
 the brown hut mouth - *babhrūkuṭīmukha*:  
     154  
 the brown - *babhru*: 155  
 the chariot of light - *jyotīratha*: 156  
 the conch keeper - *śaṃkhapāla*: 154  
 the curd mouth - *dadhimukha*: 154  
 the deer foot - *eṇīpada*: 155  
 the drop stripe - *bindurāji*: 155  
 the finger stripe - *aṅgulirāji*: 155  
 the flame - *agnika*: 155  
 the flower all - *puṣpasakalī*: 156  
 the flower sprinkle beauty  
     - *puṣpābhikīrṇnābha*: 154  
 the fragrant one in oil - *tailasugandhi*: 185  
 the gavedhuka - *gavedhuka*: 154  
 the gift of god - *devadinna*: 155  
 the goat swallower - *ajagara*: 156  
 the grass drier - *tṛṇaśoṣaka*: 155  
 the grass flower - *apuṣpa*: 154  
     - *darbhapuṣpa*: 155  
 the great lotus - *mahāpadma*: 154  
 the great snake - *mahāsarpa*: 154  
 the hand decoration - *hastābharaṇaka*: 155  
 the hungry sting - *alagarda*: 154  
 the ilikinī - *ilikinī*: 156  
 the intoxicator - *madanaka*: 155  
 the jackfruit - *panasaka*: 155  
 the khaluṣa - *khaluṣa*: 155  
 the kid - *śīśuka*: 155  
 the kūkuṭa - *kūkuṭa*: 154  
 the little tree - *vṛkṣaka*: 156  
 the lotus mouth - *puṇḍarikamukha*: 154  
 the lotus - *padma*: 154 - *puṇḍarika*: 155  
 the mark - *citraka*: 155

- the milk flower - *kṣīrikāpuṣpa*: 156  
 the mirror ring - *ādarśamaṇḍala*: 155  
 the morning glory - *pālindaka*: 155  
 the mountain snake - *girisarpa*: 154  
 the mud - *kardama*: 155  
 the ochre - *kaṣāya*: 155  
 the pale as a flower - *puṣpapāṇḍu*: 155  
 the pigeon - *pārāvata*: 155  
 the pilindaka - *pilindaka*: 155  
 the rain cloud - *valāhako*: 154, 156  
 the red eye - *lohitākṣa*: 154f  
 the red ring - *raktamaṇḍala*: 155  
 the ringed - *cakra*: 155  
 the science of life - *āyurveda*: 10  
 the six part - *ṣaḍaṅga*: 155  
 the snake around - *parisarpa*: 154  
 the snake prince takṣaka - *takṣaka*: 172  
 the speckled - *pṛṣata*: 155  
 the stimulator - *dīpyaka*: 156  
 the straight snake - *ṛjusarpa*: 154  
 the stretch - *tantuka*: 155  
 the stripe speckle - *rājicitra*: 155  
 the tatra - *tatra*: 155  
 the three fruits - *triphalā*: 187  
 the three spices - *vyoṣa*: 183  
 the time for therapies - *kriyākāla*: 15  
 the two finger stripe - *dvyāṅgulirāji*: 155  
 the two-day - *dvyāhika*: 156  
 the variegated - *vicitra*: 154  
 the white jaw - *svetahanu*: 155  
 the white leaf - *śukapatra*: 156  
 the white pigeon - *śvetakapota*: 154  
 the white ring - *śvetamaṇḍala*: 155  
 the white rip - *śvetadara*: 154  
 the worm eater - *kikkisāda*: 155  
 the year-snake - *varṣāhika*: 156  
 thei snake flag - *ahipatāka*: 156  
 therapies - *karman*: 15  
 three fruits - *triphalā*: 182, 184  
 three-quarters of an hour - *muḥūrta*: 14  
*tikṣṇa* - sharp: 167  
*timira* - blindness: 188 - partial  
     blindness: 185  
 tooth socket - *dantaveṣṭa*: 117  
 topic - *adhikaraṇa*: 239f  
 torn - *darita*: 151f  
*toṭaka* - 'angry beetles': 140  
 toxic reaction - *vega*: 150, 160f, 167, 171  
     - *viṣavega*: 158  
*traivṛta* - prepared with turpeth: 182  
 treatment - *bheṣaja*: 201 - *kriyā*: 15, 67, 187  
 trench sweating - *karṣū*: 86  
 triad - *mīthuna*: 243  
 trice - *kāṣṭhā*: 14  
*trika* - between the shoulder-blades: 88  
*triphalā* - the three fruits: 187 - three  
     fruits: 182, 184  
*trivṛt* - turpeth: 185  
*trṇaśoṣaka* - the grass drier: 155  
 trunk of the body - *koṣṭha*: 159  
 tube - *nādī*: 86  
 tubes - *srotas*: 159  
*tūnī* - @: 61  
 turmeric - *haridrā*: 187  
 turmeric - *rajana*: 183  
 turpeth - *trivṛt*: 185  
*tuttha* - blue vitriol: 187  
*tvac* - skin: 149  
*tvak* - skin: 14f  
 tympanites - *ādhmāna*: 61  
  
*ucchiṅgana* - sniffing: 190  
*uccīṅga* - crabs: 141  
*udāvartā* - *udāvartā*: 201  
*udāvartā* - *udāvartā*: 201  
*udbhid* - shoots: 14  
 ugly nails - *kunakha*: 70  
*ūhya* - deducible: 239, 244  
*ukta* - stated: 229  
 universality - *sāmānya*: 226  
*unmardana* - rubbing: 86  
 unsteadiness of the humours  
     - *doṣapariplava*: 191  
 untreatable - *asādhya*: 189  
*upadeha* - rheum: 120  
*upadeśa* - prescription: 239, 241  
*upādhyāya* - priest: 71  
*upadrava* - secondary ailments: 169  
     - side-effects: 120  
*upahāra* - oblations: 165  
*upahita* - combined: 185



- upanāha* - poultice: 86  
*upaśama* - pacification: 14  
*upasarga* - affliction: 120  
*upasarṣṭa* - afflicted: 66  
*urethral instillation* - *uttarabasti*: 67, 69  
     - *uttaravasti*: 69  
*ūrṇa* - wool: 87  
*used* - *niṣevita*: 184  
*uśīra* - cuscus grass: 187  
*utpalabhedyaka* - lotus-splittable: 40  
*utpīḍita* - injured: 189  
*utsādana* - dry rub: 118 - dry rubs: 114  
*uttarabasti* - urethral instillation: 67, 69  
*uttaravasti* - urethral instillation: 69  
  
*vadhra* - slice of flesh: 44f  
*vaiḍūrya* - beryl: 193  
*vaiṣamya* - irregularities: 13  
*vakrabhrūnetra* - bent brow and eye: 191  
*vāksamūhārthavistāra* - extensive meaning  
     of the collection of statements: 157  
*vaktra* - ends: 191  
*vākyaśeṣa* - ellipsis: 239 - ellipsis: 242  
*valāhako* - the rain cloud: 154, 156  
*vallīkarṇa* - creeper-ear: 40  
*vallūraka* - dried flesh: 40  
*vāminī* - vomiting: 201  
*vānara* - monkey: 140  
*vanaspati* - fruit trees: 13 - non-flowering  
     tree: 187  
*vandhyā* - infertile: 201  
*vapour* - *bāṣpa*: 115f, 119  
*varaki* - wasps: 141  
*varcaḥkīṭa* - dung beetles: 140  
*varga* - collection: 15  
*variable statement* - *anekānta*: 239, 242  
*various treatments* - *miśrakacikitsa*: 44  
*varṇa* - complexion: 13, 47, 72  
*varṣā* - rainy seasons: 14  
*varṣāhika* - the year-snake: 156  
*vartti* - wick: 39 - wicks: 193  
*vasā* - fat: 186  
*vāta* - wind: 200f  
*vātakaṇṭaka* - @: 61  
*vātālā* - windy: 201  
*vātarakta* - gout: 61  
  
*vātāṣṭhīlā* - @: 61  
*vāvīkṛtā* - or not distorted: 117  
*veda* - knowledge: 9, 225  
*vedanābhīghāta* - pain and injury: 10  
*vega* - force: 88 - toxic reaction: 150, 160f,  
     167, 171  
*vegāghāta* - suppressing: 68  
*vegāntara* - pulse interval: 160  
*velvet leaf* - *pāthā*: 187  
*veṇupatraka* - the bamboo leaf: 155  
*vicakṣaṇa* - expert: 71  
*vicitra* - the variegated: 154  
*vidagdha* - inflamed: 182  
*vidaṅga* - embelia: 187  
*viḍbheda* - loose stool: 142  
*viḍhāna* - itemization: 239, 242  
*viḍruma* - coral: 193  
*vikalpa* - option: 239, 243 - particulars: 15  
*vikṛtākṣa* - misaligned eyes: 73  
*vilekhana* - grooming: 70  
*vilocana* - misshapen eyeball: 191  
*vipakva* - matured: 182  
*viparītadarśana* - metamorphopsia: 158  
*viparyaya* - contraposition: 239, 242  
*vīrudh* - shrubs: 13  
*vīrya* - potency: 171  
*viśāda* - depression: 13  
*viṣapūti* - poison-stink: 170  
*viṣavega* - toxic reaction: 158  
*viśeṣa* - individuality: 226  
*viśvambhara* - 'earth scorpions': 141  
*viśvañci* - paralysis of arms and back: 59,  
     61  
*vital energy* - *ojas*: 13  
*vodhāra* - bearers: 114  
*vomiting* - *vāminī*: 201  
*vṛddhagonasa* - the big cow snout: 155  
*vṛkṣa* - flowering trees: 13  
*vṛkṣaka* - the little tree: 156  
*vṛnta* - stalk: 182  
*vṛṣabha* - bull: 115  
*vyadha* - piercing: 190  
*vyadhi* - disease: 15  
*vyākhyāna* - explication: 239, 243  
*vyākhyāta* - intended: 15

- vyāla* - wild animals: 14  
*vyāna* breath - *vyāna*: 159  
*vyāna* - *vyāna* breath: 159  
*vyāyojima* - multi-joins: 40  
*vyoṣa* - the three spices: 183  
  
wasps - *kaṇabha*: 141 - *varaki*: 141  
wasted - *kṣīṇa*: 42  
water-born - *salilotthita*: 188  
water-dwellers - *jalaaukas*: 22  
water - *jala*: 22  
watery eye - *syanda*: 188  
weeping tears - *aśrupāta*: 70  
welfare - *śreyas*: 10  
white mustard - *siddhārthaka*: 192  
white sris - *kinihī*: 187  
white sugar - *sitā*: 192  
wick - *vartti*: 39  
wicks - *vartti*: 193  
wild animals - *vyāla*: 14  
wind - *māruta*: 66 - *vāta*: 200f  
windy - *vātalā*: 201  
with a needle-like opening - *sūcīvaktrā*:  
201  
with blood - *śonitena*: 191  
with bloodloss - *raktaṣayā*: 201  
with difficulty - *kṛcchra*: 189  
with testicles - *aṇḍīnī*: 201  
  
without venom - *nirviṣa*: 152  
womb - *yonī*: 196  
wood apple - *kapittha*: 182  
wool - *ūrṇa*: 87  
word-meaning - *padārtha*: 227  
word - *pada*: 225f  
worms - *kṛmi*: 14  
  
*yakṛdrasa* - liver extract: 183  
*yakṛt* - liver: 184  
*yamalā* - double: 117  
*yāmya* - in yama's direction: 145  
*yantraṇā* - restrictions: 190  
*yāpya* - alleviated: 184 - can be  
mitigated: 189 - mitigatable: 181  
*yaṣṭīkarṇa* - stick-ear: 40  
*yavāgū* - gruel: 167  
*yavaudana* - cooked barley: 188  
year - *saṃvatsara*: 14  
*yoga* - cohesion: 240 - compounds: 182  
- formulation: 85  
*yonī* - female reproductive organ: 200f  
- female reproductive system: 200  
- womb: 196  
*yonivyāpat* - disorders of the female  
reproductive system: 200  
*yuga* - *yuga*: 14  
*yuga* - *yuga*: 14



## Todo list

Can't be "sedation"	39
add footnote here	57
add refs to Divodāsa as king.	57
find out about uttarabasti	71
to what?	72
29, 30 missing?	75
Problematic passage in the edition.	75
Perhaps <i>kalka</i> here could also mean the <i>Terminalia Bellerica</i> (विभीतक).	92
Perhaps <i>kalka</i> here could also mean the <i>Terminalia Bellerica</i> (विभीतक).	92
Euphorbia Antiquorum (Antique spurge)	95
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>Nītiratna</i> . I could not find this text.	99
The provisional edition should be modified accordingly.	101
There, Ḍalhaṇa comments that deliberation on <i>avapīḍa</i> had been done earlier when it was mentioned. Find that description to know more details.	103
Search for the section where the treatment of <i>ākṣepaka</i> is described.	104
Make the first letter of sentence capital.	104
?	110
?	110
?	110
(?)	110
Is Dh. the teacher of Su. elsewhere?	117
Cf. Arthaśāstra 1.21.8.	118
I'm still unhappy about this verse.	121
Mention this in the introduction as an example of the scribe knowing the vulgate.	121

■ fn about sadyas+ . . . . .	121
■ Bear's bile instead of deer's bile. . . . .	122
■ punarṇavā in the N & K MSS . . . . .	123
■ śrita for śṛta . . . . .	123
■ explain more . . . . .	124
■ Medical difference from Sharma. . . . .	124

