

A Translation of the Nepalese Text of the
Suśrutasamhitā

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

Draft of 20th February 2024
© The Authors

Contents

Sūtrasthāna	9
Sūtrasthāna 1: The Origin of Medical Knowledge	11
Literature	11
Translation	11
Sūtrasthāna 2: The Initiation of a Student	19
Literature	19
Translation	19
Sūtrasthāna 3: The Table of Contents	21
Literature	21
Translation	21
Sūtrasthāna 13: On Leeches	23
Literature	23
Translation	23
Sūtrasthāna 14: On Blood	31
Previous scholarship	31
Translation	31
Sūtrasthāna 16: Repairing Pierced Ears	39
Previous literature	39
Translation	39
Sūtrasthāna 28: Unfavourable Prognosis in Patients with Sores	49
Literature	49
Translation	49

Nidānasthāna	51
Nidānasthāna 1: The Diagnosis of Diseases Caused by Wind	53
Literature	53
Translation	53
 Śārīrasthāna	 61
Śārīrasthāna 2: On Semen and Menstrual Fluid	63
Literature	63
Translation	63
Śārīrasthāna 3: On Conception and the Development of the Embryo	75
Literature	75
Translation	75
 Cikitsāsthāna	 83
Cikitsāsthāna 4: On the Treatment of Wind Diseases	85
Literature	85
Translation	85
Cikitsāsthāna 5: On the Treatment of Serious Wind Diseases	91
Literature	91
Translation	91
 Cikitsāsthāna 15: On Difficult Delivery	 103
Literature	103
Translation	103
 Kalpasthāna	 107
Kalpasthāna 1: Protecting the King from Poison	109
Introduction	109
Literature	110
Manuscript notes	110

Translation	111
[Threats to the king]	111
Kalpasthāna 2: Poisonous Plants	121
Introduction	121
Literature	122
Translation	122
The effects of poisons	126
Slow-acting poison	129
The invincible ghee	134
Curing the 'slow-acting' poison	134
Kalpasthāna 3: Poisonous Insects and Animals	135
Literature	135
Translation	135
The origin of poison	139
Patients beyond help	141
Kalpasthāna 4: Snakes and Invenomation	143
Introduction	143
Literature	143
The Seven Stages of Toxic Shock	145
Translation	145
[The Taxonomy of Snakes]	146
[Behaviours]	147
[Enumeration of Snakes]	150
[Breeding and Gender]	152
[Symptoms of snakebite]	153
[Summary Verses]	155
Kalpasthāna 5: Therapy for those Bitten by Snakes	157
Introduction	157
Literature	157
Translation	158
The application of mantras	159
Blood letting	160
Internal medications	160
Therapies at each pulse of toxic reaction	161

Kalpasthāna 6: Beating Drums	165
Introduction	165
 Uttaratantra	 167
Uttaratantra 17: Preventing Diseases of the Pupil	169
Literature	169
Translation	169
[Complications]	179
[Characteristics of the probe]	179
[Complications]	180
 Uttaratantra 38: Diseases of the Female Reproductive System	 183
Introduction	183
Literature	183
Placement of the Chapter	183
Parallels	185
Philological notes	186
Metrical alterations	186
The original opening verses	186
Translation	188
 Uttaratantra 65: Rules of Interpretation	 191
Literature	191
Early Sources	191
The <i>Arthaśāstra</i>	192
The <i>Yuktidīpikā</i>	192
Tamil literature	192
The <i>Viṣṇudharmottarapurāṇa</i>	193
The <i>Saddanīti</i>	194
Āyurvedic literature	199
Tantrayukti-inventories	205
Earlier Listing	205
Later Listing	206
Terminology	206
1. <i>adhikaraṇa</i>	207
2. <i>yoga</i>	208

Characteristics of the Manuscript Transmission	211
Translation	212
Editions and Abbreviations	219
Index of Manuscripts	227
Bibliography	229
Materia Medica Reference Works	259
Materia Medica	263
Glossary	279

Sūtrasthāna

Sūtrasthāna 1: The Origin of Medical Knowledge

Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.¹

Translation

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

¹ [HIML](#): IA, 203–204.

² 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.

³ 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.⁴
- 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,⁵ Gandharvas, Yakṣas, demons, deceased ancestors, Piśācas, Vināyakas, ⁶ 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.⁷
- 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 Courtright, 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].⁸

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.*⁹

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.¹⁰ 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".¹¹

Where they are concerned, the human being is the main thing; others

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).

- are his 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.¹²
- 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 (*bṛṃhana*) , 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-*) .¹³ There are two types: stationary (*sthāvara*) and moving (*jaṅgama*) .
- 31 Of these, there are four types of stationary ones: fruit trees (*vanaspati*) , flowering trees (*vṛkṣa*) , herbs (*oṣadhi*) and shrubs (*vīrudh*) .¹⁴ Amongst these, the “fruit trees” have fruit but no flowers.¹⁵ The “flowering trees” have flowers and fruit. The “herbs” die when the fruit is ripe. “Shrubs”

¹² Note that four humoral substances are assumed here.

¹³ Pāṇini 6.3.132 provides that the final vowel of the noun *oṣadhi* may be lengthened ($\rightarrow oṣadhī$) 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.

¹⁴ 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.

¹⁵ 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 (*jarāyuja*) , those born from eggs (*aṇḍaja*) , those born of sweat (*sveda*) , and shoots (*udbhid*) . Amongst these, those born in a caul include animals (*paśu*) , humans, and wild animals (*vyāla*) . Birds, creepy-crawlies (*sarīrpa*) and snakes are “born of eggs.” Worms (*kṛmi*) , small insects (*kunta*) and ants (*pipīlika*) and others are born of sweat.¹⁶ Shoots include red velvet mites (*indragopa*) and frogs (*maṇḍūka*) .¹⁷
- 33 In this context, among the stationary remedies, skin (*tvak*) , leaves (*patra*) , flowers (*puṣpa*) , fruits (*phala*) , roots (*mūla*) , bulbs (*kanda*) , sap (*kṣīra*) , resin (*nīryāsa*) , essence (*sāra*) , oil (*sneha*) , and juice extract (*svarasa*) ¹⁸ 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.¹⁹
- 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*) .²⁰
- 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:]²¹

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

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 the author

- 38 *There are two kinds of invasive diseases. Some certainly²³ 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:]²⁴

of the lost commentary entitled *Pañjikā*, and to Jejjāta (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.*²⁵
- 42 There are one hundred and twenty chapters in five sections (*adhyāya*).²⁶
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.²⁷
- [There is a verse about this:]²⁸
- 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 ²⁹

Sūtrasthāna 13: On Leeches

Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of studies on Indian leeches and their application.³⁰

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*.³¹

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

Translation

- 1 And now we shall explain the chapter about leeches.
- 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 that context, 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.³³

³⁰ *HIML*: IA, 209; IB, 324, n. 131.

³¹ Siddiqi 1959: 96–109; Azeez Pasha 1971; Storey 1971: 231–232; *HIML*: IB, 324, n. 128; Speziale 2019: 8–9.

³² Brooks 2020a,b; 2021a,b.

³³ This sentence is hard to construe grammatically, although its meaning seems clear. In place of विशेषस्तु, Cakrapāṇidatta and Ḍalhaṇa both read विशेषतस्, which helps interpretation (*Su* 1939: 95, *Su* 1938: 55). It is noteworthy that the critical syllable स्तु is smudged or corrected in both MS Kathmandu NAK 1-1079 and in 1-1146, a much later Devanāgarī manuscript.

- 5x And there are the following about this:
- 1.13.5 The horn of cows is praised for being unctuous, smooth, and very sweet. Therefore, when wind is troubled, that is good for bloodletting.³⁴
- 1.13.5a Having a length of seven fingers and a large body the shape of a half moon, should first be placed into a cut. A strong person should suck with the mouth.³⁵
- 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.³⁶
- 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.³⁷
- 9 Leeches are called “*jala-ayu-ka*” because water (*jala*) is their life (*āyur*).³⁸ “Home” (*okas*) means “dwelling;” their home is water, so they are called “water-dwellers (*jalaaukas*).”
- 10 There are twelve of them: six are venomous and just the same number are non-venomous.

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. Comparison with contemporary horn-bloodletting practice by traditional Sudanese healers suggests that a covering over the top hole in the horn is desirable when sucking, to prevent the patient’s blood entering the mouth (PBS 2020). 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 This is a folk etymology.

11 Here is an explanation of the venomous ones, together with the therapy:

- Black (*kṛṣṇā*)
- Mottled (*karburā*)
- Sting-gush (*alagarddā*) ³⁹
- Rainbow (*indrāyudhā*)
- Oceanic (*sāmudrikā*)
- Cow-praising (*govandanā*) ⁴⁰

Amongst 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 form 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.⁴¹ 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.⁴²

- Tawny (*kapilā*)
- Ruddy (*piṅgalā*)

³⁹ Treating गर्द 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.”

⁴⁰ The manuscripts all read गोवन्दना against the vulgate's गोचन्दना.

⁴¹ The “Great Antidote” is described in the Kalpasthāna, at 5.5.61–63ab (Su 1938: 578). Ḍalhaṇa and the vulgate included errhines in the list of therapies, and Ḍalhaṇa added that “etc.” indicated showers and baths too.

⁴² The translations of the names of these leeches are slightly whimsical, but give a sense of the original; *sāvarikā* remains etymologically puzzling.

- Dart-mouth (*śaṅkumukhī*)
- Mouse (*mūṣikā*)
- Lotus-mouth (*punḍarikamukhī*)
- Sāvarikā (*sāvarikā*)

Amongst 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.⁴³
- 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.⁴⁴ 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 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

- particular have large bodies and are strong, they drink rapidly, consume a lot, and are without venom.
- 14 In that context, the venomous leeches are those originating in decomposing venomous insects, frogs, urine, feces and in polluted water.⁴⁵ The , 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 are abundant with water. Traditionally, they do not behave in a confused manner or lie in the mud.*⁴⁶

- 16 They can be caught with a fresh hide or after being caught in other ways.⁴⁷
- 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

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 Nizām’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 Cakra-pāṇidatta (Su 1939: 97), that this passage was not included by some authorities on the grounds that the habitats of poisonous and non-poisonous creatures are defined by other criteria.

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 the leeches would not “behave in a confused manner” (सङ्कीर्णचारिन्), saying that they do not “eat a diet that is unwholesome because of poison etc.” (विषादिविरुद्धाहारभुजः). The use of विरुद्ध is odd here, but cf. Ḍalhaṇa’s suggestion at 4.23.4 (Su 1938: 485) that विरुद्ध refers to 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.

The Nepalese witnesses all read गृहीत्वा “having (been) caught” for the vulgate’s गृहीयात् “one may grasp (by other means).” This is hard to construe clearly.

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.

three days water and food. Every week, one should transfer them into a different pot.

18 And on this:

One should not nurture those that are thick in the middle, that are injured,⁴⁸ or thin, 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, get the patient who has an ailment that is treatable by leech-bloodletting to sit or lie down. Then, dry any diseased opening with powders of earth and cow-dung. Then make them free from impurities, with their bodies smeared with **Indian mustard** and **turmeric** and moving about in the middle of a cup of water. After all this, the physician should make them attach to the site of the ailment. Now, for those that are not attaching, he should provide a drop of milk or a drop of blood. Alternatively, one should make some marks with a knife (*śas-trapada*) .⁴⁹ And if it still will not attach, make other ones attach.
- 20 He can know that it is attached when it fixes on, hunching its neck and making a mouth like a horse's hoof. Then, he should cover it with a wet cloth and keep it there.
- 21 Now, if the physician knows, from the arising of pricking and itching at the bite, that clean blood is being taken, he 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**.
- 22 Then he 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 his left hand and very slowly rubbing it with the thumb and finger of his right hand in the proper direction, as far as the mouth, until it is properly purged.⁵⁰ 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.⁵¹

48 Pace Dalhaṇa on 1.13.18 (Su 1938: 57) who glossed अमनोज्ञदर्शन as “nasty looking.”

49 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 435.

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

51 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

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

Thus, one should keep such a one as before.⁵²

- 23 After observing the proper or improper flow of the blood, one should rub the opening made by the leech with honey.⁵³ 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.*

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.

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

53 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.⁵⁴

Translation

- 1 Now we shall declare the chapter about blood.
- 2
- 3 Food is of four types.⁵⁵ It is endowed with six tastes and is made of the five elements.⁵⁶ It has either two or eight potencies, and is endowed with many qualities. ⁵⁷ 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

54 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.

55 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.

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

57 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,⁵⁸ it satisfies the entire body, enlivens it, prolongs it,⁵⁹ 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 flowing⁶⁰ and due to attributes such as mobility, lubrication, enlivening, satisfaction, and supporting.⁶¹

- 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.⁶² That is due to the embryo being fiery and moist.⁶³
- 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.

- 58 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.
- 59 In the sense of prolonging its lifespan
- 60 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.”
- 61 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).
- 62 Ḍalhaṇa commented that this is to distinguish the menstrual blood from regular blood that is gentle.
- 63 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 preserve⁶⁴ chyle by administering food and drink, being nicely disciplined with food⁶⁵.*
- 13 The verbal root *rasa* means movement.⁶⁶ Because it keeps moving day after day, it is called *rasa* (chyle).⁶⁷
- 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 group⁶⁸ is 18,090.*
- This is the particular transformation period regarding chyle that lasts for a person with mild fire⁶⁹. For a person with developed fire, one should know it to last for the exact same time⁷⁰*
- 16 Resembling the expanse of sound, flame, and water, that entity moves along in a minute manner throughout the entire body⁷¹.

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

65 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.

66 kunj-1907

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

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

69 Perhaps this refers to the digestive fire.

70 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.

71 Ḍalhaṇa comments (*Su* 1938: 63) that the expanse of sound indicates the sideways

- 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 entities⁷², it,⁷³ 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 age⁷⁴. 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 body⁷⁵.
- 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 blood⁷⁶ just as bile. The blood that has the combined characteristics of vitiations of two humours is vitiated by two humours.
- 22 The blood that is of the colour of insect cochineal, not thick, and not discoloured should be understood to be in its natural state.
- 23 I will speak of the types of blood that should be let out in another sec-

movement of chyle, the expanse of flame indicates the upward movement of chyle, and the expanse of water indicates the downward movement of chyle.

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

73 fragrance

74 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.

75 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.

76 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."

tion.

- 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), 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, beautyberry, pattāṅga, 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 dhanvāna (Camelthorn), or a linen cloth⁷⁷, or vādhyāsita, 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 soup⁷⁸. 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 weak⁷⁹ and the wind becomes highly agitated because of that endeavour.*
- 38ab-cd *The physician should serve the patient food that is not very cold, light in digestion, unctuous, increases blood, slightly sour or not sour at all.*
- 39ab-cd *This is the four-fold method of hindering blood: joining, coagulation, haemostasis. and cauterization.*
- 40ab-cd *The astringent substance joins the opening, the cold substance coagulates the blood, the ash stops the blood, and cauterization contracts the blood vessel.*
- 41ab-cd *If the blood does not coagulate, the physician should employ joining.*

77 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.

78 Based on Ḍalhaṇa's comment as found in Su 1938: 66

79 This refers to the digestive fire.

- 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 pure⁸⁰ 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"

⁸⁰ 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 2002.⁸¹ 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.⁸²

⁸¹ [HIML](#): IA, 211–212317.

⁸² The topic of piercing the ear (*kaṇavyadhā*) 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,⁸³ on the lap of a wet-nurse.⁸⁴ Then, he should pull the ear with his left hand and pierce straight through with his right hand at a naturally-occurring cleft.⁸⁵ 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.⁸⁶
- 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.⁸⁷

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.

- 83 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.
- 84 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.
- 85 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.
- 86 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).
- 87 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.⁸⁸
- 5 Having removed the wick (*vartti*) because of the accumulation of humours or an unsatisfactory piercing at that location,⁸⁹ 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.⁹⁰
- 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.⁹¹
- 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.⁹²

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

- 88 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.'
- 89 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).
- 90 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.
- 91 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).
- 92 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 humours⁹³ 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.⁹⁴ 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*) .⁹⁵

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. ⁹⁶
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.

- 93 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.
- 94 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.
- 95 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).
- 96 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.⁹⁷ The five from compressed (*saṃkṣipta*) on are incurable.⁹⁸ 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.⁹⁹

- 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.¹⁰⁰ And in this regard, he should particularly gather¹⁰¹ top layer of fermented liquor, milk, water, fermented rice-water, and powdered earthenware crockery (*kapālacūrṇa*).¹⁰²

97 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*).

98 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.

99 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.

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

101 The reading in the Nepalese manuscripts of विशेषतश्चाग्नोपहरणीयात् has been emended to विशेषतश्चात्रोपहरेत् 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.

102 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.¹⁰³ 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.¹⁰⁴

- 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.¹⁰⁵ 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.¹⁰⁶*
- 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.

¹⁰³ 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.

¹⁰⁴ *Suśrutasaṃhitā* 4.1 (Su 1938: 396–408).

¹⁰⁵ 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.

¹⁰⁶ 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 [monitor lizard](#), scavenging and seed-eating birds, and creatures that live in marshes or water,¹⁰⁷ fat, marrow, milk, and sesame oil, and white mustard oil.¹⁰⁸ 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](#).¹⁰⁹ 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.*¹¹⁰
- 16 *Ears which do not enlarge even when sweated and oiled, should be scarified at the edge of the hole, but not outside it.*¹¹¹
- 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.*¹¹²

¹⁰⁷ For such classifications, see the analyses by Zimmermann (1999) and B. K. Smith (1994).

¹⁰⁸ 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.

¹⁰⁹ 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.

¹¹⁰ 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.

¹¹¹ 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.

¹¹² 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 about

- 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.¹¹³
- 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*) ,¹¹⁴ with the same measurements, off the cheek, the end of the nose is then scarified.¹¹⁵ 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.¹¹⁶ Having caused it to be raised,¹¹⁷ the powder of *sappanwood*,¹¹⁸ *liquorice* and *Indian barberry* should be sprinkled on it.¹¹⁹
- 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

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.

- 113 The order of verses 17 and 18 is reversed in Ḍalhaṇa's version (Su 1938: 80).
- 114 The version of 1.16.28b known to Ḍalhaṇa (Su 1938: 81) reads "bound, connected (*bad-dham*) " instead of "slice of flesh (*vadhra*) ." This is a critical variant from the surgical point of view. If the slice remains connected, it will have a continuing blood supply. This is one of the effective techniques that so astonished surgeons witnessing a similar operation in Pune in the eighteenth century (see Wujastyk 2003b: 67–70).
- 115 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.
- 116 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.
- 117 The Sanskrit term उन्नामयित्वा in 1.16.21 is non-Pāṇinian.
- 118 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.
- 119 Ḍalhaṇa glossed अञ्जन as रसाञ्जन, *elixir salve* (Su 1938: 81).

- instructions specific to him.*¹²⁰
- 23 *And once healed and really come together, what is left of that slice of flesh (vadhra) should then be trimmed.*¹²¹ *If it is reduced, however, one should make an effort to stretch it, and one should make its overgrown flesh smooth.*¹²²

¹²⁰ The expression स्वयथोपदेश is ungrammatical but supported in all available witnesses.

¹²¹ The vulgate transmission has lost the word वध्र and replaced it with अर्ध "half," which makes little sense in this surgical context.

¹²² 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 2002.¹²³

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.¹²⁴

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.¹²⁵

¹²³ [HIML](#): IA, 219.

¹²⁴ Goswami 2011.

¹²⁵ 1.1.28 ([Su 1938](#): 7), tr. P. V. Sharma 1999–2001: 1, 21.

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 2002.¹²⁶

Translation

- 1 And now we shall explain the chapter about diagnosis of diseases caused by wind.¹²⁷
- 2
- 3 Suśruta asks after holding the feet of Dhanvantari who is the foremost of the upholders of righteousness and who emerged with nectar.
- 4 O King!¹²⁸ Divodāsa¹²⁹ the best of the orators! Let us know about the naturalized and disordered form of wind, its places in the body and types of the diseases caused by its contamination.
- 5–9ab On hearing his words, the venerable sage replied that being independent, constant and omnipresent this wind is revealed as self-born and supreme being. It is worshiped by all words and situated in the form of life-force in all beings. It is the cause of origin, continued existence and

¹²⁶ HIML: IA, 234. (Ruben 1954b) studied the wind doctrines in the *Carakasaṃhitā*.

¹²⁷ Present chapter describes the diseases caused by vitiated wind and its mixing with other humours. In the medical term it is known as rheumatism.

¹²⁸ H and N both mss read भूपते instead of कौपनै: in the vulgate.

¹²⁹ <https://doi.org/10.20935/AL2992>

destruction of beings. It is unmanifest though manifests in/through action, cold, dry, light in weight, variable, moving horizontally with two attributes i.e., sound and tangibility¹³⁰. Having all chief qualities which are sattva, rajas and tamas but predominated by rajas. It has inconceivable power. It is inducer of humours¹³¹ and distinguished in the group of diseases¹³². *It moves quickly, moves again and again*, stays in stomach and intestine.

- 9cd Now, listen to the description of wind which moves inside the body.
- 10 Unvitiated wind makes possible objects of senses connect with intellect. It maintains a state of equilibrium between the humours, semen/7 fluids? and Gastric fluid and actions done by body, speech and intellect bring to one's right place.¹³³
- 11 Just as the five types of bile have been described based on their name, place and their actions, similarly, one type of air is of five types based on name, place, action and diseases.
- 12 Five types of wind:
1. Vital wind (*prāṇa*)
 2. *udāna*
 3. *samāna*
 4. *vyāna*
 5. *apāna*

above five types of wind remain in their equilibrium and hold the body¹³⁴.

130 According to Ḍalhaṇa, it has power to divide humours, fluids, feces etc. moving inside the body and it is the cause to the disease in the limbs. It carries humours, chyle, semen/7 fluids? and feces further in the body. The wind which is moving outside is holding the earth and body. (सा चास्य शक्तिः शरीरदोषमूत्रपुरीषादिविभागोऽवयवसंस्थानका(क)रणं दोषधातुमलसंवहनादिश्च, शरीराद्धिस्तु संचरतो धरणीधारणादिः Su 1938:257)

131 Ḍalhaṇa suggests नेता=प्रेरक (Su 1938:257)

132 Ḍalhaṇa suggests राट्=राजते not राजा

133 According to Ḍalhaṇa, सम्पत्तिः=सम्पन्नता at 1.6.3 (Su1938:23). Ḍalhaṇa commented that Gayadāsa reads 'इन्द्रियार्थोपसंप्राप्तिः' but not written here because of being detailed. (गयदासाचार्यस्तु इमं श्लोकं 'इन्द्रियार्थोपसंप्राप्तिः' इत्यादि कृत्वा पठति, स च विस्तरभयान्न लिखितः) But H and N MSS suggest 'इन्द्रियार्थोपसम्पत्तिः'

134 Ḍalhaṇa suggests स्थान=साम्य, यापयन्ति=धारयन्ति (The manuscripts all read प्राणोदानः समानश्च व्यानोपानस्तथैव च . against the vulgate's प्राणोदानौ समानश्च व्यानश्चापान एव च . I think प्राणोदानौ, व्यानापानौ or व्यानश्चापान एव च should be read)

- 13–14ab The wind that flows through the mouth is called the vitality (prāṇa), which holds the body. It propels down food inside the stomach and engages with the gastric fluid¹³⁵. Unvitiated Vital wind mostly causes hiccups, asthma etc. diseases.
- 14cd–15 The wind which flows upwards in the body, the best among all five winds is called udāna. Singing, speech etc. individual things done by the same wind. Unvitiated udāna wind mostly causes diseases above the collar bone e.g., nose, eyes, head and ears¹³⁶.
- 16–17ab The samāna wind flows in stomach and duodenum. It helps gastric fluids in the digestion of food and separates the substances produced from it e.g., chyle, impurities, urine and feces. Unvitiated samāna wind causes diseases like a chronic enlargement of spleen (gulma), weak digestion, and diarrhea.
- 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 diseases occurring in the body.
- 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.
- 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 senses.

¹³⁵ Ḍalhaṇa suggests head, chest, throat and nose as locations of prāṇa. (Sus1938:259)
Gayadāsa suggests अग्नि for प्राण.

¹³⁶ Ḍalhaṇa suggests it also causes diseases like cough etc. (चकारादन्यादपि प्राणोदानौ, व्या-
नापानौ कासादीन् करोति .)

- 25–29 Residing in the skin,¹³⁷ 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.¹³⁸
- Residing in the artery it causes acute pain, contraction and filling up of the artery.¹³⁹ It stuns, vibrates and destroys¹⁴⁰ 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.¹⁴¹
- 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 mentioned 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.

¹³⁷ 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.

¹³⁸ The MS H does not read व्रणांश्च रक्तगो ग्रन्थीन् सशूलान् मांससंश्रितः . against the vulgate. (Su 1938: 261).

¹³⁹ According to Ḍalhaṇa सिराकुञ्चनं is also known as कुटिला सिरा (Su 1938: 262)

¹⁴⁰ 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) ...

¹⁴¹ Ḍalhaṇa and Gayadāsa both suggest that a distorted production विकृतां प्रवृत्तिम् is too fast, too slow, knotty and discolored.

- 38cd–39ab Vyāna wind surrounded by bile causes a burning sensation, tossing of the limbs and fatigue, by phlegm it causes stiffening limbs, uddaṇḍaka? 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 Gout¹⁴².
- 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 ¹⁴³ 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.
- 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*) ¹⁴⁴ . If wind mixed with phlegm stays excessively in the arteries, it stiffens body like a staff and it is called दण्डापतानकः epilepsy with convulsions. Vitiated wind entered in the arteries and bends the body like a bow, it is called धनुःस्तम्भ Tetanus.

142 In the medical term वातरक्त is known as Gout. Cakrapāṇi called it आढ्यरोगः Caraka-saṃhitā sū.14.18 and ci.28.66

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

144 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.

When vitiated wind accumulated in the regions of finger, ankle, abdomen, heart, chest, and throat swiftly attack on the group of vain and ligaments, it gets a person's eyes stuck, chin stuns, side breaks and vomiting phlegm he moves inwards like a bow and this situation is known as emprostotonos (*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 ¹⁴⁵.
- 60–62 When excessively agitated and strong wind flows in the arteries which spread downward, upward, and sideways, it loses the joints and kills the other side of body. The best of physicians calls it paralysis (*pakṣāghāta*) . ¹⁴⁶ 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. ¹⁴⁷.
- 63 A paralysis (*pakṣāghāta*) caused by wind ¹⁴⁸ 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

¹⁴⁵ 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.

¹⁴⁶ In the ca.6.28.55 पक्षाघात is described as monoplegia (*ekāṅgaroga*) . In that case it damages one of the limbs. In the medical terms paralysis (*apakṣāghāta*) is known as hemiplegia.

¹⁴⁷ This verse is not available in vulgate. It deals with the symptoms when bile and phlegm mix with the wind. It is already discussed in su.2.1.38.

¹⁴⁸ Here the term शुद्धवात suggests the meaning of the wind that is devoid of bile and phlegm.

- 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 Dalhaṇa, 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 spasm 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.¹⁴⁹ 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*) .¹⁵⁰
- 76 Vitiated wind and blood in the joint of knee causes synovitis of knee joint (*koṣṭukaśīrṣa*) . 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.

149 Dalhaṇa suggests नेत्रादीनाम् इत्यादि शब्दात् भूगण्डादि उपसङ्ग्रहः

150 Both the MSS N and H read विश्वञ्चि instead of the vulgate reading विश्वाची. There is no such word found in other Āyurveda texts.

- 80 Vitiated wind mixed with bile and blood cause burning sensation in feet. It should be declared as burning sensation in feet (*pādādāha*) .
- 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. ¹⁵¹
- 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*) . ¹⁵²
- 85 Vitiated wind penetrating into the cheekbones, temporal bones, head and neck causes piercing pain in the ears. It is called ear-ache (*karṇasūla*) . ¹⁵³
- 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.
- 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 प्रत्या-ध्मान. It rises in the stomach and causes pain in the heart and sides. ¹⁵⁴
- 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.

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

152 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.

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

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

Śārīrasthāna

Śārīrasthāna 2: On Semen and Menstrual Fluid

Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.¹⁵⁵ 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*) ¹⁵⁶ is incompetent to produce offspring if it is [characterized by] wind, bile, phlegm, blood (*śoṇita*) , ¹⁵⁷ decomposition (*kuṇapa*) , lumps (*granthi*) , ¹⁵⁸ stinking pus (*pūtipūya*) , low volume (*kṣīṇa*) , urine, or feces.

¹⁵⁵ [HIML](#): IA, 244–246.

¹⁵⁶ 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.

¹⁵⁷ Note that the list begins with the four entities, wind, bile, phlegm and blood, perhaps hinting at a four-humour system (see Wujastyk 2000: 485–486).

¹⁵⁸ 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.

JG could you provide a standard citation reference for this information?

- 4 When the disfunction 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 discoloration and suffering are characteristic for phlegm disease. And if caused by blood (*śoṇita*) there will be a coloration due to blood and a sensation of a bile affliction. Moreover, when caused by blood (*rakta*) there is the smell of decomposition (*kuṇapa*).¹⁵⁹ Phlegm with wind causes the appearance of lumps, 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.¹⁶⁰

Cases of foul-smelling sperm, sperm with lumps, and when it reeks of pus are hard to treat.

However, when sperm contains urine or faeces there is no treatment.¹⁶¹

- 5 Moreover, seasonal blood (*ārtava*) too can become afflicted (*upasrṣṭa*), seedless (*abīja*) because of the three humours, and blood as the fourth, taken individually, in pairs or triples or all together.¹⁶²

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

In these cases, that which displays decomposition (*kuṇapa*), lumps and the putrid smell of pus is incurable (*asādhya*). And otherwise it is curable (*sādhya*).

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

- 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).¹⁶³

find out
about ut-
tarabasti

- 6a In that context, when the sperm is of the nature of wind, there is a tisane

159 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.

160 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*).

161 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.

162 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

(*āsthāpana*) consisting of Bengal quince and Indian kudzu. One may use an oily preparation in the instillations, with well-cooked mahua, grey orchid, deodar, and chir pine. One can also make the patient drink clarified butter cooked with pomegranate, citron fruit, rock salt, a caustic (*kṣāra*) , and two kinds of salt.

- 6b When the sperm is of the nature of bile, there is a tisane (*āsthāpana*) consisting of the cooked milky sap of Malay beechwood and liquorice with milk. One should also apply a paste (*kalka*) of a white dammer tree and axlewood in the vagina. One should apply an oily enema (*anuvāsana*) of sesame oil cooked with liquorice; and it should only be applied as an upper enema.¹⁶⁴

One should make him swallow ghee cooked with wild sugar cane, common smilax, heart-leaved moonseed, white teak, false daisy, and the five roots.

- 6c When the sperm is of the nature of phlegm, there is a tisane (*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 an upper enema. He should be given to drink a ghee cooked with hairy bergenia, white teak, emblic, long pepper, bearded premna, and prickly chaff-flower.

3.2.6d And there are verses about this.

3.2.7 *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 lumps appear, it is cooked with stones, or also in ash from a flame-of-the-forest.¹⁶⁵*

the sentence.

163 Dalhaṇa 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.

164 By specifying “upper enema” the author is clarifying that this is not a rectal enema.

165 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 lumps 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 षट्वेतासु विज्ञानता. The

- 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.¹⁶⁶
- 10 When it looks like feces, he should be made to drink ghee together with **leadwort**, **cuscuta grass** and **devil's dung**.
- 10a ...
- 12cd For purifying the menstrual blood one should follow the procedure, the last of which is a urethral instillation (*uttarabasti*).¹⁶⁷
- 13 One should use a paste (*kalka*) as well as cloths and a salutary lavagas (*ācamana*).¹⁶⁸
- 14 In case of a bad smell and the appearance of pus, or the appearance of marrow in the blood.
- 9 In case the sperm appears purulent, a mixture of mangrove canon ball in some food leftovers or anything else should be prepared. When the sperm is depleted, one should perform these instructions straight away as soon as they have been explained.
- 10 One should make the patient drink ghee with citra, koshira and hingu by way of an antidote. A wise person should then perform one by one the six oleation processes on his own body.
- 10A By not engaging in sexual activities with women for a long time and similarly through the use of expedients and instruments
- 10B By intense use of astringent, pungent or bitter substances

Nepalese manuscripts read this line two verses further down.

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

167 The “procedure ending with a urethral instillation” probably refers to verse 6 above (see page 64).

168 The word आचमन, normally “sipping water from the palm” is here translated “lavage” following the context and Dalhaṇa 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.”

- 10C Like an acid or a salty, oily or fermented solution, that
has just stood somewhere for some time,
- 10D deteriorates both by the effect of time going by and by
interaction with yogi's*
- 10E similarly in case of affection of the female system one
should prescribe oleation and other similar treatment.
- 10F Precisely as formulated for external use, one could
prescribe exactly the same for internal administration as
well.
- 10G In case of disease resulting from trouble with Vāyu, then
the patient must drink a beverage consisting of clarified
butter, prepared with split cedar and Kāśmarya fruit.
- 10H One should prescribe either an intravaginal solution of
Payasyā, Kāśmarya fruit, Kṣīravidārī and Udaka sap or lumps
drenched in diluted milk.
- 10I A sip from the palm of the hand of Madhukamunga and
astringent betel
- 10J Furthermore, in case of trouble caused by bile and in the
menstrual cycle.
- 10K The patient should drink milky Kākolī sap and a decoction of
Vidārī to which some candied sugar is added
- 10L and one should insert an intravaginal solution of Madhuka
flowers and Kāśmarya fruit mixed with sugar cane juice or a
paste with santal sap.
- 10M and a pinch of astringent Paan*
- 10N When disease is caused by phlegm, he must drink an
astringent sandalwood and acrid Christmas rose solution.
- 10O ... or a paste of young tree sprouts soaked in a plant juice.
- 10P he must lick or sip bits of Tinduka, wood apple, slime apple
and sandal powder or Kṣandra.
- 10Q Sarjadhava paste should be placed inside the vagina
- 10R a pinch of Ladhra and astringent Tinduka
- 10S In case of clots and lumps in the sperm he should take
Sringavera and Pāṭhā to which is added some sandal powder as
well as white Surasa.
- 10T One should insert into the vagina a salve* with Kustha and
cedar extracts.
- 10U and add just a pinch of something astringent

- 10V in case the sperm is clearly in decomposition, the patient must be prescribed to drink a astringent beverage of Manjista and astringent sandalwood
- 10W or of Kuṭaja fruit, sandalwood and sandal sweetened with sugarcane candy.
- 10X or in case there is obvious pus, this is exactly what the patient should be given
- 10Y and the lady should be prescribed to place inside the vagina a salve of cachou and arjuna
- 10Z and for both a pinch of something astringent is indicated is just right.
- 10A1 in case of*, he should ingest an astringent solution of false black pepper, coral tree and Manjista.
- 10A2 one should introduce into the vagina a paste of Surastastra (?)* and Rocana as well as a salve of Bhadrasriya.
- 10A3 Both must receive just a sip of something astringent.
- 10A4 Here is more.
- 11
- 12 Generally speaking, at the end of the period one should apply an internal cleansing from menstrual discharge*
- 13 and one should definitely prepare both cotton-plant paste and salutary beverages.
- 14 in case the sperm spreads a foul-smelling stench and definitely when there is blood
- 15 the patient should drink decoctions of sandal or sandalpaste.*
- 14AB and in case of lumps and clots in his sperm he should consume a salutary Tryusana with coral swirl fruits.
- 14A and drink a beverage of acrid dry ginger, Hing and holy basil.
- 16
- 23
- 24 That being said, when sperm is not causing disease, even then all of this may serve to purify the female system*
- 25 From the first day onwards* when the period starts, she should shun young celibates, when they are alone, bathing, anointing, decorating and scratching themselves and she should also suppress day-sleep, put collyrium to her eyes,

weeping, be frightened or cut her nails, run hither and tither, laugh or speak or listen to lots of talk or exert herself. Why should her partner arrive late during the day? It is claimed that if she puts a collyrium, a child will be born blind, if she is weeping, he will have abnormal vision, by bathing and anointing he will be depressive, by smearing oil on her limbs, he 'll be born a leper, by holding her nail downwards he will be a child with ugly nails, by being continuously busy he will become a restless and troubled character. When she behaves accordingly, she well be the best of future mothers. She should take rest on a layer of Kuśa grass, take Haviśya-food so pure that it is fit for a sacrifice**, eat varied food from the palm of her hand or from a plate made of leaves and she should keep herself then from her husband from the third day onwards. However, on the fourth day, first she should take a ritual, put on a new untorn dress and some jewels, the make an auspicious happy recitation and then confidently hug her husband. What is the purpose of all this?

- 26 Once she has taken a ritual bath after her period, a woman should put eyes on her husband before anyone else.
- 27 Then the priest conducts the rites for procuring a son* and at the end of i, the husband should be seen to closely observe the following.
- 28 In order to beget a male child he should eat both clarified butter and milk as well as śāli-rice* boiled in water. After observing a month of sexual abstinence, the wife should lubricate herself in oil from the very best Māṣa pulse and he should approach her at night. After gaining her complete trust by gentle words he should then make his move on the fourth, sixth, eighth, tenth and twelfth day (of the cycle)** successively.
- 31 Each month again she should be approached sexually.*
- 32 And when conception has occurred in this way during one of these nights, it is claimed that she should press three or four drop of juice from Lakṣmaṇā, Vaṭaśuṅgā, Sahadevā, Viśvadevānā or any other drug and then administer them in the right nostril if she desires a son and in the left if

- she wants a girl, and not spit nor sneeze them out.
- 32a Here are some more verses.
- 11cd On top of that those around her want to see her smelling sweet as honey, sparkling like a crystal, agile and active, smooth and sweetly perfumed,
- 12ab bright with splendour equally due to the smell of honey as to the smoothness of oil.
- 17 It is a token of good health when the menstrual blood is red like a hare's blood or like the shine of red lac and when its colour stains can be removed.
- 18 Metrorrhagia or abnormal uterine bleeding is diagnosed when there is either excessive bleeding, untimely or irregular bleeding or when symptoms are the opposite of what occurs in a normal menstrual cycle.
- 19 Excessive uterine bleeding is always accompanied by aching limbs and with pain. In case blood loss is extremely abundant, symptoms may be weakness, (bhramamūrcchā), fatigue,...
- 20 ... fever, lamenting pain, anaemia*, tiredness and others signs of disturbance of Vāta. A minor concomitant disease may easily set in motion (taruṇyā).
- 21cd Because these afflictions have a recurrent character, the woman becomes amenorrhoeic.
- 22 In such a case a diet is indicated including meat, Kulattha-pulses, sour Tila-seeds, Māṣa-beans and whine and for drinks (cow)urine, whey and sour curd.
- 23 In case of thin or scanty menses with features that cannot be treated with drugs, other measures indicated in case of uterine metrorrhagia must be taken.
- 29 eṣūttarottaraṃ vidyādāyurārogyameva ca ||
prajāsaubhāgyamaiśvaryaṃ balaṃ ca divaseṣu vai ||
- 30 ataḥ paraṃ pañcamyāṃ saptamyāṃ navamyāmekādaśyāṃ ca
strikāmaḥ; trayodaśīprabhṛtayo nindyāḥ ||
- 33 When the four ingredients for the embryo are combined, i.e. the right womb to grow in, the right seed to descend from, the propitious life juices to be fed upon and a lucky constellation of stars, according to age-old tradition, the newborn will grow into a child of unshakeable health.

- 34 Conceived and developed in this way, they become beautiful, of noble character and they live a long life. Although, beings sons, they have obligations to fulfil towards their parents, they can take care of these and thus honourably discharge themselves.
- 35 On the one hand there those who claim that it is the Tejas-element which lies at the base of the different types of complexions, on the other there are those who say that it is the colour of the food the mother eats while pregnant that dictates the complexion. The normal complexion of the foetus therefore is fair. But when earth (as a source of food) is the main determining element, complexion will shift to dark. When a mix of earth and sky are the main elements (in the food), it turns towards the dark bluish. By analogy, some say it is the colour of the food the woman eats while pregnant that fixes the complexion of her offspring. There are arguments in favour of both theories. In so far as in dark, yellow and white (*kṛṣṇapītasvetāsu*) earths (*bhūmiṣu*) snakes, trees, and so on (*sarppavṛścikagalagoṇādayaḥ*) are essential elements (*satvāḥ*), they are black, yellow and white (*kṛṣṇapītasveta*). (uncertain hence in italics) When the Tejas-principle fails, the child is born blind. Similarly, when penetration into the blood of this disturbance results in a newborn with blood-shot red eyes; penetration into the phlegm makes for a pale-eyed newborn; penetration into the bile makes for a yellow-eyed baby; penetration into the wind results in a child with eyes that have poor vision.
- 36 Here are some more verses.
- 36a He whose eyes are entered by a pure wind
- 36bj will have oblong downcast eyes, dark or bright.
- 36c When bile with phlegm both are present unsullied in a man's eye
- 36d then in that man's eye the yellow, green and reddish-brown will all light up together.
- 36e when phlegm has shaken off all kinds of bodily secretions from someone's eyes,
- 36f then both irises of that person will light up brightly

shining.

- 36g Whenever blood with phlegm move around in a someone's eyes,
 36h he will appear to have either bluish-dark or blood-shot pupils.
 36i Just as a lump of ghee melts when placed near a fire,¹⁶⁹
 36j so a woman's propensity to ovulate glides into receptivity in contact with a man.
 37 When sperm is divided in the uterus by the wind into two beings, twins are born conditioned by the former good and evil deeds.
 37.1 When in the mixture there is an excess of male sperm, a fertile woman will create two male children*.
 37.2 whereas when there is an excess of female semen then similarly the woman engenders two girls. But there is no certainty.*
 37.3 A child born from a man who has but a poor sperm to give his wife is called āsevyah (impotent).*
 38cd When a man has a fellatio he does not have to doubt his penis will get up erect.*
 38 A boy born from a father with poor sperm becomes an āsekya.
 39 He who is born in a sordid vagina is commonly known as a Saugandhika. Such a person becomes aroused only after smelling a vagina or a scrotum. *
 40 When a man first had same-sex anal coitus because of a period of sexual abstinence from women and then turns towards his regular partners* again, he should be known as a Kumbhika. And now get it right about what an īrṣyakaṃ is:
 41 somebody who has to watch sexual intercourse of others before being able to his own sexual activities should be known as an īrṣyakaḥ.* He who turns towards copulation**
 42 during the fertile days of the cycle* but out of pure sexual ignorance ejaculates on the breasts of his virgin wife** will create boys who also exhibit feminine character traits.
 42 see 3.2.41

169 Cf. the attempt by Das (2003: 222–241) to identify the *Suśrutasaṃhitā*'s descriptions with the physical processes involved as known to Modern Establishment Medicine, and also the self-contradictions in the ancient āyurvedic medical models.

- 43 If a woman in her fertile days* throws herself at the feet of males around her and she begets a girl, she will also have character traits of a man. ***
- 44 Men who do produce sperm but have a pathology can be identified as āsekya, Sugandhi, Kumbhika or īrṣyaka. Men who do not produce any sperm are called saṇḍha.*
- 45 The sperm ducts that lead the sperm in both groups of men should be (viprakṛtyā) of these (teṣām) (?). This will help instore a slow evolution towards satisfactory erections.
- 46 It is to be expected that what the mother eats will reflect in how children behave both in the uterus and after birth.*
- 47 Now when two women are having sex and somehow succeed in making fit both their sperm contributions then a boneless being is born.
- 48 A woman could even get carried away and reach an orgasm in a dream following her ritual bath. The Vāyu then transporting her fertilized egg into the uterus, results in her belly ...
- 49 ... showing the obvious signs of pregnancy month by month in the pregnant lady.
- 50 In addition, it should be known that monster-like creatures looking like serpents, scorpions and pumpkin-gourd shaped foetus, are born frequently from the womb as a consequence of sins committed.
- 51 When a pregnant woman's wishes are not respected due to a deranged condition of the Vāta, the child stands in danger of being born a humpback or (kūnipaṅgur) or dumb,
- 52 and when the parents are atheistic or due to the aggravation of Vāyu are under the effect of misdeeds in former lives, the newborn may develop malformations.
- 53 Due to the scantiness of bodily excretions, itself due to a disabling of Vāyu with respect to processing of food, the foetus, whilst in the womb, produces (almost)* no urine nor stools,
- 54 and because of this dwindling away of the Vāyu in mouth and throat, in the bowels and especially in the small intestine, these all get wrapped up in phlegm resulting in impediment of intestinal transit; moreover the foetus does not weep all

the time ...*

- 55 Furthermore, the ups-and-downs of the foetal respiratory movements during its sleep are coordinated with the ups-and-downs of the respiratory movements of the mother.
- 56 The adjustment of the limbs of the body to its bodily constraints, both the appearance and the falling out of teeth, the disappearance of hair from the palms of hands and soles, all of this follows intrinsic laws of nature.
- 57 Men who have uninterruptedly entered one previous existence after another and who have a vast understanding of the scriptures, do remember their own previous births.
- This was the second chapter of the śārīrasthāna.

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 2002.¹⁷⁰ 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

¹⁷⁰ [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.

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 2002.¹⁷¹

Translation

- 1 Now we shall describe the treatment of wind diseases.
- 2
- 3 When the wind enters the stomach and one vomits as a result, one should sequentially administer the six-bearing (षड्वरण) remedy with cool water for seven nights.¹⁷²
- 4 The remedy constituting of [leadwort](#), ??, [velvet-leaf](#), [kutki](#), [Himalayan monkshood](#), and [myrobalan](#) cures serious diseases and is called the six-bearing (षड्वरण).
- 5 When the wind has entered the abdomen (पक्काशय), one should treat it with evacuation of the bowels (विरेचन) using an unctuous substance. One should also treat it with cleansing enemas and excessively salty foods.¹⁷³

¹⁷¹ [HIML](#): IA, 265–266.

¹⁷² The vulgate has the reading छर्दयित्वा which means “after making [him] vomit”. Thus, vomiting is a part of the treatment. Whereas in the H manuscript, vomiting is the symptom of the ailment that needs to be cured.

¹⁷³ In H, the reading प्रासाः should be read as प्राशाः for it to mean “foods”. Otherwise, प्रासाः means “throwing/discharging” or “darts/spears”.

This is a change we should make in the edition.

You need not give all the grammatical details about śrotādi. Assume you are talking to knowledgeable Sanskrit scholars.

- 6 Once the wind has entered the lower belly, a cleansing enema is recommended. And, on the wind having entered the ears, etc., the wind-slayer sequence should be executed.¹⁷⁴
- 7 On the wind having entered the skin, flesh, and blood, one should rub oil on the body (अभ्यङ्ग), apply a poultice on the body (उपनाह), massage the body (मर्दन), smear ointments on the body (आलेपन), and do blood-letting (असृग्विमोक्षण).
- 8 On the wind having entered the ligaments, joints, and bones, the wise [physician] should employ the application of an unctuous poultice (स्नेहोपनाह), cauterization (अग्निकर्म), binding (बन्धन), and massage.
- 9 On the wind being concealed within the bones, it (wind) should be beaten by churning those body parts with hands. A strong physician should then insert a narrow tube within the bone and suck out the wind completely from the bone.¹⁷⁵
- 10 On the wind having entered the semen, one should perform the treatment for the defects of the semen.¹⁷⁶
- 11 The intelligent physician should conquer the wind situated within the whole body by immersion, *kuṭī*, *karṣa*, *prastara*, oil massage, enema, and blood-letting.¹⁷⁷ Or, in case of wind situated in one part of the body and

174 In the H manuscript reading "श्रोतादि...", there appears to be a double sandhi. See *Nidānasthāna* Ch. 1 verse 12 for another example of double sandhi. Furthermore, the syllable in H after "चानिल" is not clear. It could be "ह्व" or "हा" or perhaps something else. The reading in the vulgate for this syllable is "हा". Thus, the complete word becomes "अनिलहा" which means "the slayer of wind". This makes proper sense in this verse. We have considered this reading ("अनिलहा") for our translation.

175 The H manuscript has the reading अस्थिनि which is the accusative plural form of अस्थि. The accusative case does not make sense here. The vulgate has the reading अस्थि, the locative singular form of अस्थि. This reading makes proper sense in the verse. Therefore, we have accepted the vulgate reading अस्थि for translating this verse.

176 Ḍaḥaṇa 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. The second hemistich of this verse is not a part of this sentence but is a part of the sentence in the next verse. That is because the remedies described in this hemistich are appropriate for the disease described in the first hemistich of the next verse.

177 In H, the last syllable नि of the compound word does not make sense. The vulgate has the compound word ending with भि: which makes proper sense. For making a meaningful translation, we have accepted the vulgate reading here. Furthermore, Ḍaḥaṇa describes the treatments *kuṭī*, *karṣū*, and *prastara* in his commentary in (*Su* 1938: 421). Regarding blood-letting, he comments there that because the verse has the plural form

- contained within it, the intelligent physician should cure it with horns.
- 12 On the wind having mingled with phlegm, bile, and blood, the physician should treat it with non-hostile remedies. However, on the wind being inactive, the physician should perform blood-letting many times.
- 13 [On the wind being inactive], one should also lick the milk of the *pan-camūlī* accompanied with salt and ??¹⁷⁸ mixed with oil, and one should indeed consume meat soup made sour with fruit.¹⁷⁹
- 14-15 Or, one should consume cereal soup with a good amount of ghee, or the food that is beneficial and that curtails the wind. However, *cottony jujube*, etc.¹⁸⁰ with a wind-removing remedy combined with all sour substances and with the meat from a water body along with lots of unction, lukewarm¹⁸¹ and salty, is well known as *Sālvala*.
- 16ab For patients with diseases of the wind, one should always apply this (*sālvala*) as a poultice.
- 16cd-18ab Whether a body part has become contracted or bent, is troubled by a [wind] disease, or has become numb, one should tightly bind it with a long strap made of tree bark, cloth, or wool [after applying the *sālvala* poultice]. Or, after massaging the affected body part and applying the *sālvala*¹⁸² poultice on it, one should insert it into a sack made of the hide of a cat, mongoose, *udra*¹⁸³, or deer.
- 18cd-19 Vomiting and *nasya* done under the supervision of an expert physician alleviates the wind that has entered the chest, loins, shoulders, or the nape of the neck. *Śirobasti* and blood-letting alleviate the wind situated in the head.
- 20-21ab In that (*śirobasti*), the oil should be held carefully for a duration of one thousand *mātrās*. Enema (बस्ति) alone curtails the wind that is situated throughout the whole body or in one part. This is just as the wind [curtails] its force.¹⁸⁴

सिरामोक्षैः, five blood vessels have to be drained of blood if the wind is not pacified by oil massage, etc.

178 *Āgāradhūma* seems to be a plant as seen in Monier Williams' Sanskrit dictionary.

179 The vulgate reading दिह्यात् (should apply) totally changes the meaning.

180 For grammatical accuracy, there needs to be a *visarga* at the end of the word काकोल्यादि.

181 Perhaps सुखोष्णम् is an indeclinable. But, it could also be a grammatical inaccuracy where it should have a *visarga* at the end: सुखोष्णः.

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

183 some aquatic animal

184 The last four words in H, तस्य वेगम् इवानिलः do not make sense in the context.

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

- 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, meats¹⁸⁵, soups, oils¹⁸⁶, 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.
- 27 One should take *akṣa* quantities of unguent pastes¹⁸⁷ of *turpeth*,¹⁸⁸ ??, ??, ??, ??, and *embelia*, a *Bengal quince* fruit equivalent measure of ??-root and ??, two *pātra* quantities of both *triphalā*-decoction¹⁸⁹ and yogurt, and one *pātra* measure of ghee.¹⁹⁰ One should mix these ingredients all at once and cook the mixture properly. This (resultant) is ??-ghee. Unctuous purging of bowels is prescribed for treating wind disorders.¹⁹¹ This procedure of making ??-ghee should also be referred for making *Asoka tree*-ghee and ??-ghee.¹⁹²
- 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

185 The plural indicates milk and meat from various animals.

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

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

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

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

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

191 It should be understood here that the unctuous substance to be used for purging the bowels is the ??-ghee.

192 अशोक and रम्यक are the Ashoka and Chinaberry respectively.

cooked.¹⁹³ This is the *anutaila* (अनुतैल)¹⁹⁴ that is mentioned in wind disorders. It is called *anutaila* because it is produced from tiny oily objects.¹⁹⁵

- 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 oily¹⁹⁶ in a big vessel and totally cover it with water.¹⁹⁷ 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 possible¹⁹⁸ with one thousand parts of each of the following—a decoction of wind-alleviating herbs, meat soup, milk, and *kāñjika*¹⁹⁹—and thus prepare the *sahasra-pāka* (that which is cooked with thousands). The admixture added to the oil contains the *hemavata* herbs²⁰⁰, 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.²⁰¹ 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

193 In H, the word दन्तप्रतीवायं in the compound word वातघ्नौषधदन्तप्रतीवायं does not appear to make sense. Perhaps the syllable य 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.

194 The न् should be read ण्.

195 The word अनु in the compound word अनुतैलद्रव्येभ्यः should be read अणु.

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

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

198 The phrase "यावता कालेन शक्नुयात् पक्नुम्" 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.

199 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 Willams's Sanskrit Dictionary.

200 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.

201 These activities are a symbolic way of showing reverence.

kings.

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*.²⁰² These leaves should be completely pounded along with salt in a mortar. This mixture should be put in a pot filled with oil²⁰³. It (pot) should be smeared²⁰⁴ with cow-dung. Thereafter, the pot should be heated.²⁰⁵ This (resultant) is the *patra-lavaṇa* (leaf-salt) that is mentioned in wind disorders.

Euphorbia
An-
tiquorum
(Antique
spurge)

- 31 In the same way, one should pound the stalks of ?? and eggplants smeared with salt and fill a pot with it.²⁰⁶ In that pot, one should add ghee, oil, fat, and marrow. Then, one should smear it²⁰⁷ 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.²⁰⁸ 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 *plīhāgnisaṃga*, indigestion, loss of appetite, and piles.

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

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

203 सेहघट can also mean a pot filled with ghee

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

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

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

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

208 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.

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 2002.²⁰⁹

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).²¹⁰ However, this is not correct.²¹¹ 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.²¹², 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.

²⁰⁹ [HIML](#): IA, 266.

²¹⁰ Ḍalhaṇa comments ([Su 1938](#): 424) that उत्तान refers to being situated in the skin and flesh, and अवगाढ refers to being situated internally.

²¹¹ In H, the word तन् should be तत्.

²¹² 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.²¹³ Later, it spreads throughout the body. Its early forms are pricking pain, burning, itching, ulcer, trembling²¹⁴, roughness of the skin, pulsation in the blood vessels, tendons, and tubular vessels²¹⁵, 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.²¹⁶ 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 uraria²¹⁷, 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 uraria²¹⁸, ??, wild asparagus, ??, and ??. This milk should then be used to cook oil with the admixture of pastes of ??, ??,

213 In H, the word तन् should be तत्.

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

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

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

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

218 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-flower²¹⁹, ??, liquorice, giant potato, heart-leaf sida, country mallow, and ??²²⁰, with the admixture of cottony jujube, etc. Or, one should use the heart-leaf sida-oil that is cooked as *śatapāka*.²²¹ 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.²²² 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*²²³ 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 roscoe, ??, ??, heart-leaf sida, country mallow, hare foot uraria²²⁴, ??, ??, sugar, bulrush²²⁵, ??, and sweet flag. Or, the essence of unctuous fruits²²⁶ can be used as a poultice. Or, a *veśavāra*²²⁷ prepared from the flesh of a fat *cilicima* fish²²⁸ can be used instead. Or, [one

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

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

221 *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*.

222 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).

223 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.

224 *śṛgālavinṇā*

225 For *kaśerukā*

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

227 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.

228 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-rind²²⁹, crape jasmine, deodar, ??, grey orchid, peas, costus, ??, liquor, yogurt, and whey. Or, [one can use] the ointment prepared by mixing citron, amla²³⁰, 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].²³¹

[The patient] should be sprinkled with a decoction of ??, lotus stalk, ??, and ?? mixed with goat-milk²³², 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 jīvanīya²³³ 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 ??, ??, scramberry²³⁴, ??, ??, turmeric, horned pondweed, sacred lotus, etc. The poultice should be mixed with ghee.

- 9 The [condition of wind-blood] with a predominance of blood should be

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.

229 The word पेसिका in H should be read पेशिका.

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

231 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.

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

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

234 तालीस should be read तालीश

- 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** 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 acidic²³⁵. 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, ??²³⁶, **liquorice**, ??²³⁷, and ??.
- The poultice should be made of either the paste of white mustard, or the paste of sesame and **Withania**, or the paste of ??²³⁸, **selu plum**, and **wood apple**, or the paste of honey, **horseradish tree**, and **hogweed**,²³⁹ or the paste of dry ginger, long pepper, black pepper,²⁴⁰ **hare foot uraria**, and **poison berry**.²⁴¹ 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.²⁴²
- 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].²⁴³ In this way, one should [reduce] all the **long peppers**. This is called *Pippalīvarddhamānakam* (In-

The provisional edition should be modified accordingly.

235 Reading the word सुक्त in H as शुक्त

236 Monier Williams states Rumex Vesicarius for śuktā

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

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

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

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

241 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.

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

243 In H, the letter ञ् in भूयञ्च should have been श्.

creasing Long Peppers). It indeed cures wind-blood, intense fever,²⁴⁴ loss of appetite, jaundice, abdominal affection, piles, heavy breathing, cough, wasting disease, weak digestion, and heart disease.

The poultice is a paste of ??, sandalwood, ??, ??, wild asparagus, bul-rush,²⁴⁵ ??, ??, 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 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 eating²⁴⁶. 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.²⁴⁷

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,²⁴⁸ spacious and comfortable rooms²⁴⁹ with no wind, soft pillows, comfortable beds, and soft massages are recommended in the condition of wind-blood.*

17 *Exercise, mating, anger, eating hot, sour, or salty foods, sleeping during the day, and food that is slimy or heavy should be avoided.*

244 Perhaps विषमज्वर could mean irregular fever.

245 H has कशेरुका.

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

247 The word भवति in H should have been भवन्ति.

248 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.

249 In H, read the स सरणानि as श.

- 18 One should treat the person who is affected with spasmodic contraction,²⁵⁰ 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,²⁵¹ and who is not restrained externally. There at the beginning itself,²⁵² after rubbing the patient with oil and making him perspire, one should treat him with a strong *avapīḍa*²⁵³ 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*²⁵⁴ 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.²⁵⁵ Or else he should be made to sweat by [a mixture of] ??, *veśavāra*,²⁵⁶ and milk. Oil cooked with the juice of *radish*, ??, ??, ??, and ?? should be used in

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

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

251 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.

252 In H, प्रागैव should have been प्रागेव.

253 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*.

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

255 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.

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

sprinkling, etc. for patients with spasmodic contractions.²⁵⁷ 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.²⁵⁸ 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,²⁵⁹ 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*.²⁶⁰ *Anutaila* should be used for massage.²⁶¹ *Sālvala* should be used for poultice.²⁶² **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

- 22 One should treat the patient with *ardita*²⁶³ who is strong and possesses

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

258 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.

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

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

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

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

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

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 remaining²⁶⁴ should be brought down [the stove] and filtered. It should then be mixed with a *prastha*²⁶⁵ 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 *gṛdhrasī*, *viścañcī*, *kroṣṭukaśīrṣa*, *paṅgukalāya*, lameness, *vātakāṇṭaka*, 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*,²⁶⁶ lukewarm juice of ??²⁶⁷ mixed with liquorice, oil, and salt should be put into the ears.²⁶⁸ 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.²⁶⁹ Or else one can use oil that is cooked with sour liquor, buttermilk, and urine. One should also make the patient sweat with a steam bath through tubes. One should also look up the treatment for wind diseases. More will be said later.
- 25 In the case of *tūnī* and *pratitūnī*, one should make the patient drink ghee and salt with hot water. Or else one should administer the powder of long pepper and other herbs with hot water. Or else one should make

264 It means that the water has evaporated.

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

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

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

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

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

the patient drink ghee that is made thick with asafoetida and ??.²⁷⁰ One should also treat the patient with enemas.

- 26 In the case of *ādhmāna*,²⁷¹ however, one should do *avatarpaṇa*,²⁷² heating the hands, *phalavartikriyā*,²⁷³ stimulation of digestion, and [administer] digestives. One should also employ the purging of bowels and enemas. In the case of *pratyādhmāna*,²⁷⁴ one should employ vomiting, fasting, and stimulation of digestion.
- 27 In the case of *aṣṭhīlā* and *pratyāṣṭhīlā*,²⁷⁵ 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, ??, *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*, *pārsvodara*, *bastiśūla*, *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 humours²⁷⁶ and should be

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

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

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

273 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.

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

275 Refer to *Nidānasthāna* 1.90 and 1.91.

276 In H, the reading लक्षणोन्यामैश्च does not make sense. Hence I cannot translate it. Perhaps the correct reading could be लक्षणाभ्याञ्च. This would connect with the two con-

- 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.²⁷⁷
- 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 ?? 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.²⁷⁸
- One should eat old ??s, ??, ??, etc. along with uncooked²⁷⁹ 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.

ditions of the wind as stated in the verse.

277 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.

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

279 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 2002.²⁸⁰ Das made observations about the afterbirth (*aparā*) that is mentioned in 4.15.17 ([Su 1938](#): 432).²⁸¹ Selby has explored gynecological narratives in ayurveda.²⁸²

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.

²⁸⁰ [HIML](#): IA, 271–272.

²⁸¹ Das [2003](#): 517.

²⁸² 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 *śālmali* – 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.

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.²⁸³

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.²⁸⁴

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

²⁸³ *Arthaśāstra* 1.21.8 (Kangle 1965a: 1, 30), translation by Olivelle (2013: 97).

²⁸⁴ Cf. *Arthaśāstra* 1.21.6, *ibid.*, Olivelle (2013: 96).

exhibits characteristic signs when added to milk and other drinks.²⁸⁵ 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.²⁸⁶ 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).²⁸⁷

Manuscript notes

- MS Kathmandu NAK 5-333 has foliation letter numerals, for example on f. 323a, that are similar to MS Cambridge Add. 1693,²⁸⁸ dated to 1165 CE noted in Bendall's chart of Nepalese letter-numerals Bendall 1883: Lithograph V, after p. 225

²⁸⁵ Cf. *Arthaśāstra* 1.21.6 again.

²⁸⁶ [HIML](#): IA, 289–290.

²⁸⁷ For a bibliography of translations to 2002, including Latin (1847), English (1877), Gujarati (1963) and Japanese (1971), see [HIML](#): IB, 314–315.

²⁸⁸ Scan at cudl.lib.cam.ac.uk/view/MS-ADD-01693/1.

Translation

- 1–2 And now I shall explain the procedures for safeguarding food and drink, as were declared by the Venerable Dhanvantari.²⁸⁹
- 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.²⁹⁰

[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.²⁹¹
- 6 Therefore, a king should always be protected from poison by a physician.
- 7 The racehorse-like fickleness of men's minds is well known. And for this reason, a king should never trust anyone.²⁹²

289 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 the only place 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 the only other time 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 concludes 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).

290 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). Ḍalhaṇa 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.”

291 Verses about the use of Venemous 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.

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

- 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,²⁹³ have clean utensils and be staffed by men and women who have been vetted.²⁹⁴
- 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.²⁹⁵
- 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.²⁹⁶ 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 nasya (*snuff*), inhaled smoke (*dhūma*), eye make-up (*añjana*), etc., and any other things which are commonly poisoned. Then, I shall also explain the remedy.
- 28 Flies or crows or other creatures that eat a poisonous morsel (*bali*)

Cf.
Arthashastra
1.21.8.

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

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

295 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).

296 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).

- 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.²⁹⁷ 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.²⁹⁸ The chital deer sheds tears and the monkey releases excrement.²⁹⁹
- 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.³⁰⁰
- 35, 36cd In such a case, an errhine and a collyrium that are costus, ??, **spikenard** and honey (*madhus*) ;³⁰¹ a paste of sandalwood on the heart may also provide relief.³⁰²

297 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).

298 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.”

299 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.

300 “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).”

301 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.

302 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

- 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**.³⁰³
- 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.³⁰⁴ In such a case, he should apply the treatment recommended above for vapour (*bāṣpa*) , and what will be stated below under “toothbrush twigs”.³⁰⁵
- 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.³⁰⁶
- 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-**

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.”

- 303 “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. Dalhaṇa’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.

Dalhaṇa 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. Dalhaṇa 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).

- 304 The word अष्टीला is normally feminine. The Nepalese manuscripts read it with a short अ- ending. Gayadāsa noticed that some manuscripts read अष्टील with a short -अ ending (MS Bikaner RORI 5157, f. 5v:7–8) and Dalhaṇa reproduced his observation. The vulgate reading “from his mouth (चास्यात्)” is more obvious (*lectio faciliior*), but is not attested in the Nepalese manuscripts.

- 305 Poisoned toothbrushes are discussed in verses 48 ff. below.

- 306 I translate मूर्च्छा in the light of the metaphors discussed by Meulenbeld (2011), that include thickening and losing consciousness.

- 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 (*dūṣīviṣāri*) ’ should be drunk with honey and curds (*dadhi*) .³⁰⁷
- 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.³⁰⁸
- 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.³⁰⁹
- 48 When a toothbrush twig has poison on it, the bristles are corroded and the flesh of the tongue, gums and lips swells up.³¹⁰
- 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.³¹¹
- 50 Alternatively, the rubbing (*pratisāraṇa*) can be done with either the roots of sage-leaved alangium, the bark of blackboard tree or siris seeds.³¹²

I'm still unhappy about this verse.

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

fn about sadyas+

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

308 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*.

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

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

311 This recipe is different from the vulgate.

312 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

- 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.³¹³ And the flesh splits open.
- 53–54 In such a case, sandalwood, *crape jasmine*, *costus*, and *cuscuta 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*.³¹⁴
- 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*)³¹⁵
- 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,³¹⁶ ghee, *beautyberry*,³¹⁷ *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.³¹⁸

Bear's bile
instead of
deer's bile.

the ablative singular of the Nepalese witnesses. We follow Ḍalhaṇa in interpreting the compound to refer to the distinctive bean-like sris seeds, rather than to *mung beans* (5.1.50 (*Su* 1938: 562)).

313 The feminine स्फोट for “boils” is unattested.

314 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.

315 See verse 52 above.

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

317 See note 303.

318 The plant identifications in this passage follow Ḍalhaṇa's glosses, although he noted 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 412, p. 141.

- 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*).³¹⁹ In this case, the drink is honey and ghee, and the ointment (*pralepa*) is sandalwood with ghee, curds, honey, **verbena**, **scarlet mallow** and **hogweed**.³²⁰
- 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** are also recommended as something good.³²¹
- 69 When poison is mixed in with eye make-up (*añjana*), he gets tears and rheum (*upadeha*), with a burning feeling, pain, faulty vision (*dṛṣṭ-*

punarnavā
in the N &
K MSS

śrita for
śṛta

explain
more

³¹⁹ 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.

³²⁰ 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).

³²¹ The syntax of the Nepalese version is slightly unclear, but the vulgate has smoothed out the difficulties.

ivibhrama) , and possibly even blindness.³²²

70–71 In this case, one must immediately drink ghee and have it also in an eyewash (*tarpaṇa*) with long pepper. One should have an eye ointment (*añjana*) of the juice of periploca of the woods and have the extract (*niryāsa*) of three-leaved caper, wood apple and periploca of the woods and the flower of marking-nut tree.

72–73 Because of poisoned slippers there will definitely be a swelling, numbness (*svāpa*) , a discharge (*srāva*) and an outbreak of spots (*sphoṭa*) on the feet. One should clean (*pra√ sādḥ*) 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*) .³²³

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.³²⁴

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.

78cd–79ab If either purging nut or a fern is tied on to the King’s wrist, then all food that is mixed with poison will be rendered free of poison.³²⁵

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

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

324 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.

325 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 Chuneekar (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

Medical difference from Sharma.

example where the vulgate clarifies that these should be used separately; appears to be a gloss inserted into the vulgate text.

The two uses of prāpta are hard to translate. prāptāḥ → kṣipram is an example of the vulgate banalizing the Sanskrit text to make sense of a difficult passage.

√ vyadh not √ vedh (also elsewhere and for the ears), causative optative.

- 79cd–80 He should always guard his heart when amongst people who are not his friends.³²⁶ Before eating, he should drink the kinds of ghee called “Invincible” and “Immortal”.³²⁷ 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,³²⁸ liquorice, and sugar to the meats of monitor lizard, 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.³²⁹
- 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.

split; when drunk with sandalwood it causes poison to be digested.

³²⁶ 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).

³²⁷ These ghee compounds are described in later chapters: see 5.2.47–49 (Su 1938: 566) and 5.6.13 (Su 1938: 581).

³²⁸ Ḍalhaṇa on 5.1.82 (Su 1938: 563) equated this with turpeth.

³²⁹ On this expression, see Yagi 1994.

Kalpasthāna 2: Poisonous Plants

Introduction

This section begins with several lists of poisonous plants. The Sanskrit names for these plants are mostly not standard or familiar from anywhere in Sanskrit or ethnobotanical literature. It remains a historical puzzle why these particular names are so difficult to interpret. However, we are not the first to encounter these difficulties. In the twelfth century, the learned commentator on the text, Ḍalhaṇa, remarked,

In spite of having made the greatest effort, it has been impossible to identify these plants. In the Himalayan regions, Kirātas and Śābaras are able to identify them.³³⁰

Ḍalhaṇa also recorded variant readings of these poison names from the manuscripts that he consulted of the lost commentary of Gayadāsa (fl. c. CE 1000). The identities of these poisons have been in doubt for at least a thousand years.³³¹ Identifications have in many cases been equally impossible for us today.

One path for exploration in this situation is to attempt to reverse-engineer some identifications by considering the known toxic plants of India.³³²

³³⁰ After *Suśrutasaṃhitā*, *kalpasthāna* 2.5 (Su 1938: 564). From the view of Sanskrit authors, Kirātas and Śābaras were tribal peoples. The eleventh-century author Bhikṣu Govinda, however, cast his treatise as a dialogue with a Kirāṭa king called Madana who was a master of the alchemical art (HIML: IIA, 620).

³³¹ See Wujastyk 2003b: 80–81.

³³² Valuable reference sources on Indian plant toxicology in general include Pillay 2013: chs. 10, 11 and Barceloux 2008: parts 1.II, 3 and 4.

Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.³³³

Translation

- 1 And now I shall explain what should be known about stationary poisons.³³⁴
- 3 It is said that there are two kinds of poisons, stationary (*sthāvara*) and mobile (*jaṅgama*). The former dwells in ten sites, the latter in sixteen places.
- 4 Traditionally, the ten are: root, leaf, fruit, flower, bark, milky sap (*kṣīra*), pith (*sāra*), resin (*niryāsa*), the elements (*dhātu*), and the tuber.
- 5 In that context,
 - the eight root-poisons are:³³⁵
 1. liquorice (?),³³⁶
 2. sweet-scented oleander,³³⁷
 3. jequirity,³³⁸
 4. false daisy,³³⁹

³³³ HIMAL: IA, 290–291.

³³⁴ No reference is made to Dhanvantari (see Birch, Wujastyk, Klebanov, Parameswaran, et al. 2021). “Stationary” here is a term contrasted with “moving,” and signifies plants as opposed to animals and insects.

³³⁵ Some South Asian plants with poisonous roots that we would have expected to see in this list include *Croton tiglium*, L., *Calotropis* spp., *Citrullus colocynthus* L. Schrad., and *Ricinus communis* L. (CIPP).

³³⁶ Liquorice eaten in excess can be poisonous, but it is unlikely to be the plant intended here. T. B. Singh and Chuneekar (GVDB: 124) noted that the poisonous root mentioned in this passage, “remains to be identified.”

³³⁷ The roots of sweet-scented oleander are highly toxic, as are most parts of the plant (Pillay and Sasidharan 2019).

³³⁸ Jequirity contains a dangerous toxin called Abrin in its seeds and to a lesser extent in its leaves, but apparently not in its roots or bulb. Abrin is not harmful if eaten, but an infusion of the bruised (not boiled) seeds injected or rubbed in the eyes can be fatal (NK: # 6). The dose can be quite small.

³³⁹ The plant is usually called just *bhaṅgurā* without the prefix *su-* “good.” However, there is no reported toxicity associated with *E. prostrata*. The vulgate reads सुगन्धा (snakeroot).

5. (?),³⁴⁰ and ending with
 6. leadwort,³⁴¹
 7. country sarsaparilla (?),³⁴² and
 8. medhshingi,³⁴³
- the leaf-poisons include:
 - aconite leaf (?),
 - drum-giver (?),
 - thorn apple, and
 - big thorn apple;
 - the fruits of items like: jequirity, marking-nut tree, and poison-altar (?) are
 - kumudavati (*kumadavati*)ⁱ,
 - reṇuka (?)ⁱⁱ,
 - kurūkaka (?)ⁱⁱⁱ,
 - ‘little bamboo’ (*veṇuka*)^{iv},³⁴⁴,

³⁴⁰ This poisonous root cannot at present be securely identified. Similar-sounding candidates include *karkaṭaka*, *karahāṭa* (emetic nut), and *karaghāṭa*, but since this is a prose passage, there would be no reason to alter the word to fit a metre. Monier-Williams et al. (MW: 255) cite an unknown lexical source that equates *karaṭa* (mn.) with safflower (*Carthamus tinctorius*, L.), but this plant does not have a poisonous root.

³⁴¹ The roots of both rose and white leadwort are very toxic.

³⁴² The text reads masculine *ananta*, which is not a plant name. Gayī’s commentary on 5.2.5 (Su 1938: 564) noted a variant reading of feminine *anantā* in place of *gargaraka*, earlier in the compound. But the feminine *anantā*, country sarsaparilla, is not a poisonous plant.

³⁴³ Meulenbeld (1989: 61, n. 3) argued that our text reads a masculine or neuter noun *vijaya*, which never signifies cannabis. However, unlike the vulgate, the unanimous readings of the Nepalese manuscripts give feminine *vijayā*. Nevertheless, even the feminine form only started to signify *Cannabis sativa* L. after the end of the first millennium (Meulenbeld 1989; Wujastyk 2002; McHugh 2021). The *Sauśrutaniḡhaṇṭu* gives a number of synonyms for *vijayā*, almost none of which have any poisonous parts (Suvedī and Tivārī 2000: 5.77, 10.143). But one of them, *viṣāṇī* (also *meṣaśṛṅgi*), is sometimes equated with *Dolichandrone falcata* (DC.) Seemann (ADPS: 518), a plant used as an abortifacient and fish poison (NK: #862). This identification is tenuous.

³⁴⁴ Not poisonous.

i unknown; see ?

ii ?; see *Piper aurantiacum* Wall. (NK: #1924) is not poisonous.

iii ?; see ?

iv *Bambusa bambos*, Druce?; see NK #307

- thorn apple (*karambha*)^v,
- 'big thorn apple' (*mahākarambha*)^{vi},
- 'pleaser' (*nandanā*)^{vii},
- 'crow' (*kāka*)^{viii},
- the flower-poisons include those of:
 - rattan (*vetra*)^{ix},
 - wild chinchona (*kādamba*)^x,
 - black pepper (*vallīja* → *marica*)^{xi},
 - thorn apple (*karambha*)^{xii}, and
 - big thorn apple (*mahākarambha*)^{xiii};
- the seven bark, pith (*sāra*) and resin (*niryāsa*) poisons are:
 - 'gutboiler' (*antrapācaka*)^{xiv},
 - 'blade' (*kartarīya*)^{xv},
 - wild mustard (*saurīyaka*)^{xvi},
 - emetic nut (*karaghāṭa* → *karahāṭa*? → *madana*)^{xvii},
 - thorn apple (*karambha*)^{xviii},
 - wild asparagus (*nandana* → *bahuputrā*?)^{xix}, and

v *Datura metel*, L.; see AVS 2.305 (cf. *Abhidhānamañjarī*), NK #796 ff., Potter 292 f., ADPS 132.

vi *Datura metel*, L.?; see AVS 2.305 (cf. *Abhidhānamañjarī*), NK #796 ff., Potter 292 f., ADPS 132.

vii ?; see ?

viii ?; see ?

ix *Calamus rotang*, L.; see AVS 1.330, NK #413

x *Anthocephalus cadamba*, Miq.; see NK #204

xi *Piper nigrum*, L.?; see NK #1929; Rā.6.115, Dha.4.85, Dha.2.88

xii *Datura metel*, L.; see AVS 2.305 (cf. *Abhidhānamañjarī*), NK #796 ff., Potter 292 f., ADPS 132.

xiii *Datura metel*, L.?; see AVS 2.305 (cf. *Abhidhānamañjarī*), NK #796 ff., Potter 292 f., ADPS 132.

xiv unknown; see ?

xv unknown; see ?

xvi *Cleome viscosa*, L.? (cf. Rā.4.144); see AVS 2.116, NK #615

xvii *Randia dumetorum*, Lamk.; see NK #2091

xviii *Datura metel*, L.; see AVS 2.305 (cf. *Abhidhānamañjarī*), NK #796 ff., Potter 292 f., ADPS 132.

xix *Asparagus racemosus*, Willd.; see ADPS 441, AVS 1.218, NK #264, IGP 103, IMP 4.2499ff., Dymock 482ff.

- munj grass (*nārācaka*)^{xx,345}
- the three milky sap (*kṣīra*) -poisons are:
 - purple calotropis (*kumudaghñī* → *arka*?)^{xxi,346}
 - oleander spurge (*snuhī*)^{xxii}, and
 - ‘web-milk’ (*jālakṣīri*)^{xxiii};
- the two element (*dhātu*) -poisons are:
 - ‘foam-stone’ (*phenāśma*)^{xxiv}, and
 - orpiment (*haritāla*)^{xxv,347}
- the thirteen tuber-poisons are:
 - jequirity (*kālakūṭa*)^{xxvi,348}
 - wolfsbane (*vatsanābha*)^{xxvii},

345 The bark of wild asparagus (*Asparagus racemosus*, Willd.) is toxic.

346 The name of this poison, *kumuda-ghñī*, means ‘lotus killer’. In Sanskrit literature, the *kumuda* lotus is associated with the moon, since it blossoms by night. Since the sun causes this lotus to close, it is therefore an ‘enemy’ of the lotus. One of the chief words for the sun, *arka*, is also the name of *Calotropis gigantea*, which indeed has a milky juice which is a violent purgative, poison and abortifacient.

347 Dutt (Dutt: 38–42) conjectured that ‘foam-stone’ may be impure white arsenic obtained by roasting orpiment.

348 The much later (perhaps sixteenth century) alchemical *Rasaratnasamuccaya* of pseudo-Vāgbhaṭa (21.14) says that the *kālakūṭa* poison, here translated as ‘jequirity’, is similar to ‘*kākacañcu*’ or ‘Crow’s Beak’, which is indeed a name for the plant jequirity or *Abrus precatorius*, L., more commonly called *guñjā* (not to be confused with *gañjā*). The black seed-pod is described as having a ‘sharp deflexed beak’ in botanical descriptions, so the Sanskrit name is quite graphic and appropriate. The poisonous scarlet seeds of *A. precatorius* can have a distinct black dot or tip, which could perhaps be translated ‘*kāla-kūṭa*’, or ‘Black Tip’.

The *Rājanighaṇṭupariśiṣṭa* (9.35) gives *kālakūṭaka* as a synonym for *kāraskara*, or *Strychnos nux-vomica*, L., whose seeds are notoriously poisonous.

xx Saccharum bengalense, Retz.?; see NK #2184

xxi *Calotropis gigantea*, (L.) R. Br.; see ADPS 52, AVS 1.341, NK #427, Potter 63

xxii *Euphorbia neriifolia*, L., or *E. antiquorum*, L.; see ADPS 448, AVS (2.388), 3.1, NK #988, IGP 457b

xxiii unknown; see ?

xxiv unknown; see ?

xxv *Arsenii trisulphidum*; see NK v. 2, p. 20 ff.

xxvi *Abrus precatorius*, L.? Cf. RRS 21.14.; see AVS 1.10, NK #6, Potter 168.

xxvii *Aconitum napellus*, L.; see AVS 1.47, NK #42, Potter 4 f.

- Indian mustard (*sarṣapa*)^{xxviii},
- leadwort (*pālaka* → *citraka*)^{xxix},
- ‘muddy’ (*kardama*)^{xxx}, the
- ‘Virāṭa’s plant’ (*vairāṭaka*)^{xxxi},
- nutgrass (*mustaka*)^{xxxii},
- atis root (*śṛṅgīviṣa*)^{xxxiii},
- sacred lotus (*prapuṇḍarīka*)^{xxxiv},
- radish (*mūlaka*)^{xxxv},
- ‘alas, alas’ (*hālāhala*)^{xxxvi},
- ‘big poison’ (*mahāviṣa*)^{xxxvii}, and
- galls (*karkaṭa*)^{xxxviii}.³⁴⁹

Thus, there are fifty-five stationary poisons.

- 6 There are believed to be four kinds of wolfsbane, two kinds of *mustaka*, and six kinds of Indian *sarṣapa*. But the rest are said to be unique types.

The effects of poisons

- 7–10 People should know that root-poisons cause writhing (*udveṣṭana*), ranting (*pralāpa*), and delirium (*moha*), and leaf-poisons cause yawning,

349 Leadwort root is a powerful poison. Nutgrass is tuberous, but non-toxic. Atis has highly toxic tuberous roots. Neither sacred lotus nor galls are toxic. The ‘alas, alas’ poison (*hālāhala*) is the mythical poison produced from the churning of the ocean at the time of creation: it occurs in medical texts such as the present one, and commentators identify it with one or other of the lethal poisons such as wolfsbane or jequirity. Agrawal (1963: 126) makes the intriguing suggestion that the word *hālāhala*, possibly to be identified with Pāṇini’s *hailihila* (P.6.2.38), may be of Semitic origin, although his evidence seems uncertain (Steingass (1930: 1506a) cites Persian *halāhil* ‘deadly (poison)’ as a loan from Sanskrit). KEWA: iii.585 also cites a claim for an Austro-Asiatic origin for the word.

xxvi *Brassica juncea*, Czern. & Coss.; see AVS 1.301, NK #378

xxix *Plumbago zeylanica* (indica? rosea?), L.; see Rā. 6.124, ADPS 119, NK #1966, 1967

xxx unknown; see ?

xxxi unknown; see ?

xxxii *Cyperus rotundus*, L.; see ADPS 316, AVS 2.296, NK #782

xxxiii *Conium heterophyllum*, Wall. ex Royle; see AVS 1.42, NK #39

xxxiv *Nelumbo nucifera*, Gaertn.; see Dutt 110, NK #1698

xxxv *Raphanus sativus*, L.; see NK #2098

xxxvi unknown; see Cf. Soḍhalanighantu p.43 (sub bola) = stomaka = vatsanābha

xxxvii unknown; see ?

xxxviii *Rhus succedanea*, L.; see NK #2136

writhing, and wheezing (*śvāsa*) .

Fruit-poisons cause swelling of the scrotum, a burning feeling and writhing. Flower-poisons will cause vomiting, distension (*ādhmāna*) and sleep (*svāpa*) .

The consumption of poisons from bark, pith (*sāra*) and resin (*niryāsa*) will cause foul breath, hoarseness (*pāruṣya*) , a headache, and a discharge of phlegm (*kapha*) .³⁵⁰

The milky sap (*kṣīra*) -poisons make one froth at the mouth, cause loose stool, and make the tongue feel heavy.³⁵¹ The element (*dhātu*) -poisons give one a crushing pain in the chest, make one faint and cause a burning feeling on the palate.

These poisons are classified as ones which are generally speaking lethal after a period of time.

11–17 Symptoms of tuber poisoning

The tuber-poisons, though, are severe. I shall talk about them in detail. With jequirity (*kālakūṭa*)^{xxxix}, there is numbness and very severe trembling. With wolfsbane (*vatsanābha*)^{xl}, there is rigidity of the neck, and the faeces, and urine become yellow.

With *sārṣapa* (*sārṣapa*) ,³⁵² the wind becomes defective (*vātavaiguṇya*), there is constipation (*ānāha*) , and lumps (*granthi*) start to appear. With leadwort (*pālaka* → *citraka*)^{xli}, there is weakness in the neck, and speech gets jumbled.³⁵³

350 At 1.2.6 (Su 1938: 11), Ḍalhaṇa glosses hoarseness (*pāruṣya*) as *vāgrūkṣatā*, “a rough, dry voice.”

351 At 6.54.10 (Su 1938: 773), Ḍalhaṇa glosses loose stool (*viḍbheda*) as *dravapurīṣatā*, “having liquid stool.”

352 *Sārṣapa* would normally mean “connected with mustard,” and excessive consumption of mustard oil can be harmful. However, the *Sauśrutaniḥṣaṇṭu* (156) gives *rakṣoghṇā* as a synonym for *sārṣapā*. This can be *Semecarpus anacardium*, L.f., which has some poisonous parts.

353 The verse in the Nepalese version ends with a plural verb that does not agree with the dual of the sentence subject.

xxxix *Abrus precatorius*, L.? Cf. RRS 21.14.; see AVS 1.10, NK #6, Potter 168.

xl *Aconitum napellus*, L.; see AVS 1.47, NK #38, Potter 4 f.

xli *Plumbago zeylanica* (indica? rosea?), L.; see Rā. 6.124, ADPS 119, NK #1966, 1967

With the one called ‘muddy’ (*kardama*)^{xlii}, there is a discharge (*praseka*) , the faeces pour out, and the eyes turn yellow. The ‘Virāṭa’s plant’ (*vairāṭaka*)^{xliii} causes pain in the body and illness in the head. Paralysis of one’s arms and legs and trembling are said to be caused by mustaka (*mustaka*)³⁵⁴

-> ativiṣa

15b With great aconite (*mahāviṣa*) one’s limbs grow weak, there is a burning feeling and swelling of the belly.³⁵⁵

Look up
the ca. ref-
erence.

16a With puṇḍarīka (*puṇḍarīka*) , one’s eyes go red, and one’s belly becomes distended.³⁵⁶

16b With mūlaka (*mūlaka*) , one’s body is drained of colour and the limbs are paralysed.³⁵⁷

17a With hālāhala (*Aconite*) , a man turns a dark colour (*dhyāma*) , and gasps.³⁵⁸

17b With atis root (*śṛṅgīviṣa*)^{xliv}, one gets violent knots (*granthi*) and stabbing pains in the heart.³⁵⁹

18a With markāṭa (*monkey*) , one leaps up, laughs, and bites.³⁶⁰

354 The substitution in MS NAK 5-333 affecting 15cd is caused by an eye-skip to the word *viṣeṇa* in 2.17. *Mustaka* commonly refers to *Cyperus rotundus*, L.; the root is used in āyurveda but is not poisonous. However other dictionaries list *mustaka* amongst serious poisons, for example *Rājanighaṇṭu* (22 v. 42) and *Rasaratnasamuccaya* 16, v. 80. However, its ancient identity is still doubtful.

355 The poisonous root great poison (*mahāviṣa*) is not clearly identifiable, although *viṣa* is commonly aconite. Verse 6 above notes that there are several kinds of aconite.

356 The word *puṇḍarīka* very commonly means sacred lotus, *Nelumbo nucifera*, Gaertn. The entire plant is edible and cannot be the poison intended here. T. B. Singh and Chuneekar (GVDB: 252) noted that this poison is unidentified and that it is also listed as a poison in *Carakasamhitā*ci.23.12.

357 The word *mūlaka* very commonly means the radish, *Raphanus sativus*, L. The root is edible and cannot be the poison intended here. T. B. Singh and Chuneekar (GVDB: 317) noted that this poison is unidentified.

358 Identification of *hālāhala* is uncertain. It may simply be a mythical poison, or its specific identity may have been lost over the centuries. Late *nighaṇṭu*s identify it as *stomaka* = *vatsanābha*, i.e., *Aconitum napellus*, L. (*Soḍhalanighaṇṭu* p.43). Ḍalhaṇa on 5.2.17 (Su 1938: 564) interprets our “gasps” as “the man laughs and grinds his teeth.” But this gloss is probably displaced and intended to apply to verse 2.18.

359 T. B. Singh and Chuneekar (GVDB: 407) noted that *vatsanābha* and *śṛṅgīviṣa* are two different varieties of poisonous Aconites that are difficult to distinguish.

360 T. B. Singh and Chuneekar (GVDB: 299) said of *markāṭa*, “an unidentified vegetable

xlii unknown; see ?

xliii unknown; see ?

xliv *Aconitum heterophyllum*, Wall. ex Royle; see AVS 1.42, NK #39

- 18b-19a Experts have said that one should know that the thirteen highly potent tuber-poisons, which are mentioned here, have ten qualities (*guṇa*) .
- 19b-20a The ten are:
- dry (*rūkṣa*) ,
 - hot,
 - sharp,
 - rarified (*sūkṣma*) ,
 - fast-acting,
 - pervasive (*vyavāyin*) ,
 - expansive (*vikāsin*) ,
 - limpid (*viśada*) ,
 - light, and
 - indigestible.
- 20b Because of dryness, it may cause inflammation of the wind; because of heat it inflames the choler and blood. Because of the sharpness it unhinges the mind, and it cuts through the connections with the sensitive points (*marman*). Because it is rarified it can infiltrate and distort the parts of the body.³⁶¹
- 22 Because it is fast-acting it kills quickly, and because of its pervasiveness it affects one's whole physical constitution (*prakṛti*).³⁶² Because of its expansiveness it enters into the humour (*doṣa*) s, bodily constituents (*dhātu*) s, and even the impurities. Because it is limpid it overflows, and because it is light it is difficult to treat. Because it is indigestible it is hard to eliminate. Therefore, it causes suffering for a long time.
- 24 Any poison that is instantly lethal, whether it be stationary, mobile, or artificial, will be known to have all ten of these qualities.

Slow-acting poison

- 25cd-26 A poison that is old or destroyed by anti-toxic medicines, or else dried up by blazing fire, wind, or sunshine, or which has just lost its qualities

poison." Cf. Suvedī and Tivārī 2000: v.36 for synonyms that lead to the non-toxic jujube tree.

³⁶¹ We read the active *vikaroti* with Ḍalhaṇa against the transmitted passive *vikriyeta*, since it must be the parts of the body that are distorted, not the poison.

³⁶² Ḍalhaṇa on 5.2.22 (Su 1938: 565) explained this as "takes the form of pervading the whole body (*akhiladehavyāptirūpam*) ."

- by itself,³⁶³ becomes a slow-acting poison (*dūṣīviṣa*).³⁶⁴ Because it has lost its potency it is no longer perceived. Because it is surrounded by phlegm (*kapha*) it has an aftermath that lasts for a very long time.
- 27 If he is suffering from this, the colour of his stools changes, he gets sourness and a bad taste with great thirst. Stammering and close to death, wandering about, he may feel faint, giddy, and aroused.³⁶⁵
- 28 If it lodges in his stomach (*āmāśaya*) , he becomes sick because of wind and phlegm; if it lodges in his intestines (*pakvāśaya*) , he becomes sick because of wind and choler. A man's hair and limbs fall away and he looks like a bird whose wings have been chopped off.
- 29a–c If it lodges in one of the body tissues such as chyle (*rasa*) , it causes the diseases arising from the body tissues, that have been said to be wrong.³⁶⁶ and it rapidly becomes inflamed on days that are nasty because of cold and wind.
- 29d–31 Listen to its initial symptoms (*liṅga*) : it causes heaviness due to sleep, yawning, disjunction (*viśleṣa*) and horripilation (*harṣa*) and a bruising of the limbs (*aṅgamarda*) .³⁶⁷ Next, it causes intoxication from food (*annamada*) and indigestion, loss of appetite (*arocaka*) , the condition of having a skin disease (*koṭha*) with round blotches (*maṇḍala*) ,³⁶⁸ dwindling away (*kṣaya*) of flesh, swelling of the feet, hands, and face, the fever called *pralepaka*, vomiting and diarrhoea.³⁶⁹ The slow-acting poison might cause wheezing, thirst and fever, and it might also cause distension of the abdomen.
- 32 These various disorders are of many different types: one poison may produce madness, while another one may cause constipation (*ānāha*) , and yet another may ruin the semen. One may cause emaciation, while

363 Ḍalhaṇa specified that this refers to the ten qualities that are mentioned above (5.2.26 (Su 1938: 565)).

364 Ḍalhaṇa cited this verse at 1.46.83 (Su 1938: 222) while explaining *dūṣīviṣa*.

365 Similar symptoms of slow-acting poison are described at 2.7.11–13 (Su 1938: 296) in the context of contamination dropsy (*duṣyodara*) . This this may explain why the vulgate inserted reference to this disease at this point.

366 The expression *ayathāyathoktān* “stated to be unsuitable” is hard to understand here, but is clearly transmitted in the Nepalese version.

367 Ḍalhaṇa 5.2.30ab (Su 1938: 565) glossed “disjunction” as the loss of function of the joints in regard to movement.

368 The last ailment could perhaps be ringworm.

369 The *pralepaka* fever was described by Ḍalhaṇa, at 6.39.52 (Su 1938: 675), as an accumulation of phlegm in the joints. Its symptoms are described in 6.39.54

another pallid skin disease (*kuṣṭha*) .

- 33 Something is “corrupted” by repetitively keeping to bad locations, times, foods, and sleeping in the daytime. Or, traditionally, “corrupting poison” (slow-acting poison (*dūṣī-viṣa*)) is so called because it may corrupt (*dūṣayet*) the body tissue (*dhātu*) s.

34- The stages of toxic shock

In the first shock of having taken a stationary poison, a person’s tongue becomes dark brown and stiff, he grows faint, and panics.

- 35 In the second, he trembles, feels exhausted, has a burning feeling, as well as a sore throat. When the poison reaches the stomach (*āmāśaya*) , it causes pain in the chest (*hṛd*) .
- 36 In the third, his palate goes dry, he gets violent pain (*śūla*) in the stomach (*āmāśaya*) , and his eyes become weak, swollen and yellow.
- 37 In the fourth shock, it causes the intestines and stomach to be exhausted (*sāda*) , he gets hiccups, a cough, a rumbling in the gut (*antra*) , and his head becomes heavy too.
- 38 In the fifth he dribbles phlegm (*kapha*) , goes a bad colour, his ribs crack (*parśvabheda*) , all his humours are irritated, and he also has a pain in his intestines (*pakvādhāna*) .
- 39a In the sixth, he loses consciousness and he completely loses control of his bowels.
- 39b In the seventh, there are breaks in his shoulders, back and loins, and he stops breathing.³⁷⁰

Remedies for the stages of slow poisoning

- 40 In the first shock of the poison, the physician should make the man, who has vomited and been sprinkled with cold water, drink an antidote (*agada*) mixed with with honey and ghee.
- 41a In the second, he should make the man who has vomited and been purged drink as before;

³⁷⁰ Here at 5.2.24 (Su 1938: 566) Ḍalhana glossed *sannirodha* as “complete cessation, i.e., of breath” (*sannirodhaḥ samyānnirodhaḥ, ucchvāsasya iti śeṣaḥ*). The manuscripts all read *skanda* where *skandha* must be intended; this confusion is known from Buddhist Hybrid Sanskrit (Edgerton 1953: 608).

- 41b on the third, drink an antidote and a beneficial nasal medicine (*nasya*) as well as an eye salve (*añjana*) .
- 42a In the fourth, the physician should make him drink an antidote that is salt with a little oil.³⁷¹
- 42b In the fifth, he should be prescribed the antidote together with a decoction (*kvātha*) of honey and **liquorice**.
- 43 In the sixth, the cure (*siddhi*) is the same as for diarrhoea. And in the seventh, he perishes.³⁷²
- 44 In between any one of these shocks, once the above treatment has been done, he should give the patient the following cold gruel (*yavāgū*) together with ghee and honey, that will take away the poison.
- 45–46 A gruel (*yavāgū*) made of the following items in a stewed juice (*niḥk-vātha*) destroys the two poisons: **luffa gourd**,³⁷³ **wild celery**,³⁷⁴ **velvet-leaf**, **sunflower**,³⁷⁵ **heart-leaved moonseed**, **myrobalan siris**, and **selu**

371 At 6.52.30 (Su 1938: 769) Ḍalhaṇa noted that *sindhu* can be interpreted as salt (*saind-hava*) .

372 The vulgate text here is quite different, recommending that the patient have medicated powder blown up his nose. It may be possible to detect the evolution of the Nepalese अवसीदेत् to the vulgate's अवपीडश्. The vulgate version is hard to construe, and we see Ḍalhaṇa struggling to interpret it in his commentary on 5.2.43ab (Su 1938: 566). This sternutatory is, however, recommended in the Nepalese version at 5.5.30ab (Su 1938: 576), for the seventh shock of poisoning by a striped snake (*rājimat*) . It is possible the text migrated from that location to this.

Another difference at this point is that the Nepalese version also does not support the vulgate's passage on the crow's foot (*kākapada*) therapy (Wujastyk 2003b: 145, n.106). The same is the case at 5.5.24 (Su 1938: 575) and the clear description at 5.5.45 (Su 1938: 577), in neither of which is the therapy supported in the Nepalese version. This therapy seems unknown to the Nepalese transmission. The therapy may have migrated into the vulgate *Suśrutasamhitā* from the *Carakasamhitā* 6.23.66–67 (Ca 1941: 574).

373 At 4.10.8 (Su 1938: 449) Ḍalhaṇa glossed कोशवती as देवदाली and at 4.18.20 (Su 1938: 472) as कटुकोशातकी, vocabulary pointing to *Cucumis cylindrica*, *Cucumis act-angula* or *Luffa echinata*. See glossary under **luffa**.

374 A plant often cited in *Suśrutasamhitā*, but rarely in *Carakasamhitā* (GVDB: 4). Ḍalhaṇa glossed it here, 5.2.45 (Su 1938: 566), as *ajamodā*, **wild celery**, but noted that others consider it to be *moraṭa*, **rajmahal hemp**. There is considerable complexity surrounding the identification of *moraṭa*/*mūrvā* and related synonyms (GVDB: 314–316). Taking *agnika* as a short reference to *agnimantha*, often identified as **migraine tree**, might be plausible, since that is antitoxic or anti-inflammatory, but such a short reference is not known elsewhere.

375 At 5.2.45 (Su 1938: 566) Ḍalhaṇa said that this plant has leaves like the *paṭola*, **pointed gourd**, T. B. Singh and Chuneekar (GVDB: 280, 443) argued plausibly that this is a syn-

plum, white siris, the two kinds of turmeric,³⁷⁶ and the two kinds of poison berry,³⁷⁷ hogweed, peas, the three heating spices, the two kinds of Indian sarsaparilla³⁷⁸ and blue water-lily.

onym for *arkapuṣpī*, *panacea twiner*, as Ḍalhaṇa also stated in 1.45.120 (Su 1938: 206), and the leaves of *Holostemma* and *Trichosanthes* are indeed strikingly similar. The appearance of the plant, a creeper with sun-like flowers, fits the name. But there remains much controversy about the identities of these candidates (e.g., ADPS: 195–198).

³⁷⁶ I.e., turmeric and Indian barberry.

³⁷⁷ I.e., poison berry and yellow-berried nightshade.

³⁷⁸ I.e., country sarsaparilla and black creeper.

The invincible ghee

- 47–49 There is a famous ghee called “Invincible” (*ajeya*) . It rapidly destroys all poisons but is itself unconquered. It is prepared with a mash (*kalka*) of the following plants: liquorice, crape jasmine, costus, deodar, peas, Indian madder, cardamom and cherry, cobra’s saffron, blue water-lily, sugar, embelia, sandalwood, cassia cinnamon, beautyberry, rosha grass, the two turmeric³⁷⁹ the two Indian nightshades,³⁸⁰ the two kinds of Indian sarsaparilla,³⁸¹ beggarweed, and heart-leaf sida.

Curing the ‘slow-acting’ poison

- 50–52 Someone suffering from “slow-acting poison (*dūṣṭviṣa*) ” should be well sweated, and purged both top and bottom. Then he should be made to drink the following eminent antidote which removes “slow-acting poison:”
Take long pepper, rosha grass, spikenard, lodh tree, cardamom, natron, scented pavonia, red chalk, as well as gold, and pondweed.
This antitoxin, taken with honey, eliminates slow-acting poison. It is called the “enemy of slow-acting poison (*dūṣṭviṣāri*) ,” and it is not prohibited in other situations.
- 53–54 If there are any other side-effects (*upadrava*) , such as fever, a burning feeling, hiccups, constipation (*ānāha*) , depletion of the semen, distension, diarrhoea, fainting, skin problems, bellyache (*jaṭhara*) , madness, trembling, then one should treat each one in its own terms, using anti-toxic medicines.
- 55 For a prudent person, the slow-acting poison can be cured (*sādhya*) immediately. It is treatable (*yāpya*) if it is of a year’s standing. Other than this, it should be avoided for the person who eats unwholesome things.

379 I.e., turmeric and Indian barberry.

380 I.e., poison berry and yellow-berried nightshade.

381 I.e., country sarsaparilla and black creeper.

Kalpasthāna 3: Poisonous Insects and Animals

Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.³⁸²

Translation

- 1 And now we shall explain the rule (*kalpa*) that is the required knowledge about mobile poisons.³⁸³
- 3 The full explanation about the sixteen carriers (*adhiṣṭhāna*) of the mobile poisons, that have been mentioned by me in brief, will be stated.³⁸⁴
- 4 In that context, they are:³⁸⁵
 - gaze and breath,
 - teeth, nails, and bites
 - urine and faeces,
 - menstrual blood,
 - semen,
 - tail,
 - contact with saliva,
 - nipping with the mouth

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

³⁸² [HIML](#): IA, 291–292.

³⁸³ In contrast to stationary, plant poisons. No reference is made to Dhanvantari (see Birch, Wujastyk, Klebanov, Parameswaran, et al. [2021](#)).

³⁸⁴ "Carrier" for base, foundation (*adhiṣṭhāna*) aims to capture the idea that the author will describe the creatures in which poisons inhere.

³⁸⁵ 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.

³⁸⁶ This interpretation comes from Ḍaḥaṇa on 5.3.4 ([Su 1938](#): 567), but he reads विशर्धित.

- (mukhasaṁdaṁśā) ,
- fart (avaśardhita) ,³⁸⁶
- anus,³⁸⁷
- bones,
- bile,
- bristles (śūka) , and
- corpses.

5 In that context,

location of the poison	creatures ³⁸⁸
in their breath and gaze	divine snakes
in their fangs	the ones on earth ³⁸⁹
in their nails, mouths and fangs	cats, dogs, monkeys, men (nara) , ³⁹⁰ crocodiles, frogs, ‘cook-fish’ (pākamatsya) , ³⁹¹ monitor lizards, cone snails (śambūka) , ‘poisonous snakes’ (pracalāka) , ³⁹² geckos (grhagoḍikā) , ³⁹³ four-footed insects and others
in their urine and faeces	lice (kiṭiṭa) , ‘flat insects’ (picciṭā) , ‘orange-dwellers’ (kaṣāyavāsika) , ‘pepper snakes’ (sarṣapaka) , ‘angry beetles’ (toṭaka) , dung beetles (varcaḥkiṭa) , and ‘pot insects’ (kauṇḍinya)
in their semen	mice

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

388 Many of these names are mere dubious placeholders.

389 Ḍalhaṇa on 5.3.5 (Su 1938: 567) cited the otherwise unknown authority Sāvitra on the topic of poisonous snakes (HIML: ???, ???).

390 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.

391 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)).

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

393 The scribe of MS NAK 5-333 noted in the margin that some of his sources read गल-गोडिका, which is the name of a snake known also in the Carakasamhitā and elsewhere in literature. 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>) , ³⁹⁴ 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>) .

Table 2: Passage 5, expressed in tabular format.

- 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.³⁹⁵ 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.³⁹⁶ He should try to purify that

³⁹⁴ 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."

³⁹⁵ अस normally means "tears," but rarely means "blood."

³⁹⁶ On the polysemy of elephant/snake (*nāga*) , see Semeka-Pankratov 1979.

- polluted water, after curing their ailments.
- 9 And so, he should burn **axlewood** and **garjan oil tree**, as well as **corky coral tree**, with **crimson trumpet-flower tree** and **small-flowered crape myrtle** and **weaver's beam tree**, and with **golden shower tree** and **white catch 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.³⁹⁷
- 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.³⁹⁸ And if there exists another path, he should go by that.³⁹⁹
- 13 When grasses and foods are polluted, people collapse, fall unconscious. And others vomit. They get loose stool (*vidbheda*) or they die. 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**⁴⁰⁰ together with **gold and sarsaparilla**, and a portion of of **nutgrass** equal to that,

397 “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).

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

399 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.”

400 “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_{Dict}: 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”.⁴⁰¹ 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.⁴⁰²
- 17 The smoke and air can be purified by putting into the air: lac, turmeric, Himalayan monkshood, and myrobalan, with Himalayan mayapple, costus, cardamom,⁴⁰³ and peas, and beautyberry.

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.⁴⁰⁴
- 19 Pitiless Fury took a body and burst out of the mouth of furious Brahmā's store of fiery energy.⁴⁰⁵
- 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,

⁴⁰¹ 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.

⁴⁰² The syntax of this verse is somewhat loose; the vulgate has regularized it, smoothing out the difficulties.

⁴⁰³

⁴⁰⁴ 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.

⁴⁰⁵ “Fury” is here anthropomorphised.

- whatever substance a poison reaches, it establishes itself there and by its nature it takes on that substance's savour.⁴⁰⁶
- 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.⁴⁰⁷
- 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.⁴⁰⁸
- 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,⁴⁰⁹ 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.]⁴¹⁰

406 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.

407 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.

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

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

410 *Mādhavanidāna*, 69.20–21 (MN₁: 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.
411
- 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,⁴¹² 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.⁴¹³

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,⁴¹⁴ 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

vrddheṣu bubhuḥṣiteṣu 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.

- 411 At this point, witness H inserts a marginal Indravajrā verse about diseases that afflict immoral women.
- 412 गृहधूम is not a plant in this context *pace* MW: 362. See the discussion in note 318, p. 116.
- 413 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.
- 414 याम्ये means “southerly” but Ḍalhaṇa on 5.3.38 (*Su 1938*: 570) interpreted it as “ in Yama's direction” as “under the seventh asterism.”

material corresponds to SS.1.45.205ab, where it describes how alcohol affects the body.

- 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,⁴¹⁵ 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,⁴¹⁶
- 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.⁴¹⁷

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

416 nāsāvasāda & plural sakaṇṭhabhaṅgāḥ

417 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 Invenomation

Introduction

The fourth chapter of the Kalpasthāna of the *Suśrutasaṃhitā* addresses the topic of snake bites and snake venom. Unusually for the Nepalese version of the *Suśrutasaṃhitā*, 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 2.⁴¹⁸

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.⁴¹⁹ There also exists an 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.⁴²⁰ Fayrer provided a biological taxonomy

⁴¹⁸ On the idea of notational variants in scientific translation, see Elshakry 2008; Sarukkai 2016; Wujastyk 2021a: 81–83.

⁴¹⁹ 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.

⁴²⁰ Fayrer 1874, first published in 1872.

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.⁴²¹ 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 437 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 *Suśrutasamhitā* does.⁴²² But unlike the *Suśrutasamhitā*, 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.⁴²³ 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.⁴²⁴

421 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).

422 Slouber 2016a: 144–145.

423 Harimoto 2011: 101–104.

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

The Seven Stages of Toxic Shock

A prominent feature the *Suśrutasamhitā*'s interpretation of envenomation symptoms is the concept of seven successive stages or pulses (*vega*) of toxic shock after a bite. This is interestingly coordinated with the *Suśrutasamhitā*'s concept of the *kalās*, which are either seven layers of skin that come into existence during embryonic development or seven interstitial tissues that separate the various parts of the body.⁴²⁵

Contemporary clinical studies of snake envenomation and treatment do not show any awareness of such a seven-stage symptomology of traditional Indian medicine.⁴²⁶ Exceptionally, the studies by Barceloux and Özbulat et al., do identify and tabulate three stages of envenomation.⁴²⁷ The symptoms of these three stages are mainly characterized by increasing degrees of edema. This differs from the *Suśrutasamhitā*'s detailed characterization of changes in skin colour etc.⁴²⁸

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.⁴²⁹
- 3 Suśruta, grasping his feet, questions the wise Dhanvantari, the expert in all the sciences.

⁴²⁵ The system of the कला is described at 4.4.4–20 (Su 1938: 355–357). Cf. *Mahākośa*: 1, 183–184, *Śabdasaṁdhu*: 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 *Śārṅgadharasamhitā* (1.1.60 (P. Śāstrī 1931: 15)).

⁴²⁶ 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.

⁴²⁷ Barceloux 2008: 1017, Table 176.3, and Özbulat et al. 2021: 7, and Table 1, broadly following Barceloux.

⁴²⁸ I am grateful to Prof. Jan Gerris (U. Ghent) and Prof. Jan Tytgat (KU Leuven) for assistance in finding relevant toxicological literature.

⁴²⁹ The *Sarvāṅgasundarī*, commenting on *Aṣṭāṅgahṛdayasamhitā* 1.16.17 (Ah 1939: 246), glossed कल्प as प्रयोग.

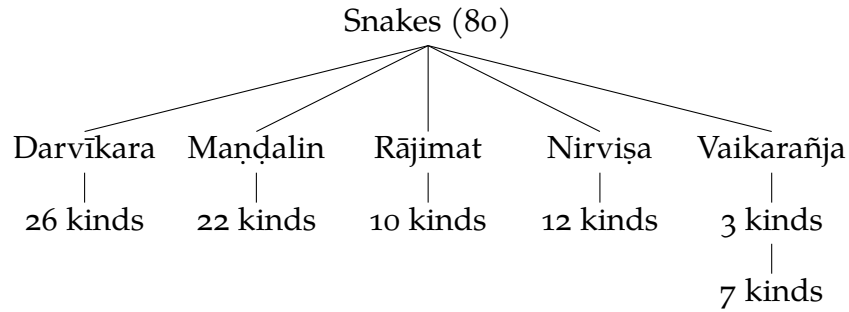


Figure 1: The taxonomy of snakes in the vulgate, 5.4.9–13ab (Su 1938: 571).

- 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”.⁴³⁰

[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.”⁴³¹

9cd–10 “There are eighty kinds of snakes and they are divided in five ways:

⁴³⁰ 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).

⁴³¹ 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.

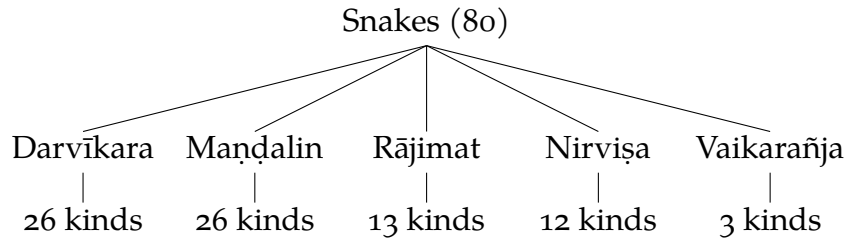


Figure 2: The taxonomy of snakes in the Nepalese version.

Darvikaras, Maṇḍalins, Rājimats, and Nirviṣas. And Vaikarañjas that are traditionally of three kinds.⁴³²

- 11 “Of those, there are twenty and six hooded snakes, and the same number of Maṇḍalins are known. There are thirteen Rājimats.⁴³³
- 12 “There are said to be twelve Nirviṣas and, according to tradition, three Vaikarañjas.

[Behaviours]

- 13–14ef “If they are trodden on, ill-natured or provoked or even just looking for food, those very angry snakes will bite. And that is said to happen in three ways: serpented (*sarpita*) , torn (*darita*) and thirdly without venom (*nirviṣa*) . Some experts on this want to add “hurt by the snake’s body”.⁴³⁴
- 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,⁴³⁵ accompanied

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

432 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*.

433 The phrasing of this śloka is awkward.

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

435 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 √mut “break” or mūta/mūṭa “woven basket.” Perhaps it is related to the Tamil மொட்டி (*mōṭṭi*), whose meanings include “arrogance, grandeur, display” (DED₂: #5133) or to faintly-documented forms like *mōṭyate* “is twisted” (CDIAL: #10186). Ḍalhaṇa’s उन्मोद्य may

grammar

- by a little ring of spots (*cuñcumālaka*) ,⁴³⁶ lead to degeneration, and are close together and swollen.
- 17 Where there are streaks with blood, whether it be blue or white, the physican 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.⁴³⁷ That is “hurt by a snake’s body.”
- 20 Locations bitten by sick or frightened snakes are known to have little poison. Similarly, a site bitten by very young or old snakes has little poison.
- 21 Poison does not progress in a place frequented by eagles,⁴³⁸ gods, holy sages, spirits, and saints, or in places full of herbs that destroy poison.⁴³⁹

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 49.

436 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.

437 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.

438 Ḍalhaṇa 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*.

439 For “spirits” the Nepalese version has भूत while the vulgate reads यक्ष.

[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.⁴⁴⁰
- 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.⁴⁴¹
- 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.⁴⁴²

⁴⁴⁰ 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)).

⁴⁴¹ 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.

⁴⁴² The sense of the last phrase here is quite different from the vulgate, which says only that “details” will be explained below.

[Enumeration of Snakes]

34.1 In that context, here are the Darvīkaras.

- | | |
|---|---|
| 1. The Black snake (<i>kṛṣṇasarpa</i>) ; | 15. The Great Lotus (<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 (<i>dadhimukha</i>) ; |
| 4. The All Black (<i>sarvakṛṣṇa</i>) ; ⁴⁴³ | 18. The Lotus Mouth (<i>puṇḍarīkamukha</i>) ; |
| 5. The White Pigeon (<i>śvetakapota</i>) ; ⁴⁴⁴ | 19. The Brown Hut Mouth (<i>babhrūkuṭīmukha</i>) ; |
| 6. The Rain Cloud (<i>valāhako</i>) ; | 20. The Variegated (<i>vicitra</i>) ; |
| 7. The Great Snake (<i>mahāsarpa</i>) ; | 21. The Flower Sprinkle Beauty (<i>puṣpābhikīrṇnābha</i>) ; |
| 8. The Conch Keeper (<i>śaṃkhapāla</i>) ; | 22. The Mountain Snake (<i>girisarpa</i>) ; |
| 9. The Red Eye (<i>lohitākṣa</i>) ; | 23. The Straight Snake (<i>ṛjusarpa</i>) ; |
| 10. The Gavedhuka (<i>gavedhuka</i>) ; | 24. The White Rip (<i>śvetadara</i>) ; |
| 11. The Snake Around (<i>parisarpa</i>) ; | 25. The Big Head (<i>mahāśīrṣa</i>) ; |
| 12. The Break Hood (<i>khaṇḍaphaṇa</i>) ; | and |
| 13. The Kūkuṭa (<i>kūkuṭa</i>) ; | 26. The Hungry Sting (<i>alagarda</i>) ; |
| 14. The Lotus (<i>padma</i>) ; | ; |

34.2 Here are the Maṇḍalins

- | | |
|---|--|
| 1. The Mirror Ring (<i>ādarśamaṇḍala</i>) ; | 8. The Jackfruit (<i>panasaka</i>) ; |
| 2. The White Ring (<i>śvetamaṇḍala</i>) ; | 9. The Big Jackfruit (<i>mahāpanasaka</i>) ; |
| 3. The Red Ring (<i>raktamaṇḍala</i>) ; | 10. The Bamboo Leaf (<i>veṇupatraka</i>) ; |
| 4. The Speckled (<i>prṣata</i>) ; | 11. The Kid (<i>śīsuka</i>) ; |
| 5. The Gift of God (<i>devadinna</i>) ; | 12. The Intoxicator (<i>madanaka</i>) ; |
| 6. The Pilindaka (<i>pilindaka</i>) ; | 13. The Morning Glory (<i>pālindaka</i>) ; |
| 7. The Big Cow Snout | |

⁴⁴³ Not in vulgate.

⁴⁴⁴ The vulgate adds The Big Pigeon (*mahākapota*) .

- | | |
|---|--|
| 14. The Stretch (<i>tantuka</i>) ; | 20. The Khaluṣa (<i>khaluṣa</i>) ; |
| 15. The Pale as a Flower
(<i>puṣpapāṇḍu</i>) ; | 21. The Pigeon (<i>pārāvata</i>) ; |
| 16. The Six Part (<i>ṣaḍaṅga</i>) ; | 22. The Hand Decoration
(<i>hastābharanaka</i>) ; |
| 17. The Flame (<i>agnika</i>) ; | 23. The Tatra (<i>tatra</i>) ; ⁴⁴⁵ |
| 18. The Brown (<i>babhru</i>) ; | 24. The Mark (<i>citraka</i>) ; |
| 19. The Ochre (<i>kaṣāya</i>) ; | 25. The Deer Foot (<i>eṇīpada</i>) . ⁴⁴⁶ |

34.3 Here are the Rājīmats.⁴⁴⁷

- | | |
|--|--|
| 1. The Lotus (<i>puṇḍarīka</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
(<i>darbhapuṣpa</i>) ; ⁴⁴⁸ |
| 4. The Two Finger Stripe
(<i>dvyāṅgulirāji</i>) ; | 10. The Red Eye (<i>lohitākṣa</i>) ; ⁴⁴⁹ |
| 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.

- | | |
|---|---|
| 1. The Rain Cloud (<i>valāhako</i>)
; ⁴⁵⁰ | 8. The Two-day (<i>dvyāhika</i>) ; |
| 2. The Snake Flag (<i>ahipatāka</i>) ; | 9. The Milk Flower
(<i>kṣīrikāpuṣpa</i>) ; |
| 3. The White Leaf (<i>śukapatra</i>) ; | 10. The Flower All (<i>puṣpasakalī</i>)
; |
| 4. The Goat Swallower
(<i>ajagara</i>) ; | 11. The Chariot of Light
(<i>jyotīratha</i>) ; |
| 5. The Stimulator (<i>dīpyaka</i>) ; | 12. The Little Tree (<i>vrkṣaka</i>) ; |
| 6. The Ilikinī (<i>ilikinī</i>) ; | |
| 7. The Year-Snake (<i>varṣāhika</i>) ; | |

⁴⁴⁵ This seems implausible, but otherwise the list of Maṇḍalins would be short.

⁴⁴⁶ 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.

⁴⁴⁷ 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*.

⁴⁴⁸ Also in the Darvīkara list.

⁴⁴⁹ Also in the Darvīkara list.

⁴⁵⁰ Also in the Darvīkara list.

[Breeding and Gender]

varṇa
means "col-
our" else-
where?

34.5 The Vaikaraṇjas originate out of contrary unions amongst the three colours.⁴⁵¹ 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.⁴⁵² Females have small eyes, tongues and heads. Neuters have both characteristics, and are slow to exert themselves or be angry.⁴⁵³
- 36 In that context we shall give instruction in a general way about the sign of having been bitten by any of the snakes.

For what reason?

Because poison acts quickly, like a fire with an oblation, a honed sword, or a thunderbolt.⁴⁵⁴ And ignored for even a period of time, it can drag the patient away. There is not even an opportunity to follow the literature.⁴⁵⁵

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

451 The word *varṇa* in this chapter normally means "colour" not "class." ("Class is expressed by "jāti.") While *kṛṣṇasarpa* is clearly a colour-type, it is less obvious that *gonasī* is a special colour, and *rājimat* is a group of snakes.

452 The vulgate includes the snake's mouth in this and the next list.

453 The reading मन्दचेष्टाक्रोधा is an awkward compound; possibly the original reading was मन्दचेष्टाः + अक्रोधा and sandhi was applied twice.

454 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.

455 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.

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”.⁴⁵⁶

[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.⁴⁵⁷

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,⁴⁵⁸ a burning feeling, thirst, intoxication, fainting, fever, haemorrhaging (*śonitāgamana*), and the degeneration of the flesh and fat above and below. There is swelling, suppuration of the bite, metamorphopsia (*viparītadarśana*), anger caused by the suffering, and every kind of pain that is due to bile.⁴⁵⁹

The poison of a Rājīmat causes the skin, nails, eyes, teeth, mouth, urine, feces, and bitemark to be pale; there is a cold fever, the hair stands on end, there is stiffness and swelling of the limbs including the site of the bite. There is a discharge of viscous phlegm, vomiting, itchy eyes, and a

456 In the next passage, the symptoms of snake poisoning are indeed explained under three headings.

457 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).

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

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

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.⁴⁶⁰ 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 .⁴⁶¹

[**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.⁴⁶² In the second pulse, it corrupts the flesh. That causes extreme blackness and lumps.

In the third, it corrupts the fat. That causes a discharge at the bite, heaviness of the head and an eclipse of the vision.⁴⁶³

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,

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

461 Cf. the same concept in the context of plants, at 131

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

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

pain in the heart and fainting.⁴⁶⁴

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 (*śleṣ-man*) , 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.

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 manyāstambha (*stiffness of the neck*) 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.

⁴⁶⁴ The “seat of fire in the gut (ग्रहणी)” is an ayurvedic organ in the digestive tract that does not correspond to any specific organ known to contemporary anatomy. For discussion, see *Mahākośa*: v. 1, 304; Meulenbeld 1974b: 619; Das 2003: 544–545.

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) .⁴⁶⁵

41 *The interval taken by the deadly substance (kālakalpa) , propelled (√ūh) by air (samīraṇa) , to cut the layers of skin is known as the “pulse interval (vegāntara) ”.⁴⁶⁶*

42 *In the first pulse, an animal has a swollen body, is distressed and broods.⁴⁶⁷*

In the second, it dribbles somewhat,⁴⁶⁸ the hair stands up on its body, and it has pain (√pīḍ) in the heart.

43 *The third stage brings headache and it breaks the ears and necks.⁴⁶⁹ In the fourth, the bewildered creature trembles and gnashing its teeth, it gives up life.*

44–45 *Some experts say that elephants have three toxic reactions .⁴⁷⁰ 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.⁴⁷¹

465 See note 425 above.

466 Ḍalhaṇa on 5.4.41 (Su 1938: 574) glossed कालकल्प as मृत्युसदृशं विषं “the poison resembles death.”

467 The verb √प्रध्वै “meditate, be thoughtful, brood” is unexpected here and in the second class, an epic form. Ḍalhaṇa 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.

468 The Nepalese witnesses use लालि-, not लाला-, for “saliva.”

469 The scribe of MS H emended the text to read कण्ठग्रीव with the vulgate. Intransitive use of pass. भञ्ज्.

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

471 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.⁴⁷²

⁴⁷² [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.⁴⁷³
- 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.⁴⁷⁴
- 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.⁴⁷⁵
- 5 Where a bandage (*bandha*) is not suitable, one should raise the bite up and then cauterize it.⁴⁷⁶ Suction, cutting and cauterizing are recommended in all cases.
- 6 Suction will be good after filling the mouth with earth (*pāṃśu*).⁴⁷⁷ Alternatively, the snake should be bitten by the person who knows that they have just been bitten.⁴⁷⁸

473 On कल्प, see note 429.

474 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).

475 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)).

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

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

478 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 the first-response cares for snakebite in most of the Malayalam texts of Vishavaidya.

- 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.⁴⁷⁹

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.⁴⁸⁰
- 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.⁴⁸¹
- 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.⁴⁸²

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 Viṣavaidya text edited by Mahādeva Śāstrī (1958).

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

480 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.

481 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). HIML: IIB, 151, n. 344 provides a bibliography to 2002 of studies on Kurukullā, who is mentioned in Māhuka’s *Haramekhalā*, and Meulenbeld 2008a: 30–34 includes discussion of Bheruṇḍa as a bird, with related terms.

482 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.⁴⁸³ 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.⁴⁸⁴

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.⁴⁸⁵
- 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.

⁴⁸³ 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.

⁴⁸⁴ 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*.

⁴⁸⁵ 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.⁴⁸⁶
- 21 At the third one should use errhines and collyrium (*añjana*) that destroy poison.⁴⁸⁷ 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 *tīkṣṇa* (*sharp*), and a well-regarded gruel too.
- 23 But at the seventh, one should purge (*śodh*) his head with a sharp sternutatory.⁴⁸⁸

In the case of Maṇḍalins

- 24 Amongst Maṇḍalins, the earliest toxic reaction (*vega*) should be treated in the same way as with Darvīkaras.⁴⁸⁹
- 25 At the second, one should make him drink ghee and honey and then make him vomit.⁴⁹⁰
- 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.

⁴⁸⁶ This section reproduces some of the therapies from *Suśrutasaṃhitā* 5.2.40–43 (*Su* 1938: 566) on the stages of slow poisoning (*dūṣṭviṣa*) by plant poisons; see translation on p. 131 above.

⁴⁸⁷ The rare word नस्त: “from or into the nose” in नस्त:कर्म “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.

⁴⁸⁸ The vulgate adds a half-verse here recommending the application of a collyrium (*añjana*) to a cut made on the patient’s head.

⁴⁸⁹ 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 372, p. 132 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*.

⁴⁹⁰ 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.⁴⁹¹ And at the seventh, a wholesome antidote that destroys poison in a sternutatory (*avapīḍa*) .⁴⁹²

In the case of Rājimats

- 28 Now, Amongst Rājimats, one should let blood at the first toxic shock.⁴⁹³
- 29 At the second, a patient who has vomited should be made to drink an antidote that destroys poison. At the third, fourth and fifth, the rule that applies to the Darvīkara is suitable.
- 30 At the sixth, use a very sharp collyrium (*añjana*) , and at the seventh a sternutatory (*avapīḍa*) . There is a prohibition on using blood-letting for pregnant women, children and the elderly.
- 31ab In those who are in pain because of poison, it is advised that the prescribed procedures be applied gently.

31ab In animals

In goats and sheep, bleeding and collyriums are the same as for people.

- 32cd In cows and horses, that is twice as much; three times as much for buffalos and camels, four times for elephants and simply (*kevala*) for all birds.⁴⁹⁴⁴⁹⁵

write note
on par-
isekān pra-
dehāms

491 The “group of 17 plants beginning with **cottony jujube**” (काकोल्यादि गण) is described at *Suśrutasaṃhitā* 1.38.35–36 (*Su 1938*: 167). These plants pacify the bile, blood and wind and increase phlegm, body-weight, semen and breastmilk.

492 The अवपीड is described at *Suśrutasaṃhitā* 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 Ḍṛḍhabala (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.

493 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.

494 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. 156 for the toxic reactions in birds and other animals.

- 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.⁴⁹⁶
- 47–48ab One should eliminate this poison completely. It is extremely hard to overcome. If even a small amount is left over, it can strongly bring about a toxic reaction,
- 48cd–49 Or may lead to dejection, pallor, fever, cough and headaches, dessication, swelling, catarrh, poor vision, disinterest in food (*aruci*) or rigidity (*jāḍyatā*).⁴⁹⁷ And in such cases one should apply the cure as appropriate.
- 50–51ab One should also treat the secondary ailments (*upadrava*) of a poisoned patient each in its own way.
To the extent that, after the the bandage (*ariṣṭā*) has been removed and after the marked place has been quickly incised (*pracchāna*) with that, one can see poison that has leaked out there, a toxic reaction may strongly be brought about.
- 52.1 Once the poison has disappeared one can conquer irritated wind using items that restrain the wind.⁴⁹⁸

check MSS
on emend-
ation to
avaśiṣṭa
from
avatiṣṭha

?

495 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. Ḍalhaṇa 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.

496 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 372 and 489, pp. 132, 161 above) and the beating of drums that have been smeared with antidotes, as discussed in *Suśrutasaṃhitā* 5.6 (Su 1938: 580–582) (see p. 165 below).

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

498 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.

- 53 One can conquer bile using substances that remove bile-fever (*pit-tajvara*) , with decoctions, oleation and purges, combined with substances that remove poison, with the exception of sesame oil (*taila*) , wine, horse gram, and mangosteen.⁴⁹⁹

78 ⁵⁰⁰

⁴⁹⁹ The vulgate text reads “fish” in place of “wine.”

⁵⁰⁰ After this verse, the vulgate text adds five verses, 79–83, that do not appear in the Nepalese version.

Kalpasthāna 6: Beating Drums

Introduction

Uttaratantra

Uttaratantra 17: Preventing Diseases of the Pupil

Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.⁵⁰¹

The history of couching in India has been discussed since the nineteenth century,⁵⁰²

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*” (*añjanādigāṇa*), that is listed at 1.38.41–42 ([Su 1938](#): 167). They are described as valuable for counteracting blood-bile (*raktapitta*) , poison and overheating (*dāha*) .

Translation

- 1 Now I shall explain the counteraction (*pratiṣedha*) of diseases located in the pupil (*dṛṣṭi*) .
- 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*) ”.⁵⁰³

⁵⁰¹ [HIML](#): IA, 305–306.

⁵⁰² 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.

⁵⁰³ 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 (*tarpana*),⁵⁰⁴ but not cutting with a blade (*śastrakṣata*).⁵⁰⁵

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 prepared with tilvaka (*tailvaka*) 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:

- ochre (*gairika*), Sind salt (*saindhava*), long pepper (*kṛṣṇā*) and the black soot (*maṣī*) from cow's teeth;
- Cow's flesh (*gomāṃsa*), black pepper, siris and red arsenic (*man-aḥśilā*);
- stalk (*vṛnta*) from a wood apple with honey (*madhu*);⁵⁰⁶
- or the the fruits of the ??.

maṣī
burned
charcoal.
Find refs.

- 8 The physician should make a collyrium (*añjana*) with ground up metal (*kupyaka*),⁵⁰⁷ Asoka tree, sal tree, mango, beautyberry, lotus, blue water-lily, together with peas, emblic, myrobalans, long pepper. It should be combined with ghee and honey (*kṣaudra*).

- 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.

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.

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

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

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

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

- Then this collyrium (*añjana*) , matured (*vipakva*) with ghee and honey (*kṣaudra*) , should then be applied.
- 10–11ab Filaments (*kiñjalka*) of **lotus** and **blue water-lily**, with ochre (*gairika*) , 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 (*rasañjana*) , honey (*kṣaudra*) , 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*) .⁵⁰⁸ Then he mixes it with the bile of a tortoise or with extract of rohu carp (*rauhita*) . 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 (*rasañjana*) 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*)⁵⁰⁹ and liver extract (*yakṛdrasa*) .⁵¹⁰
- 16 One should grind up kohl (*srotoja*) ,⁵¹¹ and Sind salt (*saindhava*) 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*)⁵¹² 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*) .

⁵⁰⁸ This was Ḍalhaṇa's preferred interpretation of *rasa* "juice" in this context. He also noted that some take elixir-salve (*śīta*) to be camphor.

⁵⁰⁹ 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.

⁵¹⁰ This verse appears as no. 27 in the vulgate.

⁵¹¹ Glossed by Ḍalhaṇa as a kind of collyrium (*añjana*) . Cf. **nadk-1954** and P. V. Sharma **1982**: 197–198

⁵¹² 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.

- 18cd–19ab Wicks made of red arsenic (*manahśilā*) , chebulic myrobalan (*abhayā*) , the three spices (*vyoṣa*) . Indian sarsaparilla (*sāriva*) , cuttlefish bone (*samudraphena*) , combined with goat’s milk are good.
- 19cd–21ab One should cook a honey collyrium (*kṣaudrāñjana*) either in the juices of cow’s urine (*gomūtra*) , and bile, spirits (*madirā*) , liver (*yakṛt*) , and emblic (*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*)⁵¹³ 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 (*māgadhi*) , the bone and the marrow of a goat, cardamom (*elā*) and liver, together with liver extract, is good for eyes afflicted by phlegm.⁵¹⁴
- 24 Over a fire, one should cook the liver (*yakṛt*) of a monitor lizard (*godhā*) prepared with entrails (*antra*) and stuffed with long pepper (*māgadhi*) . As is well known, liver (*yakṛt*) which is used (*niṣevita*) with collyrium (*añjana*) certainly destroys night blindness.
- 25 After preparing both a spleen (*plīhan*) and a liver on a spit, one should eat them both with ghee and oil.⁵¹⁵
- 25cd–26ab As is well known, there are six diseases that can be alleviated (*yāpya*) ;

513 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.

514 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).

515 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.

in those cases (*tatra*) one should release the blood by bloodletting.

And for the sake of wellbeing one should also purge using aged ghee combined (*upahita*) with purgative aids (*aṅga*) .

26cd–27 When an eye-disease is caused by wind (*pavanodbhava*) they say that castor oil (*pañcāṅgulataila*) mixed with milk is good.⁵¹⁶ In the case of diseases of blood (*śonita*) and bile (*pitta*) , one should drink ghee with the three fruits; it is particularly cleansing.⁵¹⁷ 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).⁵¹⁸

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 (*meṣaviṣāṇa*) .

A man who is suffering from partial blindness should lick the finely-ground three fruits mixed with ghee off his hand (*sapāṇa*) .⁵¹⁹

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*) .⁵²⁰

⁵¹⁶ Ḍalhaṇa said that the unexpressed topic of this recipe is partial blindness (*timira*) .

⁵¹⁷ 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

⁵¹⁸ 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.

⁵¹⁹ “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).

⁵²⁰ “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.

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 the meat of a carnivore (*kravyabhuj*) and a deer (*eṇa*), is combined with honey and ghee.⁵²¹

Fat (*vasā*) from a horse, a vulture, a snake, and a cock (*tāmracūḍa*), combined with mahua (*madhūka*) is always good in a collyrium (*añjana*).⁵²²

- 33 Having prepared (*niṣevita*) a collyrium (*añjana*) made of kohl (*srotas*) and gradually combine it with juices (*rasa*), milk and ghee.⁵²³

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 Sindh salt (*saindhava*) that has been repeatedly prepared with the mouth of a black snake, is good in the case of bloodshot blindness (*rāgin timira*).⁵²⁴

- 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*).⁵²⁵

- 36 And realgar (*manahśilā*) mixed with elixir salve (*rasañjana*) and honey

521 Ḍalhaṇa noted (Su 1938: 628a) that *puṭāhvaya* (see verse 35 below) is a synonym for *puṭapāka*, and that the process is described in the *Kriyākālpa* chapter, i.e., SS.6.18.33–38 (Su 1938: 635). On the *puṭa* process in the *Suśrutasamhitā*, which is earlier and different than that of *rasaśāstra* literature, see the discussion by 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.

522 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.

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

524 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.

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

- is a liquid collyrium (*dravāñjana*) which is, in this case, combined with mahua (*madhūka*).⁵²⁶
- Alternatively, experts on this say that finely ground blue vitriol (*tuttha*) extracted from a gold mine is the “same collyrium (*samāñjana*)”.⁵²⁷
- 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*).⁵²⁸
- The extracts (*rasa*) produced from aflame of the forest (*palāśa*), Rohīta tree (*rohīta*),⁵²⁹ mahua (*madhūka*), 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.⁵³⁰
- 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*)⁵³¹ 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*)⁵³² and a plentiful amount of long pepper (*māgadha*), Sindh salt and honey.
- 40 A treatment (*kriyā*) with realgar (*manaḥśilā*), the three spices, conch,

526 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.

527 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).

528 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).

529 Probably *Soyimida febrifuga* A. Juss.

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

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

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

honey, along with Sindh salt, green vitriol (*kāsīsa*) and elixir salve (*rasāñjana*).⁵³³

They say that an elixir salve (*rasāñjana*) combined with myrobalans, treacle and dried ginger is good.⁵³⁴

- 41 Alternatively, a collyrium (*añjana*) that has been prepared many times in the eight types of urine⁵³⁵ is put into water with the three fruits. Having stored it in the mouth of a nocturnal creature (*niśācara*)⁵³⁶ one should place it in a conch (*salilotthita*) for two months.⁵³⁷

- 42 One should apply that collyrium (*añjana*) together with the flowers of mahua (*madhūka*) 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*).⁵³⁸

- 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.⁵³⁹

The treatment that is good for removing watery eye (*syanda*) should be properly applied in all these humoral cases, according to the individual.⁵⁴⁰

- 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.⁵⁴¹

- 45 Someone who uses matured ghee, the three fruits, **wild asparagus**, as

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

534 We emend हिते to हितम् against the MSS.

535 See *Suśrutasamhitā* mūtravarga

536 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.

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

538 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.

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

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

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

find ref.

Check out these refs.

meaning of kalpa

- 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 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*) .⁵⁴²
- 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.⁵⁴³
- 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,⁵⁴⁴ 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.⁵⁴⁵

542 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.

543 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.

544 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.

545 Ḍalhaṇa remarked on 6.17.61ab (Su 1938: 630) that when the piercing is not correctly

- 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 (*dr̥ṣṭimaṇḍala*) with the tip of the probe (*śalākā*).⁵⁴⁶
- 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*).⁵⁴⁷
- 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.⁵⁴⁸
- 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*).⁵⁴⁹
- 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.⁵⁵⁰
- 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.⁵⁵¹
- 62 Every three days one should wash it with decoctions (*kaṣāya*) that re-

done, blood issues and there is no sound.

546 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.

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

548 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.

549 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.

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

551 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).

- move 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 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.⁵⁵²
A hard probe leads to shooting pain (*śūla*) , a thin to unsteadiness of the humours (*doṣapariplava*) ,⁵⁵³
- 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*) .⁵⁵⁴
- 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*) .⁵⁵⁵

⁵⁵² 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.

⁵⁵³ There is a medically significant difference here from the vulgate, which reads “a rough (*khara*) probe” not a “thin” probe.

⁵⁵⁴ 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 (*gamanādikriyāvināśakarī*) .”

⁵⁵⁵ The vulgate reads “copper (*tāmra*) ” in place of “silver.”

[Complications]

- Redness, swelling, lumps, driness (*coṣa*) , bubbling (*budbuda*) ,⁵⁵⁶ pigs' eye (*sūkarākṣitā*) ,⁵⁵⁷ irritation (*adhimantha*) , etc. and other diseases arise from faults in the piercing,
- 69–70 or even from bad behaviour. One should treat them each accordingly. Listen to me once again about compounds for painful red eyes. Red chalk (*gairikaḥ*) , 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*) .⁵⁵⁸ This is immediately beneficial when someone is looking for relief.
- 72 A paste with *Holostemma* (*payasyā*) ,⁵⁵⁹ Indian sarsaparilla (*śārivā*) , cassia cinnamon (*patra*) , Indian madder (*mañjiṣṭhā*) , and liquorice (*madhukair*) stirred with goat's milk, pleasantly warmed, is said to be healthy.⁵⁶⁰
- 73 Alternatively, it can be made in this way with Himalayan cedar, Himalayan cherry (*padmaka*) and dried ginger. Or, in the same way, with grapes, liquorice and the Lodh tree mixed with Sindh salt.
- 74 Alternatively, goats' milk with the Lodh tree, Sindh salt, red grapes and liquorice, cooked, should be used in irrigation because it removes pain and redness.
- 75 Having cooked it with liquorice, water-lily, and costus, mixed with grapes (*drākṣā*) , lac (*lākṣā*) , white sugar (*sitā*) , with wild asparagus, Hare Foot *Uraria* (*pr̥thakparṇī*) ,⁵⁶¹ nutgrass (*mustā*) , liquorice,

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

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

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

559 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 *Sauśrutaniḥaṇṭu* glosses it as *kṣīrikā* or *arkapuṣpikā* (Suvedī and Tivārī 2000: v. 307).

560 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).

561 Suvedī and Tivārī 2000: 18.

- 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.⁵⁶² This has an admixture of cottony jujube (*kākolī*) etc., should be prescribed in all treatments.⁵⁶³
- 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.⁵⁶⁴
- 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 *Kriyākālpa* section. Those various methods may be applied here too.

or a dual?

⁵⁶² Ḍalhaṇa mentioned that these drugs include Deodar (*bhadradāru*) and other wind-destroying drugs. The *vātaśamāmana* group is listed in *Suśrutasamhitā sūtrasthāna* 1.39.7.

⁵⁶³ Ḍalhaṇa noted that this would include errhines, ointments, etc.

⁵⁶⁴ 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 3.⁵⁶⁵ 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*.

⁵⁶⁵ 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
Kumāratāntra	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 *Kumāratāntra*. 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.⁵⁶⁶

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

⁵⁶⁶ 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.⁵⁶⁷
- 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* ([MN₃](#)) 62, or at least its version printed in Y. T. Ācārya ([MN₃](#): 361). The readings of the [MN₃](#) 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 [MN₃](#). 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.⁵⁶⁸

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

⁵⁶⁷ See 1.3.37ab ([Su 1938](#): 15): नैगमेषचिकित्सा च ग्रहोत्पत्तिः सयोनिजा ॥.

⁵⁶⁸ 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.⁵⁶⁹ 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).⁵⁷⁰ By contrast, the vulgate contains two complete verses (four hemistichs) in the *anuṣṭubh* metre, again with only loosely-related content.⁵⁷¹ The three final hemistichs of this group are borrowed verbatim from the *Carakasamhitā*.⁵⁷² We can be sure of the direction of borrowing because one of these shared verses says that the twenty kinds of diseases of the female reproductive system “have already been indicated in the *Compendium of Diseases* (rogasamgraha)”.⁵⁷³ This statement does not make any sense in the context of the *Suśrutasamhitā*, where no such Compendium exists.⁵⁷⁴ By contrast, in the *Carakasamhitā* this reference points back to chapter 1.19 (*Ca* 1941: 109–112), which calls itself “The Compendium of Diseases”.⁵⁷⁵ This Compendium lists all the diseases dealt with in later sections of the text, and specifically mentions the twenty diseases of female reproductive system.⁵⁷⁶ Even the vocabulary and wording of this

⁵⁶⁹ *Suśrutasamhitā* 6.38.3–4ab (*Su* 1938: 668).

⁵⁷⁰ The metre of these verses is not perfect.

⁵⁷¹ *Suśrutasamhitā* 6.38.4cd–6ab (*Su* 1938: 668).

⁵⁷² *Carakasamhitā* 6.30.7cd–8 (*Ca* 1941: 634).

⁵⁷³ *Suśrutasamhitā* 6.38.5ab (*Su* 1938: 668): विंशतिर्व्यापदो योनेर्निर्दिष्टा रोगसंग्रहे ॥ ← *Carakasamhitā* 6.30.7cd (*Ca* 1941: 634).

⁵⁷⁴ The remark was not commented on by Ḍalhana.

⁵⁷⁵ *Carakasamhitā* 1.19.9cd (*Ca* 1941: 112): रोगाध्याये प्रकाशिताः.

⁵⁷⁶ *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*.⁵⁷⁷

⁵⁷⁷ The above three hemistichs in *anuṣṭubh* are also repeated in the *MN*₃ 62.1–2ab. Given that the subsequent verses in the *MN*₃ stem from the *Suśrutasamhitā*, it is likely that *MN*₃ 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*) .⁵⁷⁸
- *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 (*yonī*) , because he is entirely devoted to it (that is, to curing these diseases) for the sake of (people's) happiness.⁵⁷⁹
- *4 A corrupted female reproductive system (*yonī*) 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*) ,⁵⁸⁰ sexual activity, fate, and also defects (*doṣa*) of menstrual blood (*ārtava*) and semen (*bīja*) , produce various diseases in the female reproductive organ (*yonī*) . These 20 diseases are taught here distinctly and one by one along with their treatment (*bheṣaja*) ,

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

579 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.’

580 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) = MN₃ 62.1 reads मिथ्याचार “wrong conduct.” All commentators (Cakrapāṇidatta on the *Carakasamhitā*, Śrīkaṇṭhadatta on the MN₃, 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.

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 (*sūcīvākrā*) ,
5. Sarvātmikā (*sarvātmikā*) .

Uttaratantra 65: Rules of Interpretation

Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.⁵⁸¹ Other explorations of this topic include Nārāyaṇa 1949; 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*.

⁵⁸¹ [HIML](#): IA, 331.

The *Arthaśāstra*

The enumeration and definitions of the *tantrayuktis* in the *Suśrutasaṃhitā* closely parallel their treatment in the *Arthaśāstra*. *Tantrayuktis* are discussed in the fifteenth and final chapter of the *Arthaśāstra*, called the *Tantrayukti*.⁵⁸² For a side-by-side comparison of the *tantrayuktis* in the *Suśrutasaṃhitā* 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*.⁵⁸³ In the *Yuktidīpikā*, these terms are referred to as *tantraguṇa* or *tantrasampat*. They are: (1) *sūtropapatti* (2) *pramāṇopapatti* (3) *avayavopapatti* (4) *anyūnatā* (5) *saṃśayukti* (6) *nirṇayukti* (7) *uddeśa* (8) *nirdeśa* (9) *anukrama* (10) *saṃjñā* and (11) *upadeśa*.⁵⁸⁴ 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.⁵⁸⁵

Tamil literature

Discussions on the *tantrayuktis* are also found in Tamil technical literature, the earliest of which is the *Tolkāppiyam*.⁵⁸⁶ A list of 32 *tantrayuktis*, called

⁵⁸² *Arthaśāstra*: 280–283

⁵⁸³ See Oberhammer 1968: 605–614 for a detailed discussion of the use of the *tantrayuktis* in the *Yuktidīpikā*.

⁵⁸⁴ सूत्रप्रमाणावयवोपपत्तिरन्यूनता संशयनिर्णयोक्तिः ।

उद्देशनिर्देशमनुक्रमश्च संज्ञोपदेशाविह तन्त्रसम्पत् ॥

Yuktidīpikā: 3

⁵⁸⁵ एवम्प्रकारा अन्येऽपि द्रष्टव्याह । तद्यथोत्सर्गोऽपवादोऽतिदेश इत्यादि ।...इत्येवमन्या अपि तन्त्रयुक्तयः शक्या इह प्रदर्शयितुम् । अतिप्रसङ्गस्तु प्रकृतं तिरोदधातीति निवर्त्यते । सिद्धं तन्त्रयुक्तीनां सम्बन्धोपपत्तेस्तन्त्रम् इदम् इति । *Yuktidīpikā*: 8

⁵⁸⁶ 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 27th (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*.⁵⁸⁷ Unlike the *Arthaśāstra* and the *Suśrutasamhitā*, 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 *Suśrutasamhitā*. 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 *Suśrutasamhitā* 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 *Suśrutasamhitā* it follows *arthāpatti*.

⁵⁸⁷ Adhyāya 6, *Viṣṇudh* 3: 13–14.

2. *Anumata* is placed after *vyākhyāna* whereas in the *Suśrutasamhitā* follows *niṣṇaya*.
3. *Anāgatāvekṣaṇa* (*anāgatāpekṣaṇa* in the Nepalese version) occurs after *atīkrāntāvekṣaṇa* (*atīkrāntāpekṣaṇa* in the Nepalese version) whereas the order is reverse in the *Suśrutasamhitā*.

For a side-by-side comparison of the *tantrayuktis* in the *Suśrutasamhitā* 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.⁵⁸⁸ 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 *Suśrutasamhitā*. 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 *Suśrutasamhitā* 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 Samhitā* and the *Saddanīti*, please refer to Table 4.

⁵⁸⁸ *Saddanīti* 3: 920–921.

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>	पुष्पापरवसेन 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>	सूत्रपदेसु पुष्पापरयोगतो 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 वुत्तत्यसाधकं, सो हेतुअत्यो ।
(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 ।
(A) 7.	<i>nirdeśa</i>	व्यासवाक्यं निर्देशः ।
(N) 6.	<i>niddesa</i>	वित्थारवचनं निर्देशो ।

Sequence	Terms	Definitions
(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 अत्यसाधनं 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)		
(S) 13.	<i>arthāpatti</i>	यदकीर्तितमर्थादापद्यते सार्थापत्तिः ।
(V) 13.	<i>arthāpatti</i>	यदकीर्तितमर्थादापद्यते सार्थापत्तिः ।

Sequence	Terms	Definitions
(A) 13.	<i>arthāpatti</i>	यदनुक्तमर्थादापद्यते सार्थापत्तिः ।
(N) 13.	<i>atthāpatti</i>	यद् अकित्तितं अत्थतो आपज्जति, सा अत्थापत्ति ।
(S) 14.	<i>viparyaya</i>	यद्यस्य प्रातिलोम्यं तद्विपर्ययः ।
(V) 20.	<i>viparyaya</i>	तस्य प्रातिलोम्यं विपर्ययः ।
(A) 16.	<i>viparyaya</i>	प्रतिलोमेन साधनं विपर्ययः ।
(N) 14.	<i>vipariyaya</i>	यं यत्थ विहितं, तत्र यं तस्स पटिलोमं, सो विपरिययो ।
(S) 15.	<i>prasaṅga</i>	प्रकरणान्तरेण समानः प्रसङ्गः ।
(V) 14.	<i>prasaṅga</i>	प्रकरणाभिहितोऽर्थः केनचिदुपोद्धातेन पुनरुच्यमानः प्रसङ्गः ।
(A) 15.	<i>prasaṅga</i>	प्रकरणान्तरेण समानोऽर्थः प्रसङ्गः ।
(N) 15.	<i>pasaṅga</i>	पकरणन्तरेन समानो अत्थो पसङ्गो ।
(S) 16.	<i>ekānta</i>	यदवधारणेनोच्यते स एकान्तः ।
(V) 15.	<i>ekānta</i>	यथा तथा स एकान्तः ।
(A) 26.	<i>ekānta</i>	सर्वत्रायत्तमेकान्तः ।
(N) 16.	<i>ekānta</i>	सब्बथा यं तथा, सो एकान्तो ।
(S) 17.	<i>anekānta</i>	क्वचित्तथा क्वचिदन्यथा सोऽनेकान्तः ।
(V) 16.	<i>anekānta</i>	क्वचित्तथा क्वचिदन्यथाऽसावनेकान्तः ।
(A)		
(N) 17.	<i>anekānta</i>	यो पन कत्थचि अञ्जथा सो अनेकान्तो ।
(S) 18.	<i>pūrvapakṣa</i>	यस्तु निःसंशयमभिधीयते स पूर्वपक्षः । ⁵⁸⁹
(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 पुब्बपक्खो ।
(S) 19.	<i>nirṇaya</i>	तस्योत्तरं निर्णयः ।
(V) 18.	<i>nirṇaya</i>	उत्तरवचनं निर्णयः ।
(A) 25.	<i>uttarapakṣa</i>	निर्णयवाक्यमुत्तरपक्षः ।
(N) 19.	<i>niṇṇaya</i>	तस्स यं उत्तरं, सो निण्णयो ।
(S) 20.	<i>anumata</i>	परमतमप्रतिषिद्धमनुमतम् ।

⁵⁸⁹ This definition of *pūrvapakṣa* in the Nepalese version is problematic.

Sequence	Terms	Definitions
(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>anāgatāvekṣaṇa</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>atīkrāntāvekṣaṇa</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>saṃśaya</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>nirvācana</i>	लोकप्रथितमुदाहरणं निर्वचनम् ।
(V) 27.	<i>nirvācana</i>	लोके प्रतीतमुदाहरणं निर्वचनम् ।
(A) 20.	<i>nirvācana</i>	गुणतः शब्दनिष्पत्तिर्निर्वचनम् ।
(N) 27.	<i>nibbacana</i>	लोकप्पतीतम् उदाहरणं निब्बचनं ।

Sequence	Terms	Definitions
(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 *Aṣṭāṅgasan̄grahap* present an identical list of *tantrayuktis* contained in a group of four

verses.⁵⁹⁰ 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).⁵⁹¹ 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* and *Sarvāṅgasundarī* 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 Drḍhabala in this section.⁵⁹² The problem arises from different readings of the half-verse that occurs right before the list of 36 *tantrayuktis*. In MS MS Kathmandu NAK 1/1648 (dated 1183 AD, the oldest dated manuscript of the *Carakasamhitā* known to us), the reading of this verse is: षट्त्रिंशद्विचित्राभिर्भू[षि]तं 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

590 तत्राधिकरणं योगो हेत्वर्थोऽर्थः पदस्य च ।

प्रदेशोद्देशनिर्देशवाक्यशेषाः प्रयोजनम् ॥

उपदेशापदेशातिदेशार्थापत्तिनिर्णयाः ।

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) अतीतानाग-
तावेक्षा... and (2) निर्वचनं संनियोगो विकल्पनम्.

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

592 We know from internal textual evidence that the *Siddhisthāna* of the *Carakasamhitā* in which the list of the *tantrayuktis* appear was originally authored by Drḍhabala, who lived in a town called Pañcanada sometime between 300 and 500 AD. Cf. अखण्डार्थं दृढबलो जातः पञ्चनदे पुरे ।

कृत्वा बहुभ्यस्तन्त्रेभ्यो विशेषोच्छशिलोच्चयम् ॥

सप्तदशौषधाध्यायसिद्धिकल्पैरपूरयत् ।

8.12.39–40a (Ca 1941: 735)

contains only the *mūla*-text.⁵⁹³ 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, 8.12.41a (Ca 1941: 735) reads the same half-verse as षड्विंशता विचित्राभिर्भूषितं तन्त्रयुक्तिभिः।। In the same edition, the reading of Cakrapāṇi's *Āyurvedadīpikā* supports the reading: षड्विंशतन्त्रयुक्तिभिर्भूषितमपूरयदृढबल इति योजना।। However, after this verse, the same edition contains the versified list of the 36 *tantrayuktis* and commenting on these verses, the *Āyurvedadīpikā* confirms the total number of the *tantrayuktis* as 36: इत्येताः षड्विंशतन्त्रयुक्तयो व्याहृताः।.⁵⁹⁴ Moreover, the edition of Rāmaprasāda Vaidyopādhyāya reads the half-verse as: पञ्चत्रिंशद्विचित्राभिर्भूषितं तन्त्रयुक्तिभिः।.⁵⁹⁵ Rāmaprasāda Vaidyopādhyāya excludes *ūhya*.⁵⁹⁶ The same reading is found in Satīśacandra Śarmā's third edition of the *Carakasamhitā*.⁵⁹⁷ 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 actually illustrates 36 *tantrayuktis* making a remark that "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."⁵⁹⁸ In the edition of Narendranātha Senagupta and Balāicandra Senagupta includes Cakrapāṇi's *Āyurvedadīpikā* and Gaṅgādhara's *Jalpakaḥpataru*, the Sanskrit *mūla* and the *Jalpakaḥpataru* enumerate 36 *tantrayuktis*. However, in the same edition, the *Āyurvedadīpikā* reads, पञ्चत्रिंशतन्त्रयुक्तिभिर्भूषितमपूरयदृढबल इति योजना।.⁵⁹⁹ Again, after the illustrations of the 36 *tantrayuktis* it reads,

593 षड्विंशता विचित्राभिर्भूषितं तन्त्रयुक्तिभिः॥ 8.12.70a (Ca 1933: 972).

594 Ca 1941: 737.

595 Ca 1911: 1913, <empty citation>

596 Reading 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* do not agree with his reading.

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

598 “গঙ্গাধর পাঠ— তন্ত্রয়ুক্তি ছত্রিশি প্রকার। তিনি টীকাতঃ সশয়কঃ দুই বার উল্লেখ করিয়া ছত্রিশি প্রকার গণনা করিয়াছেন, কিন্তু তাঁহার মূলে পঁয়ত্রিশি প্রকার আছে; গ্রন্থান্তরে ৩৪ প্রকার আছে; তাহাতে ‘অপদেশ’ ধরতব্য হয় নাই। এই অনুবাদে মূলে চতুস্ত্রিশি বা ষট্‌ত্রিশি স্থলে পঞ্চত্রিশি লখিত হইল।” Ca 1923: 1022.

599 N. Senagupta and B. Senagupta 1928–33: III, 3814.

इत्येताः षट्त्रिंशत्तन्त्रयुक्तयो व्याहृताः।⁶⁰⁰ In his edition of the *Tantrayuktivicāra*, Muthuswami also mentions that 35 *tantrayuktis* are reckoned in the *Carakasamhitā*.⁶⁰¹ Jivānanda Vidyāsagara's edition gives no number at all— तथा च ता विचित्राभिर्भूषितं तन्त्रयुक्तिभिः।⁶⁰²

Commentaries on the *Carakasamhitā* prior to Cakrapāṇi's *Āyurveda-dīpikā*, such as the *Carakanyāsa* of Bhaṭṭāra Hariścandra (c. mid-sixth century) or *Nirantarapadaavyākhyā* of Jejjata (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 his 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 Dr̥ḍhabala's redaction of the *Carakasamhitā*. However, Hariścandra's treatment of the *tantrayuktis* supports the latter.⁶⁰³ 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.

Check if
Jejjata is
available

Commentaries

The commentators who extensively delved into the discussion of the *tantrayuktis* are Hariścandra, the author of *Carakanyāsa*, and Aruṇadatta, who authored his commentary *Sarvāṅgasundarī* on the *Aṣṭāṅgahṛdaya* of Vāgbhaṭa.

600 N. Senagupta and B. Senagupta 1928–33: III, 3822.

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

602 Ca 1877: 961.

603 HIML: ???, 189.

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).⁶⁰⁴

Aruṇadatta, while discussing the concept of *tantraguṇa* at the end of the *Aṣṭāṅgaḥṛdaya*, provided an elaborate description of *tantrayuktis*, considering them as part of a system of ninety-five *tantraguṇas*. Śrīdāsapaṇḍita (14th century), a commentator on the *Aṣṭāṅgaḥṛdaya*, echoed Aruṇadatta's exploration of *tantrayuktis* in the beginning of his commentary, *Hṛdayabodhikā*.⁶⁰⁵ Thus, both Hariścandra and Śrīdāsapaṇḍita 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 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*. *Jalpakaḥpataru*, a nineteenth-century commentary on the *Carakasamhitā* by Gaṅgādhara Kavirāja from Bengal also discusses the *tantrayuktis*, very often quoting from the *Suśrutasamhitā*.

604 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 हेत्वर्थ उद्देश उपदेशोऽपदेशोऽतिदेशः प्रदेशो निर्णयोऽर्थापत्तिर्वाक्यशेषः प्रयोजनं प्रसङ्ग एकान्तोऽनेकान्तो विपर्ययोऽपवर्गः पूर्वपक्षो विधानमनुमतं व्याख्यानं परिप्रश्नो व्याकरणमतीतापेक्षणमनागतापेक्षणं संशयः स्वसंज्ञोद्भवः समुच्चयो निदर्शनं निर्वचनं नियोगो विकल्पः प्रत्युत्सार उद्धारः सम्भवो व्युत्क्रान्ताभिधानं हेतुरिति ।

605 HIML: IA, 680.

Monographs

two texts authored by Āyurvedic scholars exclusively delve into the topic of *tantrayukti*. The first is the *Tantrayuktivicāra* by a physician named Nīlamegha (also known as Vaidyanātha), while the second is called the *Tantrayukti*, which is a sort of recast of the former by an anonymous author. The anonymous author describes himself as being from the same lineage as Nīlamegha and asserts that Nīlamegha belongs to the same lineage of Bhiṣagārya (also known as Nārāyaṇa Bhiṣaj). Both Nīlamegha and the author of *Tantrayukti* are likely from Kerala or coastal Karnataka.⁶⁰⁶ According to Kolatteri Śaṅkaramenon and Meulenbeld, Nīlamegha flourished in the first half of ninth century.⁶⁰⁷ The *Tantrayukti* was very likely composed after the sixteenth century.⁶⁰⁸

Nīlamegha's *Tantrayuktivicāra* is a versified text accompanied by an autocommentary. The text comprises eighteen verses plus a hemistich, resulting in a total of 37 hemistichs. Each hemistich serves as a definition for a *tantrayukti*. Nīlamegha enumerates a total of 36 *tantrayuktis*, as mentioned in the *Aṣṭāṅgasaṅgraha* and *Carakasamhitā*. The additional hemistich defines *aviparyaya*, which, according to Nīlamegha, is some-

606 Kolatteri Śaṅkaramenon, the first editor of the *Tantrayuktivicāra*, believes that Nīlamegha hails from Kerala. This conclusion is drawn from Nīlamegha's reference to his guru as Sundara, whom 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 *Tantrayuktivicāra* belongs to a member of one of the Aṣṭavaidyas 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. (Nārāyaṇa 1949: 30).

607 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.)

608 From the explicit mention of Nīlamegha and Bhiṣagārya in the work *Tantrayukti*, we can say that the author flourished after them. Determining the date of Bhiṣagārya is problematic. However, since the 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).

times considered instead of *viparyaya*. This substitution occurs when one understands that the negative prefix *a-* is deleted due to a *pūrvārūpa sandhi*— *sāpavargaḥ + aviparyayaḥ → sāpavargo viparyayaḥ* (See footnote 590.).

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.⁶⁰⁹ 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 *tantraguṇas* and 14 *tantradoṣas*. This list of *tantraguṇas* includes 15 types of *vyākhyā*, 7 types of *kalpanā*, 20 types of *āśraya*, and 17 types of metaphoric and metonymic devices, such as *tācchīlya* and so on.

Tantrayukti-inventories

It is evident from the discussion on the early sources that all these listings of the *tantrayuktis* in the early sources can be grouped into two categories. For the ease of our following discussion, we name these two inventories as (1) earlier listing and (2) later listing.

Earlier Listing

The four inventories of *tantrayuktis* from the *Arthaśāstra*, *Suśrutasaṃhitā*, *Viṣṇudharmottarapurāṇa*, and *Saddanīti* belong to this Earlier Listing. The list of 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. The common feature of this listing is that every inventory belonging to this listing explicitly mentions the total number of the *tantrayuktis* as thirty-two. Even though there are sometimes different *tantrayuktis* enumerated in different lists, the total number of them always remained 32. As demonstrated

609 वैद्यनाथोपसृष्टानां लक्ष्यलक्षणवासुषाम् ॥
तासां प्रायः प्रकाशानां दुर्लेखापङ्कदूषणात् ।
क्रियते साम्प्रतं कृच्छ्रादुद्धृत्य परिमार्जनम् ॥
Nārāyaṇa 1949: 1

in Table 4, the Sanskrit and Pali lists are similarly ordered and are always accompanied by similar or identical definitions.

Later Listing

The later listing is the one we find in the *Aṣṭāṅgasaṅgraha*, *Carakasaṃhitā*, the commentaries on the *Carakasaṃhitā*, *Aṣṭāṅgasaṅgraha* and *Aṣṭāṅga-hṛdayasaṃhitā* which are mentioned in the section on Commentaries and the two monographs, the *Tantrayuktivicāra* and *Tantrayukti*. This list sprung from a single source, a versified list of thirty-six *tantrayuktis* comprising four verses that appear in the *Aṣṭāṅgasaṅgraha*, *Carakasaṃhitā* and Aruṇadatta's commentary on the *Aṣṭāṅga-hṛdayasaṃhitā*. It is not clear if these four verses first appeared in the Dṛḍhabala's redaction of the *Carakasaṃhitā* or in Vāgbhaṭa's *Aṣṭāṅgasaṅgraha*. Unlike the Earlier Listing, this list does not consist of definitions of the *tantrayuktis*. Definitions and illustrations are given by the authors of the commentaries and monographs as discussed in the previous section. Although Hariścandra's list includes 40 *tantrayuktis* instead of 36, his enumeration is closer to this listing than the earlier one.

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 *Carakasaṃhitā* 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 *Suśrutasamhitā*, 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 interpretative device. With a tautological expression, the *Suśrutasamhitā* defines *adhikaraṇa* as something, with reference to which statements are made. While defining *adhikaraṇa*, the text employs the same verb, *adhi- kṛ-* (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 *Uttara-tantra*, namely chapter 62 (*Kāyacikitsā* 27) and chapter 65 (*Kāyacikitsā* 30) are dedicated.⁶¹⁰ Clearly, *adhikaraṇa* is the topic or theme.

Cakrapāṇi defines *adhikaraṇa* in almost the same fashion.⁶¹¹ Aruṇadatta's definition is similar but he specifies that *adhikaraṇa* can be of a entire discipline (*śāstra*), or a book (*sthāna*) of it, or a chapter (*adhyāya*), or a section (*prakaraṇa*), or even of a sentence (*vākya*).⁶¹² 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.⁶¹³ Thus disease is the *adhikaraṇa* or theme of their discussion. Indu identifies *adhikaraṇa* as a binding force that links ideas. According to

⁶¹⁰ They are chapters 63 and 66 in the **vulgate**.

⁶¹¹ यमर्थमधिकृत्य प्रवर्तते कर्ता । यथा “विघ्नभूता यदा रोगा” इत्यादि । अत्र रोगादिकमधिकृत्यायुर्वेदो महर्षिभिः कृत इति ‘रोगाः’ इत्यधिकरणम् । (Ca 1941: 736).

⁶¹² तत्र अधिकरणं नाम, यदधिकृत्य प्रवर्तते शास्त्रं स्थानमध्यायं प्रकरणं वाक्यं वा ।... (Ah 1939: 947).

⁶¹³ तत्राधिकरणं नाम यन्निमित्तमधिकृत्य प्रवर्तते कर्ता ।... उत वा विघ्नभूता यदा रोगाः प्रादुर्भूताः तदिदं निमित्तमधिकृत्य जगदनुकम्पया महर्षिभिरयमायुर्वेद आगमः । एवमधिकरणव्याख्या वर्णयितव्या । MS Jamnagar GAU 114, p.4–5.

him, *adhikaraṇa* as an introductory reference and paraphrases it as something that exposes a general statement to a specific context.⁶¹⁴

In the *Tolkāppiyam*, however, the equivalent expression for this *tantrayukti* remains unclear, as commentators, namely Ṭampūraṇar and Pēraciriyar, list the item differently. In Sastri's translation of the *Tolkāppiyam*, *adhikaraṇa* was identified with *atikāra muraṭai*, the second element in Ṭampūraṇar'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."⁶¹⁵ 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."⁶¹⁶ 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*.⁶¹⁷

Oberhammer and Meulenbeld translate *adhikaraṇa* as "topic," and we have adopted the same translation.⁶¹⁸ Sharma translates the term as the "scope of the topic."⁶¹⁹

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, a, as defined in the *Suśrutasaṃhitā*, represents the faculty responsible for the cohesion of a sentence. If we consider the main purpose of the *tantrayuktis* as narrated in the *Suśrutasaṃhitā*, 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 *Suśrutasaṃhitā* further describes *yoga* as a syntactic connection between words, facilitating the linking of words even when they are in reverse order or

614 अधिकरणं प्रस्तावः सामान्येनोक्तमप्यर्थजातम् यद्वलाद्विशेषेऽवस्थाप्यते तदधिकरणम् । (As 1980: 959).

615 P. S. S. Sastri 2002: 233.

616 Dikshitar 1930: 85

617 See Chevillard 2009: 111.

618 Oberhammer 1968: 601, (HIML: IB, 431).

619 P. V. Sharma 1999–2001: 3, 631.

placed apart. However, this paraphrased statement is absent in the vulgate; instead, it appears in the commentary of Ḍalhana with a minor variant.⁶²⁰ 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*.⁶²¹

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 the term *yoga*.⁶²² 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 expands its scope to the coherence between mention (*uddeśa*) and description (*nirdeśa*) as well.⁶²³ 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.⁶²⁴ 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.⁶²⁵ 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*

620 See 6.65.9 (*Su* 1938: 815).

621 See Table 4.

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

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

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

625 योगो नाम योगः सम्बन्धः स च पदार्थयोर्वाक्यार्थयोर्वा। 6.50.150a (*As* 1980: 959).

and *nigamana*, conflating the definition of *yoga* with Hariścandra's the second alternative i.e. *yoga* is reasoning (*yukti*).⁶²⁶ Nīlamegha defines *yoga* as connecting words one by one coherently.⁶²⁷ 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.⁶²⁸ Neither V. R. Ramachandra Dikshitar nor P. S. Subrahmanya Sastri identified the *tantrayukti* with any *utti* mentioned in the *Tolkāppiyam*.⁶²⁹

The word *yoga* derives from the Sanskrit root $\sqrt{\text{yuj}}$ "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.⁶³⁰ Hence, it refers to a morphosemantic or syntaco-semantic connection. Pat-añjali uses this term several times in his *Mahābhāṣya*. In the *Suśrutasaṃhitā* the word *yoga* is primarily used to mean the connection between words in a sentence. According to this definition and illustration, it is primarily intra-sentential cohesion. Unlike the later commentators on the works of Caraka and Vāgbhaṭa, it does not extend the scope of this term to inter-sentential cohesion and coherence. Keeping in mind such definition given in the *Suśrutasaṃhitā*, we translate the term as cohesion even though no other translators of the *tantrayuktis* used this translation. In some other contexts, however, *yoga* can be extended to coherence. Both coherence and cohesion are derived from the Latin verb *cohaere*- (< *con*- "with" *haereō* "cling") 'to cling together'. In other translations of the *tantrayuktis* (see 206), *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*.

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

627 .

628 | TYV: 3.

629 Chevillard 2009: 84.

630 Joshi and Roodbergen 1991: 64.

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. word meaning (<i>padārtha</i>) | 20. consent (<i>anumata</i>) |
| 4. premise (<i>hetvartha</i>) | 21. itemization (<i>vidhāna</i>) |
| 5. mention (<i>samuddeśa</i>) | 22. future reference
(<i>anāgatāpekṣaṇa</i>) |
| 6. description (<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”.⁶³¹

- 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.

⁶³¹ 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*)⁶³².
- 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.⁶³³ Unifying the meanings of words in this way, even though they are far apart, is construing.

- 10 The meaning that is conveyed in an aphorism (*sūtra*) or a word is called word-meaning (*padārtha*) . In other words, word-meaning is the meaning of one or more words. Word-meanings are unlimited. Where two or three meanings such as ‘fat,’ ‘sweat’ or ‘anointment’ appear to be possible, the valid meaning is the one that construes with prior and subsequent elements.⁶³⁴ For example, when it is said that, “We 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. 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.⁶³⁵

632 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

633 The Nepalese version reads द्वितीये पादे which would properly mean the second quarter of the first line; the vulgate reads “third quarter” which seems more correct.

634 There is a dangling relative clause, यो ऽर्थः, in the Nepalese version that is avoided in the vulgate recension by the addition of स ग्रहीतव्यः.

635 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 *Suśrutasamhitā* 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

See also
Dalhana
at 1.1.1
(Su 1938: 1)

- 11 The sense of the cause (*hetvartha*) is a statement that is a premiss (*sādhana*) . For example, just as a lump of earth is moistened by water, so a wound is moistened by substances like milk with green gram.⁶³⁶
- 12 A mention (*samuddēśa*) is a brief statement such as “spike (*śalya*) ”.⁶³⁷
- 13 A description (*nirdeśa*) is a detailed statement. For example, “in the body or exogenous”.⁶³⁸
- 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” refers to statements like “this happens because of this.” For example, in the sentence “Sweet substances increase phlegm,” the reason is stated.⁶³⁹
- 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.”⁶⁴⁰
- 18 A deviation after generalization is exception (*apavarga*) . For example, those afflicted by poison should not go through sudorific treatment

something derived from the roots √vind or √vid? Context (“prior and subsequent elements”) can help us to know that “*veda*” means only “*āyurveda*” and that the *Suśrutasaṃhitā* is talking about the origin of ayurveda, specifically. This same issue is also addressed by Dalhana at 1.1.1 (Su 1938: 1).

636 The way this principle is expressed here seems to be describing the application of a general principle (water makes things wet) to a specific context. We can know the moistening of a wound because we know the more general case of moistening earth. However, etymologically, हेत्वर्थ does not mean “analogy,” but rather, something like “purpose of the reason.” The phrase “the sense of cause” that we have used leans on the use of the term in commentaries on the *Aṣṭādhyāyī* (*Kaumudī* on 2.3.23). The vulgate of the *Suśrutasaṃhitā* rewrites the principle, making it clearer that the principle means “clarification by analogy.” Cf. also Cakrapāṇi’s discussion at Si.12.41 (Ca 1941: 736), where he explained the principle as using an explanation from one situation to clarify another situation. Cf. *Arthaśāstra* 5.1.13 (Olivelle 2013: 436), which is also unclear.

637 Generally, शल्य refers to any painful foreign body embedded in the flesh that requires surgical removal.

638 This is a reference to 1.26.4 (Su 1938: 121) where शल्य is described in more detail as being of two kinds.

639 A technical term also in Nyāyaśāstra (Jhalakīkar 1978: 54).

640 A technical term also in Nyāyaśāstra (Jhalakīkar 1978: 6–7).

- other than the cases of poisoning by urinary worms.
- 19 Ellipsis (*vākyaśeṣa*) 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 arthāpatti (*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?⁶⁴¹
 - 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 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 sequentially in a chapter.
 - 30 A statement like "Thus will be stated" is future reference (*anāg-*

See chapter
40 of Sūtra-
sthāna.

vasā / me-
das / maj-
jan

⁶⁴¹ 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.

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 ⁶⁴² is fatal, whereas cutting hands and feet is not fatal.
- 33 An elaborate description is explication (*vyākhyāna*) . For example, the twenty-fifth entity, , is being explicated here. Thus, no other Āyurvedic texts discuss entities beginning with matters.
- 34 Field-specific term (*svasaṁjñā*) is uncommon in other field of studies. The term used in one’s own systems is called field-specific term, such as in this system, denotes honey and ghee, and denotes ghee, sesame oil and fat.
- 35 A customary portrayal is interpretation (*nirvacana*) . For example, one goes along the shade fearing heat.
- 36 Providing examples is illustration (*nidarśana*) . For example, just as fire spreads rapidly in a dry forest when accompanied by wind, a wound intensifies affected by wind, bile, and phlegm.
- 37 A statement like “This is the only way...” ...compulsion (*niyoga*) . For example, one should consume only a healthy diet.
- 39 A statement like “This and this...” is option (*vikalpa*) . For example, in the section on meat, the major ones are blackbuck, deer, quail and partridge.⁶⁴³
- 38 A summarized statement is aggregation (*samuccaya*) .⁶⁴⁴ 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?

A meaningful reading of these two rules would be

39 idaṁ vedaṁ veti vikalpaḥ / yathā rasodanaḥ kṣīrodanaḥ
saghr̥tā vā yavāgūr bhavatv iti //

642 तलहृदय is one of the muscle-group of lethal points mentioned in 3.6.7 (*Su* 1938: 370).

643 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.

644 As stated in the previous footnote, the example here is of विकल्प, not समुच्चय.

38 saṃkṣepavacanam 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 “Twofold is popular”.

Editions and Abbreviations

Ah 1939	Kuṇṭe, Anṇā Moreśvara, Navare, Kṛṣṇaśāstrī, and Parādkar, Hariśāstrī (1939) (eds.), <i>श्रीमद्वाग्भटविरचितम् अष्टाङ्गहृदयम्, श्रीमदरुणदत्तविरचितया सर्वाङ्गसुन्दराख्यया व्याख्यया, हेमाद्रिप्रणीतया आयुर्वेदरसायनाह्वया टीकया च समुल्लसितम्</i> = <i>The Astāṅgahṛidaya</i> (6th edn., Mumbayyām: Nirṇayasāgara Press), ark:/13960/t3tt6967d .
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.), <i>अष्टाङ्गसङ्ग्रहः श्रीमद्वाग्भटविरचितः इन्दुव्याख्यासहितः</i> [= <i>Vāgbhaṭa's Aṣṭāṅgasāṅgraha with Indu's Commentary</i>] (Pune: M. A. Āṭhavale, Śrīmad Ātreya Prakāśanam), ark:/13960/s25bwqsd0n7 .
Bhela 1921	Mookerjee, Ashutosh, and Ananta Krishna Shastri, Ved-antabisharad (1921) (eds.), <i>The Bhela Samhita. Sanskrit Text</i> (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](https://nnp.library.utoronto.ca/ark:/13960/t0sq9gf44).
- Ca 1904 Śarmā, Satīśacandra (1904) (ed.), *छत्रकमशति* (1st edn., Kalikātā: Bhaiṣajya Steam Machine Press), [ark:/13960/t51g4nm8m](https://nnp.library.utoronto.ca/ark:/13960/t51g4nm8m).
- Ca 1911 Vaidyopādhyāya, Rāmāprasāda (1911) (ed.), *चरकसंहिता । श्रीमन्महर्षिप्रवरचरकप्रणीता । पण्डितरामप्रसादवैद्योपाध्यायविरचितप्रसादनी-भाषाटीकासंहिता ।* (mumbayī: Kṣemarāja-Śrīkṛṣṇadāśaśreṣṭhin), [ark:/13960/t2r59q189](https://nnp.library.utoronto.ca/ark:/13960/t2r59q189).
- Ca 1923 Śarmā, Satīśacandra (1923) (ed.), *छत्रकमशति* (3rd edn., Kalikātā: Bhaiṣajya Steam Machine Press), [ark:/13960/t17m5hp8c](https://nnp.library.utoronto.ca/ark:/13960/t17m5hp8c).
- Ca 1933 Ācārya, Yādavaśarma Trivikrama (1933) (ed.), *महर्षिणा अग्निवेशेन प्रणीता चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता* (3rd edn., Mumbayyāṃ: Nirnaya Sagara Press), [ark:/13960/t42s3kk45](https://nnp.library.utoronto.ca/ark:/13960/t42s3kk45).
- Ca 1941 Ācārya, Yādavaśarma Trivikrama (1941) (ed.), *महर्षिणा पुनर्वसुनोपदिष्टा, तच्छिष्येणाग्निवेशेन प्रणीता, चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता, श्रीचक्रपाणिदत्तविरचितया आयुर्वेददीपिकाव्याख्यया संवल्लिता* (3rd edn., Mumbayyāṃ: Nirnaya Sagara Press), [ark:/13960/t48q2f20n](https://nnp.library.utoronto.ca/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://nnp.library.utoronto.ca/ark:/13960/t48q2f20n); 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).
- DED₂ Burrow, Thomas, and Emeneau, Murray B. (1984), *A Dravidian Etymological Dictionary* (2nd edn., Oxford: Clarendon Press), ark:/13960/t4wj06g26, 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.
- 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/s2kbk5zcrg9.
- KEWA Mayrhofer, Manfred (1953–72), *Kurzgefaßtes etymologisches Wörterbuch des Altindoarischen; a Concise Etymological Sanskrit Dictionary* (Heidelberg: Carl Winter, Universitätsverlag).
- KL *Kaiser Library*.
- Mahākośa* Jośī, Veṇīmādhavaśāstrī, and Jośī, Nārāyaṇa Harī (1968), *आयुर्वेदीय महाकोशः अर्थात् आयुर्वेदीय शब्दकोशः संस्कृत-संस्कृत* (Mum̐baī: Mahārāṣṭra Rājya Sāhitya āṇi Saṃskṛti Maṇḍala), ark:/13960/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; v. 2: ark:/13960/t3gz41v8m.

- MN₁ 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.
- MN₃ 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 Ātānkadarpaṇa by Vāchaspati Vaidya* (3rd edn., Bombay: Nirnaya Sagara Press), [ark :/ 13960 / t66452x0h](http://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.*
- 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](http://www.ngmcp.de/).
- PW Böhtlingk, Otto, and Roth, Rudolph (1855–75), *Sanskrit-Wörterbuch* (St. Petersburg: Kaiserlichen Akademie der Wissenschaften), [URL](http://www.sanskrit-worterbuch.de/), accessed 18/05/2023.

- PWK Böhrling, 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-Śabdasindhuḥ* (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](#).
- 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](#); [HIML](#): IB, 311, edition b.
- Su 1915 Ācārya, Yādavaśarma Trivikrama (1915) (ed.), *सुश्रुतसंहिता, सुश्रुतेन विरचिता, वैद्यवरश्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्य-व्याख्यया समुल्लसिता, आचार्योपाह्वेन त्रिविक्रमात्मजेन यादवशर्मणा संशोधिता = The Sushrutasamhita of Sushruta, the Nibandhasangraha Commentary of Shri Dalhanāchārya* (Mumbayyām: Nirṇayasāgaramudrāyantrālaye), [ark:/13960/t3sv0mt50](#), accessed 29/07/2020; [HIML](#): 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 Dalhanāchārya* (2nd edn., Mumbayyām: Pāṇḍuraṅga Jāvajī at the Nirṇayasāgaramudrāyantrālaye), [ark :/ 13960 / t9j41sg94](#), accessed 09/06/2020; [HIML](#): IB, 312 edition *v.

- Su 1938 Ācārya, Yādavaśarma Trivikrama, and Ācārya, Nārāyaṇa Rāma (1938) (eds.), *श्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया निदानस्थानस्य श्रीगयदासाचार्यविरचितया न्यायचन्द्रिकाख्यपञ्जिकाव्याख्यया च समुल्लसिता महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता* (3rd edn., Bombay: Nirṇayasāgara Press), [ark : / 13960 / t09x0sk1h](https://nirayana.org/ark:/13960/t09x0sk1h); HIML:IB, 313, edition cc ('the vulgate').
- Su 1938² Ācārya, Yādavaśarma Trivikrama, and Ācārya, Nārāyaṇa Rāma (2004) (eds.), *महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता, श्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया निदानस्थानस्य श्रीगयदासाचार्यविरचितया 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. श्रीचक्रपाणिदत्तविरचितया भानुमतीव्याख्याया समेतम् = Sushrut-saṅhitā (sūtra Sthān) with Bhānumatī Commentary by Chakrapāṇi Datta with Introduction by Gaṇanāth Sen* (Śrīsvāmī Lakṣmīrāma Nidhi Granthamālā = Shri Swāmī Lakshmi Rām Trust Series, 1; [Jaipur]: Śyāmasundara Śarman), [ark: / 13960 / t54g0d12m](https://nirayana.org/ark:/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 संवल्लिता = the Suśrutasaṅhitā of Suśruta with Various Readings, Notes and Appendix etc.* (Mumbāi: Nirṇayasāgarākhyamudraṇālaye), [ark: / 13960 / t8kd4jh7n](https://nirayana.org/ark:/13960/t8kd4jh7n).
- TMSSML Tanjore Maharaja Serfoji Saraswati Mahal Library.
- TYV Muthuswami, Nurani Easwara (1976) (ed.), *Tantrayuktivicāraḥ [by Nīlameghabhiṣaj]* (Kerala Praśāsanāyurveda Granthāvaliḥ, 1; 2nd edn., Trivandrum: Publications Division, Govt. Ayurveda College), [ark: / 13960 / s2j1p7k0526](https://nirayana.org/ark:/13960/s2j1p7k0526).
- Viṣṇudh 3 Shah, Priyabala (1958) (ed.), *Viṣṇudharmottara-Purāṇa. Third Khaṇḍa* (Gaekwad's Oriental Series, 130; Baroda: Oriental Institute), [ark: / 13960 / t52g33q88](https://nirayana.org/ark:/13960/t52g33q88).

- Viṣṇudh. Śarman, Madhusūdāna, 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: 114

Cambridge Add. 1693: 110

Hyderabad Osmania 137-3(b): 45

Kathmandu KL 699: 40, 46, 113, 183

Kathmandu NAK 1-1079: 13, 23, 41, 46

Kathmandu NAK 1-1146: 23

Kathmandu NAK 5-333: 13, 41, 46, 110, 115, 140

MS Jamnagar GAU 114: 203

MS Kathmandu NAK 1/1648: 200

NAK 5-333: 128

Thanjavur TMSSML 10773: 219

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.
- Achaya, K. T. (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/al13733](https://doi.org/10.20935/al13733).
- 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:2019-06-13960-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:2019-06-13960-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:5:1-63888-p0061-9); Bhelasamhitā described on pp. 67 ff.
- 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:5:1-63888-p0061-9), 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.
- 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:5:1-63888-p0061-9).
- 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:de:hbz:5:1-63888-p0061-9), accessed 02/01/2020; Reprinted in Roṣu 1989: 539–70.
- Coults, 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](#).
- 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](#).
- 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 Traditional Classification," in Klaus Karttunen (ed.), *Anantaṃ Śāstram. Indological and Linguistic Studies in Honour of Bertil Tikkani* (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](#).
- (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](#).
- 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](#).

- 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](#).
- 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. Vol. 2: Dictionary* (William Dwight Whitney Linguistic Series; New Haven: Yale University Press).
- 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://doi.org/10.13960/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/s21qsb3jfv](https://doi.org/10.13960/s21qsb3jfv); 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.
- 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://doi.org/10.13960/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://doi.org/10.13960/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://doi.org/10.13960/s2sdmmt8nf8).
- Froese, R., and Pauly, D. (2022) (eds.), "Fishbase: The Global Encyclopedia about Fish," URL.
- Gaṇapatiśāstrī, T. (1920–25), *Āryamañjuśrīmūlakalpāḥ* (Trivandrum Sanskrit Series, 70; Anantaśayane: Rājākīyamudraṇayantrālaye), [ark : /13960/t4pk5sj0j](https://doi.org/10.13960/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://nopr.ernet.in/handle/2015/2222/13960/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://nopr.ernet.in/handle/2015/2222/13960/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://nopr.ernet.in/handle/2015/2222/13960/t6841qw6x).
- Haas, E. (1876), "Über die Ursprünge der Indischen Medizin, mit besonderem Bezug auf Suśruta," *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, 30/4: 617–70, [URL](https://nopr.ernet.in/handle/2015/2222/13960/t3907cf2d).
- 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 Suśrutasamhitā, 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](#), [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](#).
- Hemarāja Śarman (1938) (ed.), काश्यपसंहिता (वृद्धजीवकीयं तन्त्रं वा) महर्षिणा मारीचकश्यपेनोपदिष्टा ... हेमराजशर्मणा लिखितेन विस्तृतेन उपोद्घातेन सहिता ... सत्यपाल भिषगा कृतया विद्योतिनी हिन्दीव्याख्यया ... समुल्लसिता (1st edn., Mumbai: Nirṇayasāgara Press), [ark:/13960/t3mw5gb9p](#).
- Hendley, T. Holbein (1895), *A Medico-topographical Account of Jeypore, Based on the Experience of Twenty Years' Service As a Residency Surgeon and Thirteen As Superintendent of Dispensaries at Jeypore, Rajputana* (Calcutta: Calcutta Central Press Company).
- Hessler, Franciscus (1844–55), *Suśrutas Ayurvēdas: 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](#).
- 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](#).
- (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](#), 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](#), accessed 26/06/2019.
- (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](#), 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](#), 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](#).
- Hofer, Theresia (2007), “Swami Laxmi Ram’s Ayurvedic Pharmacy in Jaipur, India,” *Wellcome History*, 34: 2–3, [URL](#), accessed 16/03/2022.
- 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 Kauṭīliya Arthaśāstra*, 3 vols. (2nd edn., Delhi: Motilal Banarsidass), ISBN: 978-81-208-0042-7, [ark:/13960/t3gz6qh1s](https://nbn-resolving.org/urn:nbn:in:mkul-archive:t3gz6qh1s); reprint of 2010, i: *The Kauṭīliya Arthaśāstra: Part I, Sanskrit Text with a Glossary* (1969), ii: *The Kauṭīliya Arthaśāstra: Part II, Translation with Critical and Explanatory Notes* (1972), iii: *The Kauṭīliya Arthaśāstra: Part III A Study* (1965).
- (1965b), *The Kauṭīliya Arthaśāstra: Part III A Study* (2nd edn., Delhi: Motilal Banarsidass), [ark:/13960/t3gz6qh1s](https://nbn-resolving.org/urn:nbn:in:mkul-archive:t3gz6qh1s); reprint of 2010.
- (1969), *The Kauṭīliya 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:mkul-archive:t3gz6qh1s); reprint of 2010.
- (1972), *The Kauṭīliya 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:mkul-archive: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:mkul-archive: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:mkul-archive:t3gz6qh1s), accessed 25/06/2019, in *Zeitschrift Der Deutschen Morgenländischen Gesellschaft*, 1/62: 134–9, [URL](https://nbn-resolving.org/urn:nbn:in:mkul-archive:t3gz6qh1s), accessed 17/04/2021.
- Khosroheidari, Mahdiah (2008), “Antimicrobial activity of *C. cordifolius*,” *Journal of Young Investigators*, 11/6 (1 Aug.), [URL](https://nbn-resolving.org/urn:nbn:in:mkul-archive: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:mkul-archive: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:mkul-archive:t3gz6qh1s), accessed 08/09/2019.

- (2012), "Description of microfilm B 29/19," NGMCP, [URL](#), 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](#).
- (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](#).
- 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](#).
- 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/wzks1s27](#), [URL](#).
- Kutumbiah, P. (1962), *Ancient Indian Medicine* (Bombay, etc.: Orient Longmans), [ark:/13960/t6r01v93g](#); Often reprinted.
- 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](#); 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](#), [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](#).
- (2006), *Methodology of Ancient Indian Sciences* (The Chaukhamba Surbharati Studies, 3; Varanasi: Chaukhamba Surbharati Prakashan), [ark:/13960/s2dc7zd8hf1](#).

- 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](#), accessed 10/11/2020.
- (2017–), "Saktumiva," [URL](#), 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](#).
- (2022a), "Helayo: Reconstructing Sanskrit Texts from Manuscript Witnesses," *Journal of Open Source Software*, 7/71: 4022. doi: [10.21105/joss.04022](#).
- (2022b), "Reconstructing a Sanskrit Text" (19 Nov.), [URL](#), accessed 20/01/2023.
- Lienhard, Siegfried (1978), "On the Meaning and Use of the Word Indra-gopa," *Indologica taurinensia*, 6: 177–88, [URL](#), 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](#): 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](#), accessed 27/05/2016.
- Mahādeva Śāstrī, K. (1958) (ed.), ജ്യോതസ്നിക: വിഷവൈദ്യം *Jyotsnika (Viṣa Vaidya)* [*The Jyotsnikā of Kārāṭṭu Nārāyaṇan Nampūtir*] (Sṛī 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:5:1-3960-t4hm7xf2c).
- 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-tarangi.blogspot.in/2019/09/kaitabha-poison-and-death-meanderings-through-tradition.html), 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%20Niccolao%20Venetian%201653-1708%20India%201653-1708%20by%20Niccolao%20Manucci%20Venetian%20Translated%20with%20Introduction%20and%20Notes%20by%20William%20Irvine%20The%20Indian%20Texts%20Series%20London%20J.%20Murray%201907-08%20.pdf), 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 (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 Blcerowicz 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:po:book-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](#).
- (1992), “The Characteristics of a Doṣa,” *Journal of the European Āyurvedic Society*, 2/1: 1–5, [ark:/13960/t8hf69z8j](https://nbn-resolving.org/urn:nbn:nl:po:book-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 Kauṭīliya* (Leipzig: Otto Harrassowitz), [ark:/13960/s21gb96bcxv](https://nbn-resolving.org/urn:nbn:nl:po:book-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](https://nbn-resolving.org/urn:nbn:nl:po:book-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.
- Nārāyaṇa, Śaṃkaraśarman (1949), *Tantrayuktiḥ*, ed. Vayaskara N. S. Mooss (Vaidyasārathigranthāvaliḥ, 6; Kottayanagaryāṃ: Vaidyasārathi Press), [ark:/13960/t2d85pc4v](#).
- 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](#).
- Olivelle, Patrick (1995), "Food in India," *Journal of Indian Philosophy*, 23/3: 367–80. doi: [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](#).
- 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](#).
- 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](#).
- 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](https://doi.org/10.5005/jp-journals-10071-23302).
- 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 (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://nnp.scholarship.researcher.com/ark:/13960/t9x10x61b).
- 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](#).
- Rama Sastri and Krishnamurthi Sastri, S. R. (1952) (eds.), *पातञ्जलयोगसूत्रभाष्यविवरणम् । (शङ्करभगवत्पादप्रणीतम्) = Pātnjala[sic]-yogasūtra-bhāṣya Vivaraṇam of Śaṅkara-Bhagavatpāda. Critically Edited with Introduction* (Madras Government Oriental Series, 94; Madras: Government Oriental Manuscripts Library), [ark : / 13960 / t7jq3m14w](#), 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](#), accessed 13/09/2019.
- Raychaudhuri, Hemachandra (1953), *Political History of Ancient India* (Calcutta: University of Calcutta), [ark : / 13960/s25hz0hz29p](#).
- Renou, Louis (1940), "Sur certaines anomalies de l'optatif Sanskrit," *Bulletin de la Société de Linguistique de Paris*, 41: 5–17, [ark : / 12148 / bpt6k121049](#).
- 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](#).
- Rimal, Madhusudana, and Wujastyk, Dominik (2022), "MS Kathmandu NAK 1/1146," Pandit Project (18 May), [URL](#).
- Roelli, Philipp (2020) (ed.), *Handbook of Stemmatology* (Berlin: De Gruyter). doi: [10.1515/9783110684384](#).
- Roelli, Philipp, and Macé, Caroline (2015), "Parvum Lexicon Stemmatalogicum. A Brief Lexicon of Stemmatalogy." doi: [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](#).

- 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 Kloppe), 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.
- 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, Kamasastra, 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:de:hbz:5:1-3960-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:de:hbz:5:1-3960-t7wn11g9r); 1st ed. 1920.

- Śāstrī, Vardhamāna Pārśvanātha (1940) (ed.), *उग्रादित्याचार्यकृत कल्याणकारक (राष्ट्रभाषानुवादसहित) = The Kalyāṇa-kāraṇam of Ugrādityacharya, Edited with Introduction, Translation, Notes, Indexes and Dictionary* (Sakhārāma Nemacanda Gramthamālā, 129; Solāpura: Seṭha Goviṃdajī Rāvajī Doṣī), [ark:/13960/t2q617g4d](https://nopr.sri-gurukul.com/ark:/13960/t2q617g4d).
- Scharfe, Hartmut (1993), *Investigations in Kauṭalya's Manual of Political Science* (2nd edn., Oxford: Harrassowitz), ISBN: 3447033304, [URL](https://nopr.sri-gurukul.com/ark:/13960/t9870jt4g); 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://nopr.sri-gurukul.com/ark:/13960/t9870jt4g).
- 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://nopr.sri-gurukul.com/ark:/13960/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: 10.1163/15734210577996638.
- (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://nopr.sri-gurukul.com/ark:/13960/t9870jt4g), 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.sri-gurukul.com/ark:/13960/t8gf8pz34).
- Sena, Gaṅgāprasād, et al. (1886–93) (eds.), *सुश्रुतसंहिता...दल्लनाचार्य-कृत-निबन्ध-संग्रह, चक्रपाणिदत्त-कृत-भानुमती-टीका...वङ्गानुवाद...इंरेजि प्रतिशब्द* (Calcutta: Maṇirāma Press); Edition "g" in [HIML](https://nopr.sri-gurukul.com/ark:/13960/t9870jt4g): IB, 311.

- Senagupta, Narendranātha, and Senagupta, Balāicandra (1928–33) (eds.), *चरक-संहिता । महामुनिना भगवताग्रिवेशेन प्रणीता महर्षिचरकेण दृढबलेन च प्रतिसंस्कृता चरकचतुरानन-श्रीमच्चक्रपाणिदत्तप्रणीतया आयुर्वेददीपिकाख्यटीकया महामहोपाध्याय-श्रीगङ्गाधरकविरत्नकविराजविरचितया जल्पकल्पतरुसमाख्यया टीकया च समलङ्कृता*, 3 vols. (kalikātānagarī: Dhanvantari Electric Machine Yantra).
- Shamasastri, R. (1951), *Kauṭilya's Arthaśāstra* (4th edn., Mysore: Sri Raghuvveer Printing Press), [ark:/13960/t04z1mp6c](https://nopr.sri-institute.org/ark:/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.sri-institute.org/ark:/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 Jejjāṭa, Cakrapāṇi, Gaṅgādhara and Yogīndranātha)* (Jaikrishnadas Ayurveda Series, 36; 1st edn., Varanasi, Delhi: Chaukhambha Orientalia).
- Sharma, Ram Karan, and Dash, Bhagwan (2006), *Agniveśa's Caraka Saṃhitā. Text with English translation & Critical Exposition Based on Cakrapāṇi Datta's Āyurvedadīpikā* (Chowkhamba Sanskrit Studies, 94; repr. Varanasi: Chowkhamba Sanskrit Series Office).
- Shastri, R. Shama (1920) (ed.), *बोधयनगृह्यसूत्रम् The Bodhāyana Grihyasutra* (Mysore: University of Mysore), [ark:/13960/t2t492622](https://nopr.sri-institute.org/ark:/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://n2t.org/ark:/13960/t5m95n971).
- Siddiqi, Muhammad Zubayr (1959), *Studies in Arabic and Persian Medical Literature*, [ark:/13960/s25bxqt84xm](https://n2t.org/ark:/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 (1971), *Studies in the Geography of Ancient and Medieval India* (2nd edn., Delhi: Motilal Banarsidass), [ark:/13960/t72w2zd8w](https://n2t.org/ark:/13960/t72w2zd8w).
- (1987), "6. Rākshashkhāli (Sundarban) Plate; Śaka 1118," *Epigraphia Indica* (1953–54), 30: 42–3, [ark:/13960/t80m25q3w](https://n2t.org/ark:/13960/t80m25q3w).
- Śiromaṇi, Bharatacandra (1873) (ed.), *चतुर्वर्गचिन्तामणि-दानखण्डम्* (Calcutta: Asiatic Society of Bengal), [ark:/13960/t1rf9jd94](https://n2t.org/ark:/13960/t1rf9jd94).
- Sleeman, W. H. (1893), *Rambles and Recollections of an Indian Official* (London: Constable), [ark:/13960/t22c4bx7w](https://n2t.org/ark:/13960/t22c4bx7w); v. 2 at <http://n2t.net/ark:/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:5:1-3960-t9v18bf68).
- 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:5:1-3960-s2hb5j66s95).
- Suvedī, K. S., and Tivārī, N. (2000) (eds.), *सौश्रुतनिघण्टुः ग्रन्थादौ विस्तृतेन ग्रन्थ-वैशिष्ट्यप्रकाशकेनोपोद्धातेन अवसाने च द्रव्याणामनेकभाषानामावली-पर्यायसङ्ग्रहाभ्यां समलङ्कृतः सुश्रुतसंहितायां प्रयुक्तानामौषधद्रव्याणां पर्याय-गुणकर्मवर्णात्मकोऽपूर्वग्रन्थः* (Belajhuṇḍī, 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:5:1-3960-t5s841v5m).
- 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:5:1-3960-t9g45vn74).
- 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.org/).
- Thorburn, S. S. (1876), *Bannu; or Our Afghan Frontier* (London: Trübner & Co.), [ark:/13960/t39z96g7m](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-t39z96g7m); 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:5:1-3960-t41s58879).
- Unschuld, Paul Ulrich (1984), *Medicine in China: A History of Ideas* (Berkeley: University of California Press), ISBN: 0520050231.

- Vaidyopādhyāya, Rāmaprasāda (1911) (ed.), चरकसंहिता । श्रीमन्महर्षिप्रवरचर-
कप्रणीता । पण्डितरामप्रसादवैद्योपाध्यायविरचितप्रसादनी-भाषाटीकासहिता । (mum-
bayī: Kṣemarāja-Śrīkrṣṇadāsaśreṣṭhin), [ark:/13960/t2r59q189](https://nopr.scribd.org/ark:/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 Soci-
ety* (Bombay: Royal Asiatic Society, Bombay), [ark:/13960/t53g00h0n](https://nopr.scribd.org/ark:/13960/t53g00h0n);
Biswas #0115.
- 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/ark:/13960/t1zc8g94b).
- (1921), *Ophidia Taprobanica or the Snakes of Ceylon* (Colombo: Cottle,
Government Printer), [ark:/13960/t39z9q93n](https://nopr.scribd.org/ark:/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 De-
rivatives of the Sanskrit Language. A Supplement to his Sanskrit Grammar*
(Leipzig: Breitkopf and Härtel), [ark:/13960/t3qv3p906](https://nopr.scribd.org/ark:/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://www.britishlibrary.org/ark:/13960/t39z9q93n).
- 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.
- (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), "Suśrutasamhitā," 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](#).
- (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](#).
- 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](#).
- Wujastyk, Dominik, Birch, Jason, Klebanov, Andrey, et al. (2021–) (eds.), "New Digital Edition of the Suśrutasamhitā: The Suśruta Project at Saktumiva," 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 Suśrutasamhitā* (Heidelberg: Heidelberg Asian Studies Publishing), ISBN: 978-3-948791-63-6. DOI: [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.
- 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 *Suśrutasamhitā* 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.
- (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 Reference Works

- ADPS Sivarajan, V. V., and Balachandran, Indira (1994), *Ayurvedic Drugs and Their Plant Sources* (New Delhi, Bombay, Calcutta: Oxford & IBH Publishing).
- AVS Warriar, P. K., Nambiar, V. P. K., and Ramankutty, C. (1994–96) (eds.), *Indian Medicinal Plants: A Compendium of 500 Species. Vaidyaratnam P. S. Varier's Arya Vaidya Sala, Kottakal* (Madras: Orient Longman).
- BIA Prater, S. H. (1993), *The Book of Indian Animals* (3rd edn., Bombay, Delhi, etc.: Oxford University Press), [ark : / 13960 / t6356w32f](#); 4th impression of 3rd corrected 1980 edition.
- Chopra Chopra, R. N., Nayar, S. L., and Chopra, I. C. (1956), *Glossary of Indian Medicinal Plants* (3rd reprint, 1992, New Delhi: Council of Scientific and Industrial Research); vol. 2: R. N. Chopra, I. C. Chopra, and Varma ([Chopra_{sup}](#)).
- Chopra IDG Chopra, R. N., Chopra, I. C., Handa, K. L., et al. (1958), *Chopra's Indigenous Drugs of India* (2nd edn., Calcutta: Dhur & Sons), [ark : / 13960 / t9673t140](#).
- Chopra_{sup} 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](#).

- 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://nopr.scribd.org/ark:/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](https://www.biodidactic.com/URL), accessed 16/03/2023.
- GJM₁ Meulenbeld, Gerrit Jan (1974a), "Sanskrit Names of Plants and their Botanical Equivalents," in id., *The Mādhavanidāna and Its Chief Commentary: Chapters 1–10. Introduction, Translation, and Notes* (Leiden: Brill), chap. Appendix Four, 520–611, [ark:/13960/t25b8q97g](https://nopr.scribd.org/ark:/13960/t25b8q97g).
- GJM₂ Meulenbeld, Gerrit Jan (1988), "G. J. Meulenbeld's Additions to his "Sanskrit Names of Plants and their Botanical Equivalents"," in Rahul Peter Das, *Das Wissen von der Lebensspanne der Bäume: Surapālas Vṛkṣāyurveda* (Stuttgart: Franz Steiner Verlag), chap. Appendix 1, 425–65, ISBN: 9783515046633; Supplement to [GJM₁](https://nopr.scribd.org/ark:/13960/t25b8q97g).
- GVDB Singh, Thakur Balwant, and Chuneekar, K. C. (1972), *Glossary of Vegetable Drugs in Brhatrayi* (Varanasi: Chowkhamba Sanskrit Series Office), [ark:/13960/s2cvp72x58j](https://nopr.scribd.org/ark:/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://nopr.scribd.org/ark:/13960/t52h05616).
- IGP Griffiths, Mark (1994), *The New 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:bsz:5-pqd1w).
- 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).
- 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:bsz:5-pqd1w); 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:de:bsz:5-pqd1w).
- Potter_{rev} 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_{Comm} 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:2019-06-01-13960-t8cg7dm79).
- Watt_{Dict} Watt, George (1889–96), *A Dictionary of the Economic Products of India* (Calcutta: Dept. Revenue and Agriculture, Government of India), [URL](#), accessed 28/04/2021.

Materia Medica

Numbers after the final colon refer to pages in this book.

- aconite leaf (?) (*viṣapatrikā*) Unknown. Cf. perhaps, *vatsanābha* (wolfsbane). Cf. [GVDB: 373](#) : [123](#)
- ‘alas, alas’ (*hālāhala*) unknown. See Cf. *Soḍhalanighantu* p.43 (sub bola) = *stomaka* = *vatsanābha* :
- Alexandrian laurel (*punnāga*)
Calophyllum inophyllum, L. See [AVS: 1, 338](#), [NK: 1, #425](#) :
- amaranth (*tanḍulīyaka*) Amaranthus hypochondriacus, L. See King 321, [NK: 1, #144](#), [Potter_{rev}: 15](#). Cf. [AVS: 1, 121](#) : [116](#)
- arjun (*arjuna*) Terminalia arjuna, Bedd. See [HK: 738](#) : [36, 65](#)
- ash gourd (*kūṣmāṇḍa*) → puṣpaphala.
Beninkasa hispida, (Thunb.) Cogn. See [AVS: 2, 1127](#); cf. [AVS: 1, 261](#) :
- Asoka tree (*aśoka*) Saraca indica Linn., [GVDB: 26](#) : [88, 90, 170](#)
- atis root (*śṛṅgīviṣa*) Aconitum heterophyllum, Wall. ex Royle. See [AVS: 1, 42](#), [NK: 1, #39](#) :
- axlewood (*dhava*) Anogeissus latifolia (Roxb. ex DC.) Wall. ex Guill & Perr. See [AVS: 1, 163 f](#), [Chopra: 20](#) : [36, 65, 138](#)
- bamboo leaves (*veṇupatrikā*) Bambusa bambos, Druce. See [NK: 1, #307](#) : [116](#)
- banyan (*nyagrodha*) Ficus bengalensis, L. See [HK: 748](#) :
- banyan (*vaṭa*) Ficus bengalensis Linn., [GVDB: 356](#) : [66](#)
- barley (*yava*) Hordeum vulgare, L. See [HK: 752](#) : [97](#)
- 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 : [65](#)
- beautyberry (*priyaṅgu*) → *śyāmā*.
Callicarpa macrophylla, Vahl. See [AVS: 1, 334](#), [NK: 1, #420](#). Some say also Setaria italica Beauv. [GVDB: 263–264](#). See also [GVDB: 413](#) : [36, 134, 139, 170](#)
- beautyberry (*śyāmā*) Callicarpa macrophylla, Vahl. See [AVS: 1, 334](#), [NK: 1, #420](#) : [92, 114, 116](#)
- beggarweed (*aṁśumatī*) Desmodium gangeticum (L.) DC ([Dymock: 1, 428](#), [GJM1: 602](#), [NK: 1, #1192](#); [ADPS: 382, 414](#) and [AVS: 2, 319, 4.366](#) are confusing) : [134](#)
- beggarweed (*vidārigandhā*) → *śālāparṇī*.
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: 45, 97, 270
- beggarweed** (*śālaparnī*) → *sthirā*.
Desmodium gangeticum (L.) DC. See **Dymock:** 1, 428, **GJM1:** 602, **NK:** 1, #1192; **ADPS:** 382, 414 and **AVS:** 2, 319, 4.366 are confusing:
- Bengal quince** (*bilva*) *Aegle marmelos* (L.) Corr. See **AVS:** 1, 62, Chevallier 159, **NK:** 1, #62, (**MW:** 732a) : 65, 88, 90, 94, 267
- ‘big poison’ (*mahāvīṣa*) unknown. See ? :
 ‘big thorn apple’ (*mahākarambha*) *Datura metel*, L.?. See **thorn apple** (*karambha*) :
bitumen (*adrija*) → *śilājī*. A tar-like, black, resinous rock exudate. See **Mahākośa:** 1, 21 : 149
- black cardamom** (*Xhareṇu*) *Amomum subulatum*, Roxb.?. See **PVS Caraka** 2.734, **AVS:** 1, 128, **NK:** 1, #154, *pace* **GVDB:** 467–468 :
- black creeper** (*pālindī*) *Ichnocarpus frutescens*, (L.) R.Br. or *Cryptolepis buehneri*, 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 : 116, 119, 133, 134
- black pepper** (*marica*) *Piper nigrum*, L. See **ADPS:** 294, **NK:** 1, #1929 : 98, 170
- black pepper** (*vallīja*) → *marica*. *Piper nigrum*, L.?. See **NK:** 1, #1929; Rā.6.115, Dha.4.85, Dha.2.88 :
- blackboard tree** (*saptachada*) *Alstonia scholaris* R. Br. **GVDB:** 420 : 115
- blackbuck** (*hariṇa*) *Antelope cervicapra*, L. See **BIA:** 270 **IW:** 95, 165, *et passim* : 119
- ‘blade’ (*kartariya*) unknown. See ? :
blue water-lily (*utpala*) *Nymphaea stellata*, Willd. See **GJM1:** 528, **IGP** 790; **Dutt:** 110, **NK:** 1, #1726 : 27, 114, 133, 134, 170, 171
- bottle gourd** (*ālābūka*) *Lagenaria siceria* (Molina) Standl. See **IGP** 645, **NK:** 1, #1419 :
- bull’s head** (*gokṣura*) *Tribulus terrestris* L. **GVDB:** 144–145, 193. A component of **lesser five roots** : 264
- bull’s head** (*trikaṇṭaka*) → **bull’s head** (*gokṣura*) **GVDB:** 193. A component of **lesser five roots** : 270
- bulrush** (*kaśeru*) “Two species, *Scirpus kysoor* Roxb., and *S. grossus* Linn. f. are used” **GVDB:** 85. Also *kaśeruka* and *kaseru* : 92, 93, 96
- calamine lotion** (*amṛtāsaṅga*) → *amṛtāsaṅga*. Zinc carbonate. See **NK:** 2, #56 :
- camphor** (*karpūra*) → *śītaśiva*. *Cinnamomum camphora*, (L.) Sieb. See **IGP** 253 :
- cannabis** (*vijayā*) *Cannabis sativa*, L. See **AVS:** 1, 356, **NK:** 1, #442 :
- caper** (*karīra*) *Capparis decidua* (Forsk.) Edgew. See **AVS:** 1, 368, (**MW:** 255b) :
- cardamom** (*elā*) *Elettaria cardamomum*, Maton. See **AVS:** 2, 360, **NK:** 1, #924, **Potter_{rev}:** 66 : 88, 134, 139
- carmarī** (*carmarī*) unknown. See ? :
carray cheddie (*gāṇḍgerukī*) → *viśvadevā*. *Canthium parviflorum*, Lam. See **AVS:** 1, 366 f :
- cassia cinnamon** (*patra*) *Cinnamomum tamala*, (Buch.-Ham.) Nees. See **AVS:** 2, 84, **NK:** 1, #589 : 88, 94, 116, 134
- castor oil tree** (*gandharvahaṣṭa*) → *eraṇḍa*. **GVDB:** 135, **K&B:** 3, 2277 : 41, 90
- castor-oil** (*eraṇḍa*) *Ricinus communis*, L. See **NK:** 1, #2145, **Chopra:** 214 : 46
- catechu** (*khadira*) *Senegalia catechu* (L.f.) P. J. Hurter & Mabb = *Acacia catechu* Willd. **GVDB:** 129–130 : 65
- certain minerals** (*tārāvitāra*) Unknown. It is not even certain that these are minerals. The variant reading in the vulgate, *tārāḥ sūtārāḥ* was glossed by Ḍalhaṇa on 5.3.14 (**Su** 1938: 568) as follows *tāro*

- rūpyam, sutāraḥ pāradah*, “tāra means silver; sutāra means mercury.” : 138
- Ceylon iron wood (*kṣīrikā*) *Mimusops hexandra*, Roxb. (GVDB: 126–127) :
- 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*) : 28, 273
- chebulic myrobalan (*harītakī*) *Terminalia chebula* Retz. GVDB: 466 : 95, 115
- cherry (*elavālu*) *Prunus cerasus*, L.?. See BVDB 58, NK: 1, #2037, GVDB: 58 : 134
- chir pine (*sarala*) *Pinus roxburghii*, Sarg. GVDB: 423 : 65, 96
- chital deer (*prṣata*) *Axis axis*, Erxleben. See BIA: 292, IW: 93 : 119
- ‘choice tree’ (*varadāru*) unknown. See ? :
- chukar partridge (*cakora*) *Alectoris chukar*. See Woodcock 1980: 45 :
- cinnamon (*tvac*) *Cinnamomum cassia*, Blume. See NK: 1, #579 :
- citron (*mātuluṅga*) *Citrus medica*, Linn. GVDB: 276, 306. Also spelled *mātuliṅga*, *mātulaṅga*, *mātulāṅga* : 65, 94, 99, 100
- cluster fig (*udumbara*) *Ficus racemosa*, L. See ADPS: 487 :
- cobra’s saffron (*nāgapuṣpa*) → *nāgakeśara*. *Mesua ferrea*, L. See NK: 1, #1595, GVDB: 220 : 134
- common crane (*krauñca*) *Grus grus*. See Woodcock 1980: 47 :
- common mallow (*suvarcalā*) perhaps *Malva sylvestris*, L. A difficult plant to identify, see T. B. Singh and Chunekar (GVDB: 280, 440–441) :
- common mallow (*sūryāvarta*) *Malva sylvestris*, L. *Cakrapāṇidatta* and Ḍalhaṇa identify it with *suvarcalā*, itself a difficult plant to identify. Perhaps *Helianthus*, see T. B. Singh and Chunekar (GVDB: 280) :
- common smilax (*śvadaṁśtra*) *Smilax aspera* L., GVDB: 414 : 65
- corky coral tree (*pāribhadra*) *Erythrina suberosa* Roxb. See GVDB 245 : 138
- costus (*kuṣṭha*) *Saussurea costus*, Clarke. See NK: 1, #2239 : 88, 94, 116, 134, 139
- cottony jujube (*kākolī*) *Ziziphus mauritanica*, Lam. See IGP: 1233, NK: 1, #2663; IGP 1233. Cf. NK: 1, #1170 : 87, 93, 94, 162
- country mallow (*atibalā*) *Abutilon indicum*, (L.) Sweet, but may be other kinds of mallow, e.g., *Sida rhombifolia*, L.. See NK: 1, #11, IGP: 1080, NK: 1, #2300, ADPS: 71, 77 : 45, 93, 96, 213
- 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) : 45, 123, 133, 134, 138
- crape jasmine (*nata*) → crape jasmine GVDB: 215 : 265, 268
- crape jasmine (*tagara*) *Tabernaemontana divaricata* (L.) R.Br. ex Roem. & Schultes. See GJM1: 557, AVS: 5, 232. Synonym of crape jasmine. 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, but there remain many historical questions about the ancient and regional identities of this plant See, e.g., AVS: 5, 334 : 88, 94, 116, 134, 265, 268
- crimson trumpet-flower tree (*pāṭalā*) *Stereospermum chelonoides*, (L. f.) A. DC. See GJM1: 573, AVS: 5, 192 ff, ADPS: 362 f, AVS: 3, 1848 f, IGP 1120, Dymock: 3, 20 ff : 138, 267
- cucumber (*trapusa*) *Cucumis sativus*, L.

- See [AVS](#): 2, 231, [NK](#): 1, #731:
cuscus grass (*uśīra*) *Andropogon murcatus*, Retz. Also “vetiver grass.”
See [NK](#): 1, #180: 66, 116, 160
- datura* (*dhattūra*) *Datura metel*, L. See
[AVS](#): 2, 305 (cf. *Abhidhānamañjarī*),
[NK](#): 1, #796 ff. [Potter_{rev}](#): 292 f,
[ADPS](#): 132: 42
- deodar (*bhadradāru*) *Cedrus deodara*,
(Roxb.ex D.Don) G. Don. See [AVS](#) 41,
[NK](#): 1, #516: 36, 93, 97, 134
- deodar (*devadāru*) *Cedrus deodara* (Roxb.)
Loud. [GVDB](#): 206–207: 65, 94, 213
- devil’s dung (*hiṅgu*) *Ferula foetida* Regel.,
[GVDB](#): 471–472: 66
- dhaman tree (*dhanvaṅga*) → dhammaṇa?
Grewia tiliifolia, Vahl. See
[AVS](#): 3, 104, [IK](#), [AVS](#): 1, 386, [IGP](#) 529
(*tiliifolia*):
- dried ginger (*śuṇṭhī*) *Zingiber officinale*,
Roscoe. See [ADPS](#): 50, [NK](#): 1, #2658,
[AVS](#): 5, 435, [IGP](#): 1232: 92
- 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): 27
- drum-giver (?) (*lambaradā*) Unknown; cf.
[GVDB](#): 348: 123
- elixir salve (*rasāñjana*) → *añjana*. See
[Indian barberry](#): 36, 46
- embelia (*viḍaṅga*) *Embelia ribes*, Burm. f.
See [ADPS](#): 507, [AVS](#): 2, 368, [NK](#): 1,
#929, [Potter_{rev}](#): 113: 36, 65, 88, 134
- emblic (*āmalaka*) *Phyllanthus emblica*, L.
See [AVS](#): 4, 256: 65, 95, 96, 170
- emetic nut (*karaghāṭa*) Probably a synonym
for *karahāṭa* (emetic nut), q.v.,
[GVDB](#): 74: 266
- 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.: 266, 270
- emetic nut (*madana*) *Randia dumetorum*,
Lamk. See [NK](#): 1, #2091: 114, 215
- false daisy (*bhṛṅga*) *Eclipta prostrata* (L.)
L. See [GVDB](#): 288: 65
- false daisy (*subhaṅgurā*) (su)bhaṅgura =
bhṛṅga? *Eclipta prostrata* (L.) L. See
[GVDB](#): 288: 122
- fermented rice-water (*dhānyāmla*) → *kāñjī*,
kāñjikā, *sauvīra*. [GVDB](#): 458, [NK](#): 2,
appendix VI, #18: 43, 44
- 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: 118
- fire-flame bush (*dhātakī*) *Woodfordia*
fruticosa (L.) Kurz. See [AVS](#): 5, 412,
[NK](#): 1, #2626: 65, 115
- 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: 65
- five-leaved chaste tree (*śephālikā*) *Vitex*
negundo, L. See [NK](#): 1, #2603 (cf. use
of leaves), [IGP](#): 1210a, [MW](#): 1088b:
- flame-of-the-forest (*palāśa*) *Butea*
monosperma (Lam.) Taub. [GVDB](#): 241.
pālāśa in some sources: 65, 90, 266
- flame-of-the-forest (*pālāśa*) See
[flame-of-the-forest](#) (*palāśa*). The variant
name with long initial vowel appears in
Nepalese manuscripts:
- flax (*atasī*) *Linum usitatissimum*, L. See
[NK](#)#1495: 93
- ‘foam-stone’ (*phenāśma*) unknown. See ?:
- fragrant lotus (*saugandhika*) A type of

- kumuda* or *utpala* (GVDB: 457) : 27
- 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) : 267
- galls (*karkaṭa*) *Rhus succedanea*, L. See NK: 1, #2136 :
- garden pea (*kalāya*) *Pisum sativum*, L. See AVS: 4, 308, IGP 901; cf. NK: 1, #1940 :
- garjan oil tree (*aśvakaṛṇa*) *Dipterocarpus turbinatus* Gaertn. f. See GVDB: 28, Chopra: 100 : 138
- 'gentle' (*somā*) *Ruta graveolens*, L., or *Sarcostemma brevistigma*, W & A, etc. See NK: 1, #2179, 2228; Potter_{rev}: 262 :
- giant potato (*kṣīravidārī*) possibly → *kṣīraśukla*. *Ipomoea mauritiana*, Jacq. See ADPS: 510, AVS: 3, 222, AVS: 3, 1717 ff: 93, 269, 271–273
- ginger (*mahaśadha*) *Zingiber officinale*, Roscoe. See ADPS: 50, NK: 1, #2658, IGP: 1232 : 119
- 'gladdener' (*nandana*) unknown. See ? :
- gold (*hema*) gold : 134
- 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" : 138
- golden shower tree (*rājadruma*) *rājadruma* = *āragvadha*. *Cassia fistula* L. See GVDB 37 : 138
- golden shower tree (*rājavarṇka*) → *rājadruma* = *āragvadha*. *Cassia fistula* L. See GVDB: 37 : 65
- golden shower tree (*āragvadha*) *Cassia fistula* L. See GVDB 37 : 95
- gourd (*alābu*) *Lagenaria siceraria* Standl. GVDB: 25. Some say *Lagenaria vulgaris*, Seringe (NK: 1, #1419) but this is not appropriate for blood-letting : 23, 24, 114, 162
- greater five roots (*br̥hatpañcamūla*) 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** : 266, 269, 275
- green gram (*māṣa*) *Vigna radiata* (L.) R. Wilcz. See ADPS: 296, IGP 1204 : 36, 93, 214
- 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." : 65, 92, 94, 267
- 'gutboiler' (*antrapācaka*) unknown. See ? :
- hairy bergenia (*pāśāṇabheda*) *Bergenia ligulata* (Wall.) Engl. GVDB: 246–247 : 65
- halfa grass (*kuśa*) *Desmostachya bipinnata*, (L.) Stapf. GVDB: 111, AVS: 2, 326 : 93, 159
- hare foot uraria (*pr̥thakparṇī*) → **hare foot uraria** (*pr̥śniparṇī*) and ?? (*mūrvā*) GVDB: 257. A component of **lesser five roots** : 95, 270
- hare foot uraria (*pr̥śniparṇī*) → *sahā*? *Uraría lagopoides*, DC. and *U. picta* Desv. See GVDB: 257–258, GJM1: 577, Dymock: 1, 426, AVS: 1, 750 ff, NK: 1, #2542; ADPS: 382, AVS: 2, 319 and AVS: 4, 366 are confusing. Also called

- pr̥thakparṇī*. A component of lesser five roots : 92, 93, 267
- heart-leaf sida (*balā*) *Sida cordifolia*, Linn. See ADPS: 71, NK: 1, #2297 : 45, 93, 96, 98, 134, 213
- heart-leaved moonseed (*amṛtā*) → *guḍūcī*. *Tinospora cordifolia*, (Willd.) Hook.f. & Thoms.? See ADPS: 38, NK: 1, #2472, 624, Dastur #229 : 116, 132
- 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) : 65, 94
- heart-leaved moonseed (*somavallī*) *Tinospora cordifolia* (Thunb.) Miers. GVDB: 456. Likely, but uncertain : 116
- heart-leaved moonseed creeper (*amṛtavallī*) See *amṛtā* : 213
- heliotrope (*hastīśuṇḍa*) → *ibhagandhā*? *Heliotropium indicum*, L. See AVS: 3, 136, NK: 1, #1203 :
- henna (*madayantikā*) *Lawsonia inermis*, L. See AVS: 3, 303, NK: 1, #1448, Potter_{rev}: 151 : 117
- hill myna (*sārikā*) *Acridotheres tristis* *tristis*, L., etc. See Ali #1006, Dave (1985: 28 ff.), Woodcock (1980: 119) :
- Himalayan mayapple (*vakra*) *Podophyllum emodi*, Wall. (NK: #1971). But perhaps a synonym of crape jasmine and crape jasmine (GVDB: 354) : 139
- Himalayan monkshood (*atīviṣā*) → *viṣā* *Aconitum heterophyllum* Wall. GVDB: 12, NK: 1, #39. Also “atis roots” : 85, 117, 119, 139
- Himalayan monkshood (*viṣā*) → *atīviṣā* GVDB: 12, 373 : 272
- hogweed (*punarnavā*) *Boerhaavia diffusa*, L. See ADPS: 387, AVS: 1, 281, NK: 1, #363 : 95, 117, 133
- Holostemma creeper (*jīvantī*) → *sūryavallī*? *Holostemma ada-kodien*, Schultes. See ADPS: 195, AVS: 3, 167, 169, NK: 1, #1242 : 96, 272
- honey (*kṣaudra*) Eight varieties of honey are described in the SS (NK: 2, Appendix 192). *Kṣaudra* is the product of a small bee of tawny colour, called *kṣudra* : 101, 119
- 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 (*dūrvā*) (GVDB: 409). Identified as *Ceratophyllum demersum* Linn. (“hornwort”) by AVS: 2, 56–57x : 94, 268, 272
- hornwort (*jalanīlikā*) *Ceratophyllum demersum*, L. See AVS: 2, 56, IGP 232 :
- 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 : 45
- horse gram (*kaulattha*) See horse gram (*kulattha*) : 160
- horse gram (*kulattha*) *Macrotyloma uniflorum* (Lam.) Verdcourt, syn. *Dolichos biflorus*, L., *D. uniflorus*, Lam., GVDB: 109, Kew: sub *Macrotyloma uniflorum* : 97, 98, 164, 268
- horseradish tree (*śigru*) *Moringa oleifera* Lam. See IGP 759, GJM1: 603, Dymock: 1, 396 : 94, 95
- hyacinth bean (*śimbī*) *Dolichos lablab*, L. See NK: 1, #870 :
- Indian antelope (*eṇa*) *Antelope cervicapra*, L. See BIA: 70 :
- Indian barberry (*añjana*) → *rasāñjana*, *dāruharidrā*. *Berberis aristata*, DC. Dymock: 1, 65, NK: 1, #335, GJM1: 562, IGP: 141 : 46, 118, 266

- Indian barberry (*dāruharidrā*) *Berberis aristata*, DC. See [Dymock](#): 1, 65, [NK](#): 1, #685, [GJM1](#): 562, [IGP](#) 141 : 133, 134, 269
- Indian barberry (*dārvi*) → [Indian barberry](#) (*dāruharidrā*) [GVDB](#): 203 : 171
- Indian barberry (*kālīyaka*) → *dāruharidrā*, *añjana*. *Berberis aristata*, DC. See [Dymock](#): 1, 65, [NK](#): 1, #685, [GJM1](#): 562, [IGP](#): 141 : 116
- Indian beech (*naktamāla*) *Pongamia pinnata*, (L.) Pierre. See [AVS](#): 4, 339, [NK](#): 1, #2003 : 36, 90
- 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 : 45, 94, 272
- Indian jujube (*sauvīra*) *Zizphus jujuba* Mill., [GVDB](#): 458, [MBG](#): sub jujuba :
- Indian jujube (*sauvīraka*) *Zizphus jujuba* Mill., [GVDB](#): 458, [MBG](#): sub jujuba : 93, 160
- 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 : 45, 65
- Indian laburnum (*śampāka*) *Cassia fistula*, L. See [ADPS](#): 48, [AVS](#): 2, 11 ff, [AVS](#): 2, 854, [IGP](#) 215 :
- Indian laurel (*plakṣa*) *Ficus microcarpa*, L. f. See [ADPS](#): 377 :
- Indian madder (*mañjiṣṭhā*) *Rubia cordifolia*, L. See [IGP](#), [Chopra](#): 215, [GVDB](#): 289 : 41, 134
- 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) : 25
- Indian mustard (*sarṣapa*) *Brassica juncea*, Czern. & Coss. See [AVS](#): 1, 301, [NK](#): 1, #378 : 28
- Indian pennywort (*maṇḍūkapaṇṇī*) *Centella asiatica* (L.) Urban. See [GVDB](#): 290, [ADPS](#): 289–291 :
- Indian sarsaparilla (*sārivā*) → *anantā*. *Hemidesmus indicus*, (L.) R. Br. [ADPS](#): 434, [AVS](#): 3, 141–5, [NK](#): 1, #1210; and black creeper, *pāṇḍī*. *Ichnocarpus frutescens*, (L.) R.Br. or *Cryptolepis buehneri*, Roemer & Schultes [AVS](#): 3, 141, 3.145, 3.203, [NK](#): 1, #1283, 1210, [ADPS](#): 434 : 133, 134, 267
- Indian snakeroot (*sarpagandhā*) *Rauvolfia serpentina*, (L.) Benth. ex Kurz. See [NK](#): 1, #2099, [ADPS](#): 439, [GVDB](#): 425; cf. SS 5.5.76–78 :
- Indian spinach (*pūtīkā*) *Basella alba*, L. See [NK](#): 1, #318 (*rubra*), [ADPS](#): 489, [AVS](#): 1, 253, [IGP](#) 129b :
- Indian trumpet tree (*śyonāka*) *Oroxylum indicum* (L.) Benth. ex Kurz. [GVDB](#): 172–173. A component of [greater five roots](#) : 269
- Indian trumpet tree (*tiṇṭuka*) → [Indian trumpet tree](#) (*śyonāka*). *Oroxylum indicum* (L.) Benth. ex Kurz. [GVDB](#): 172–173. A component of [greater five roots](#) : 267
- indigo (*nīlīmī*) *Indigofera tinctoria*, L. See [NK](#): 1, #1309 :
- Indrajao (*vṛkṣaka*) → *indrayava*, *indrabīja*, *kaliṅga*, and *kuṭaja*. *Holarrhena antidysenterica* Wall. [GVDB](#): 376, 45 and 84 : 213
- jackfruit (*panasa*) *Artocarpus heterophyllus*, Lam. See [NK](#): 1, #249, [IGP](#) 99 :

- jambul (*jambū*) *Syzygium cumini*, (L.) Skeels. See [ADPS](#): 188, [NK](#): 1, #967, [Potter_{rev}](#): 168, Wujastyk 2003a: 115, 170
- jasmine (*mālatī*) *Jasminum grandiflorum*, L. See [NK](#): 1, #1364: 116
- jequirity (*guñjā*) *Abrus precatorius*, L. See [AVS](#): 1, 10, [NK](#): 1, #6, [Potter_{rev}](#): 168: 122, 123
- jequirity (*kālakūṭa*) *Abrus precatorius*, L.? Cf. [RRS](#) 21.14. See [AVS](#): 1, 10, [NK](#): 1, #6, [Potter_{rev}](#): 168:
- ‘juice-cooker’ (*sārapāka*) unknown. See ?:
- (?) (*karatā*) Not in [GVDB](#). Cf. perhaps *karahāṭa* (emetic nut): 123
- khesari pea (*tripuṭa*) *tripuṭa* (kalāya). *Lathyrus sativus*, L. See [IGP](#) 651, [NK](#): 1, #1439:
- koel (*kokila*) *Eudynamis scolopacea*. See Woodcock 1980: 66:
- kumudvatī (*kumudvatī*) unknown. See ?:
- kutki (*ariṣṭā*) *Picrorhiza kurroa* Royle ex Benth. → *kaṭukā* (kutki) q.v. ([GVDB](#): 22–23):
- kutki (*kaṭukā*) *Picrorhiza kurroa* Royle ex Benth. ([GVDB](#): 64–65): 85, 101, 270
- lac (*jatu*) *Kerria lacca* (Kerr.). See <http://www.icar.org.in/ilri/default.htm>:
- lac (*lākṣā*) *Kerria lacca* (Kerr.). See [GJM1](#): 445, [NK](#): 2, #32. Watt ([WattComm](#): 1053–1066) is characteristically informative, and is definite about the antiquity of lac in India: 139
- lāmajja grass (*lāmajj*) *Andropogon iwarancusa*, Roxb. See [NK](#): 1, #176:
- lāmajja grass (*uśīrabheda*) → *lāmajja*. *Andropogon iwarancusa*, Roxb. See [NK](#): 1, #176:
- leadwort (*agniśikhā*) *Plumbago zeylanica* (or *rosea*?), L. See [NK](#): 1, #1966, 1967: 270
- leadwort (*citraka*) *Plumbago zeylanica* (or *indica*?), L. See [RĀ](#). 6.124, [ADPS](#): 119, [NK](#): 1, #1966, 1967: 36, 66, 85, 90, 100
- leadwort (*pālaka*) → *citraka*. *Plumbago zeylanica* (*indica*? *rosea*?), L. See [RĀ](#). 6.124, [ADPS](#): 1, 119, [NK](#): 1, #1966, 1967:
- leadwort (*vidyutsikhā*) Synonym of *agniśikhā* (leadwort), q.v.: 123
- lesser five roots (*laghupañcamūla*) Described at *Suśrutasamhitā* 1.38.66–67 ([Su](#) 1938: 169). Consists of bull’s head, poison berry, yellow-fruit nightshade, hare foot *uraria*, and beggarweed: 264, 266–268, 275, 277
- liquorice (?) (*klītaka*) *Glycyrrhiza glabra*, L.? [GVDB](#): 123–124 discuss the many difficulties in identifying this plant: 122
- liquorice (*madhuka*) see *yaṣṭīmadhuka*: 45, 65, 92–97, 99, 119, 132, 134, 171
- liquorice (*yaṣṭīmadhuka*) *Glycyrrhiza glabra*, L. [AVS](#): 3, 84, [NK](#): 1, #1136, [GVDB](#): 329 f.: 46
- ‘little bamboo’ (*veṇukā*) *Bambusa bambos*, Druce?. See [NK](#): 1, #307:
- 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*: 36, 134, 171
- lodh tree (*rodhra*) *Symplocos racemosa*, Roxb. See [ADPS](#): 279, [NK](#): 1, #2420:
- lodh tree (*sāvāra*) → *lodhra*. *Symplocos racemosa*, Roxb. See [ADPS](#): 279, [NK](#): 1, #2420:
- long pepper (*māgadha*) *Piper longum*, L. See [NK](#): 1, #1928; but cf. [AVS](#): 3, 245: 118
- long pepper (*pippalī*) *Piper longum*, L. See [ADPS](#): 374, [NK](#): 1, #1928: 65, 90, 95, 99–101, 119, 134, 170, 213
- lotus (*nalina*) → sacred lotus (*kamala*) [GVDB](#): 218: 170, 171
- lotus stalk (*mṛṇāla*) “Leaf stalk of sacred lotus” [GVDB](#): 318: 94
- luffa (*garāgarī*) → gargaraka? *Luffa echinata*, Roxb. See [NK](#): 1, #1517:

- luffa (*koṣātaka*) = *koṣītakī*, *luffa* :
 luffa (*koṣātakya*) *Luffa cylindrica*, (L.) M. J. Roem. or *L. acutangula*, (L.) Roxb. See *ADPS*: 252, *NK*: 1, #1514 etc :
 luffa (*koṣītakī*) = *koṣātakī*. *Luffa cylindrica*, (L.) M. J. Roem. or *L. acutangula*, (L.) Roxb. *ADPS*: 252–253, *NK*: 1, #1514 etc. *GVDB*: 121 : 114, 132, 271
 luffa gourd (*koṣavatī*) = *koṣītakī*, *luffa* : 132
 mahua (*madhūka*) *Madhuca longifolia*, (Koenig) Macbride. See *AVS*: 3, 362 f : 65
 maidenhair fern (*haṃsāhvayā*) *Adiantum lunulatum* Burm f. *GVDB*: 463 : 213
 Malay beechwood (*śrīparṇī*) → *kāśmarī*. *Gmelina arborea* Linn., *GVDB*: 412, 96–97 : 65
 mango (*āmra*) *Mangifera indica* Linn. *GVDB*: 37 : 115, 170
 mangosteen (*amla*) *Garcinia pedunculata* Roxb. ex Buch.-Ham. See *GVDB*: 20–21 : 164
 marking-nut tree (*aruṣkara*) *Semecarpus anacardium* L. See *bhallātaka* (marking-nut tree) : 123
 marking-nut tree (*bhallātaka*) *Semecarpus anacardium*, L. See *NK*: 1, #2269, *AVS*: 5, 98 : 90, 118, 271
 medhshingi (*vijayā2*) *Dolichandrone falcata* (DC.) The *Sauśrutaniḥaṇṭu* gives a number of synonyms for *vijayā* (Suvedī and Tivārī 2000: 5.77, 10.143). But one of them, *viṣāṇī* (also *meṣaśṛṅgī*), is sometimes equated with *Dolichandrone falcata* (DC.) Seemann (*ADPS*: 518; *GVDB*: 373 f, a plant used as an abortifacient and fish poison (*NK*: #862) : 123
 Middy flower (*bandhūka*) *Pentapetes phoenicea*, L. See *NK*: 1, #1836, *GVDB*: 268 :
 migraine tree (*agnimantha*) *Premna corymbosa*, Rottl. See *AVS* 1927, *ADPS*: 21, *NK*: 1, #2025, *AVS*: 4, 348; *GJM1*: 523 : = *P. integrifolia*/*serratifolia*, L : 132, 267
 milk-white (*kṣīraśuklā*) An unidentified plant. *GVDB*: 126: see purple *roscoea* and giant potato : 45, 273
 mongoose (*nakula*) *Urocyon 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 : 119
 monitor lizard (*godhā*) *Varanus bengalensis*, Schneider. See *Reptiles*: 58 : 45, 119
 monkey jack (*lakuca*) *Artocarpus lakoocha*, Roxb. ex Buch.-Ham. See *GJM1*: 597, *IGP* 99, *IPM* 3.2338f., pace *AVS*: 1, 215 : 'muddy' (*kardama*) unknown. See ? :
 mung beans (*mudga*) *Phaseolus radiatus* L. *GVDB*: 310–311 : 93, 96, 177
 mung beans (*māśaka*) *Phaseolus mungo* Linn. *GVDB*: 308 : 116
 munj grass (*nārācaka*) *Saccharum bengalense*, Retz.?. See *NK*: 1, #2184 :
 myrobalan (*abhayā*) *Terminalia chebula*, Retz. See *ADPS*: 172, *NK*: 1, #2451, *Potter_{rev}*: 214 : 85, 132, 139
 myrobalans (*pathyā*) *Terminalia chebula* Retz. See *NK*: 1, #2451 : 170
 natron (*suvarcikā*) Sodium carbonate. *NK*: 2, #45. Ḍalhaṇa identifies *suvarcikā* with svarjikṣāra 4.8.50 (*Su* 1938: 441) : 100, 134
 neem tree (*nimba*) *Azadirachta indica* A. Juss. *GVDB*: 226 : 42, 213
 nutgrass (*kuruvinḍa*) 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 Chuneekar (*GVDB*: 108) added that it could be a variety of rice, *ṣaṣṭika dhānya* : 138
 nutgrass (*mustaka*) *Cyperus rotundus*, L. See *ADPS*: 316, *AVS*: 2, 296, *NK*: 1,

- #782 :
 nutgrass (*mustā*) *Cyperus rotundus*, L. See [ADPS](#): 316, [AVS](#): 2, 296, [NK](#): 1, #782 : 271
 oleander spurge (*snuhī*) *Euphorbia neriifolia*, L., or *E. antiquorum*, L. See [ADPS](#): 448, [AVS](#): 2, 388, [AVS](#): 3, 1, [NK](#): 1, #988, [IGP](#) 457b :
 orchid tree (*kovidāra*) *Bauhinia purpurea* Linn. or *B. variegata* Linn. (probably the former), [GVDB](#): 120, [AVS](#): 1, 256–260 : 160
 orpiment (*haritāla*) *Arsenii trisulphidum*. See [NK](#) v. 2, p. 20 ff :
 panacea twiner (*arkaparnī*) See *arkapuṣpī*, [panacea twiner](#) :
 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 : 133, 269, 272
 parakeet (*śuka*) *Psittacula krameri/eupatria/cyanocephala*. See [Woodcock](#) 1980: 64 :
 peacock (*mayūra*) *Pavo cristatus*. See [Woodcock](#) 1980: 39 :
 peas (*hareṇu*) *hareṇu* = *satīna*. *Pisum sativum*, L. T. B. Singh and Chuneekar ([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 : 94, 133, 134, 139, 170
 peepul tree (*aśvattha*) *Ficus religiosa*, L. See [ADPS](#): 63 : 141
 ‘pendent’ (*lambā*) unknown. [GVDB](#): 348. Known only from *Suśrutasaṃhitā* 5.2.5. Identified by Monier-Williams et al. ([MW](#): 897) on no sound basis as “a kind of bitter gourd or cucumber” :
 periploca of the woods (*meṣaśṛṅga*) *Gymnema sylvestre* (Retz.) R. Br. See [AVS](#): 3, 107, [NK](#): 1, #1173 : 118
 phalsa (*parūṣaka*) *Grewia asiatica* Linn., [GVDB](#): 238 : 66
 pheasant peacock (*jīvajīvaka*) *jīvajīvaka* ?. See ? :
 plants like asthma plant and Gulf sandmat (*kṣīrīṇī*) various milky plants, perhaps including *Euphorbia hirta* Linn. (asthma plant) and *E. microphylla* Heyne (Gulf sandmat) ([GVDB](#): 127) : 269
 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. : 275
 pointed gourd (*paṭola*) *Trichosanthes dioica*, Roxb. [GVDB](#): 232–233 : 94, 132
 poison berry (*brhatī*) *Solanum violaceum*, Ortega. See [ADPS](#): 100, [NK](#): 1, #2329, [AVS](#): 5, 151 : 90, 95, 133, 134, 270
 poison-altar (?) (*viṣavedikā*) Unknown. Possibly, at a guess, *viṣamuṣṭika* (*strychnine tree*)? [GVDB](#): 373 Or *viṣā* (*Himalayan monkshood*) : 123
 pomegranate (*dāḍima*) *Punica granatum* Linn. [GVDB](#): 201–202 : 65, 99, 100
 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. : 134
 pondweed (*śevāla*) *Zannichellia palustris* L. See [horned pondweed](#) : 27
 portia tree (*pārīṣa*) *Thespesia populnea* (L.) Sol. ex. Corr. See [ADPS](#): 352 :
 prickly chaff-flower (*apāmārga*) *Achyranthes aspera*, L. See [GJM1](#): 524 f, [AVS](#): 1, 39, [ADPS](#): 44 f, [AVS](#): 3, 2066 f, [Dymock](#): 3, 135 : 41, 45, 93, 273

- prickly chaff-flower (*vasira*) also *vaśira*.
 Perhaps *Achyranthes aspera*, L.
 GVDB: 362 describes several possible identities, including *sūryāvarta*, [prickly chaff-flower](#) and *markaṭaṭṛṇa*. See also *vasukavasira* (GVDB: 363) : [65](#), [273](#)
- prickly chaff-flower (*vaśira*) See [prickly chaff-flower](#) :
- prickly-leaved elephant's foot (*gojihvā*) → *gojī*. Elephantopus scaber, L. See [AVS](#): 2, 357 :
- purging nut (*dravantī*) → *mūṣikaparnī*.
Jatropha curcas, L. See [AVS](#): 3, 261, [NK](#): 1, #1374 :
- purging nut (*mūṣikā*) *Jatropha curcas*, L.
 See [AVS](#): 3, 261, [NK](#): 1, #1374 : [118](#)
- purple calotropis (*arka*) *Calotropis gigantea*, (L.) R. Br. See [ADPS](#): 52, [AVS](#): 1, 341, [NK](#): 1, #427, [Potter_{rev}](#): 57, [Chopra IDG](#): 305–308 : [36](#), [45](#), [90](#), [160](#)
- purple calotropis (*khadyotaka*) → *arka*?
Calotropis gigantea, (L.) R. Br. See [ADPS](#): 52, [AVS](#): 1, 341, [NK](#): 1, #427, [Potter_{rev}](#): 63 :
- purple roscoea (*kṣīrakākolī*) GVDB: 89
 notes that many physicians use *Roscoea procera* Wall. in this context. But the identification is uncertain. Possibly connected to [milk-white](#) or [giant potato](#) : [93](#), [269](#), [271](#)
- racket-tailed drongo (*bhṛṅgarāja*) *Dicrurus paradiseus*. See Woodcock [1980](#): 123 :
- radish (*mūlaka*) *Raphanus sativus*, L. See [NK](#): 1, #2098 : [97](#), [98](#)
- rajmahal hemp (*moraṭa*) → *mūrvi*,
Marsdenia tenacissima (Roxb.) Wight et Arn. Good discussion at [GVDB](#): 314–316, 324 : [132](#)
- rajmahal hemp (*mūrvi*) → *moraṭa*,
Marsdenia tenacissima (Roxb.) Wight et Arn. Good discussion at [GVDB](#): 314–316, 324 :
- rattan (*vetra*) *Calamus rotang*, L. See [AVS](#): 1, 330, [NK](#): 1, #413 :
- red chalk (*gairika*) *gairika* : [134](#)
- red gourd (*bimbī*) *Coccinia indica*, W. & A.
 See PVS 1994.4.715; [NK](#): 1, #534 : [114](#)
- ribbed gourd (*karkoṭaka*) *Luffa acutangula*, (L.) Roxb.? (*Mormodica cochinchinensis*, Spreng.? Cf. *Luffa tuberosa*). See [AVS](#): 3, 347 ([NK](#): 1, #1640 1643; [NK](#): 1, #1520) :
- rice grains (*taṇḍula*) *Oriza sativa*, Linn.
 Same as [unhusked rice](#) (*śāli*)
[GVDB](#): 174; or just "grains" : [28](#)
- rice-grain chaff (*śālitaṇḍulakāṇḍana*) See [chaff](#) : [28](#)
- rock salt (*saindhava*) See [NK](#): 2, M#48, [Watt_{Comm}](#): 963–971 : [28](#), [65](#), [100](#)
- rosha grass (*dhyāmaka*) *Cymbopogon martinii* (Roxb.) Wats. See [AVS](#): 2, 285, [NK](#): 1, #177 : [134](#)
- sacred lotus (*kamala*) *Nelumbo nucifera* Gaertn., [GVDB](#): 73–74 : [270](#)
- sacred lotus (*padma*) *Nelumbo nucifera*, Gaertn. See [NK](#): 1, #1698 : [27](#), [94](#), [116](#)
- sacred lotus (*prapuṇḍarika*) *Nelumbo nucifera*, Gaertn. See Dutt 110, [NK](#): 1, #1698 :
- sage-leaved alangium (*aṅkolla*) *Alangium salvifolium* (Linn. f.) Wang.
[GVDB](#): 5–6 : [115](#)
- sage-leaved alangium (*aṅkoṭa*) *Alangium salvifolium*, (L. f.) Wang. See [AVS](#): 1, 77; cf. [NK](#): 1, #88 :
- sal (*śālasāra*) → ?? (*śāla*) :
- 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 : [65](#)
- sal tree (*śālā*) *Shorea robusta*, Gaertn.f. See [AVS](#): 5, 124 : [170](#)
- sandalwood (*candana*) *Santalum album*, L.
 See [ADPS](#): 111, [NK](#): 1, #2217 : [94](#), [96](#), [134](#), [160](#)
- sappan wood (*pataṅga*) *Caesalpinia sappan*, L. See [AVS](#): 1, 323, [AVS](#): 2, 847 f :
- sappanwood (*pattāṅga*) Also *pattāṅga*.
Caesalpinia sappan, L. [AVS](#): 1, 323,

- K&B: 2, 847 f, **GVDB**: 234 : 46
 scaly, red-streaked fish (*cilicima*) An unidentified fish that is absolutely not to be eaten with milk. Described in Bhela (1.12.7), Caraka (1.26.83) and Suśruta (1.20.8, 13). Circular, red streaks, round eyes and prominent scales, and "normally goes on land." : scarlet mallow (*bandhujīva*) Pentapetes phoenicea, L. **NK**: #1836, **GVDB**: 268 : 117
 scented pavonia (*bālaka*) Pavonia odorata, Willd. See **ADPS**: 498, **NK**: 1, #1822 : 134
 scented pavonia (*toya*) → *bālaka*? Pavonia odorata, Willd. **ADPS**: 498, **NK**: 1, #1822 :
 scrambleberry (*tālīśa*) T. B. Singh and Chuneekar (**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. (scrambleberry) : 94, 171
 scutch grass (*dūrvā*) Cynodon dactylon (Linn.) Pers. (**GVDB**: 205) : 268
 selu plum (*śelu*) Cordia myxa, L. non Forssk. See **GJM**: 529 (2), **IGP**: 291b, cf. **AVS**: 3, 1677 f; cf. **AVS**: 2, 180 (C. dichotoma, Forst.f.), **NK**: 1, #672 (C. latifolia, Roxb.) : 95, 132
 sesame (*tila*) Sesamum indicum L. **GVDB**: 183 :
 sesame oil (*taila*) Sesamum indicum L. **GVDB**: 183 : 45, 160
 sheep (*urabhra*) Ovis orientalis, Gmelin?. See **BIA** 249 :
 silk-cotton tree (*śālmālī*) Bombax malabarica. See **Issar**: 152 :
 siris (*śirīṣa*) Albizia lebbeck, Benth. See **AVS**: 1, 81, **NK**: 1, #91, **GVDB**: 399–400. Cf. white siris : 132, 160, 170, 276
 siris seeds (*śirīṣamāṣaka*) Albizia lebbeck, Benth. See **AVS**: 1, 81, **NK**: 1, #91 : 115
 small-flowered crape myrtle (*sidhraka*) Lagerstroemia parviflora Roxb. See **GVDB**: 432 : 138
 'snake mallow' (*mahābalā*) → sahadēvā. Sida spinosa, L. See **NK**: 1, #2301, **ADPS**: 74, Index Kewensis :
 'snake-killer' (*sarpaghātī*) unknown. See ? :
 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) : 122
 soda crystals (*suvarjikā*) Sodium carbonate. See **NK**: 2, #45 :
 spiked ginger lily (*śaṭī*) Hedychium spicatum Sm. in A. Rees, **GVDB**: 386–387. Also sometimes *śaṭhī* :
 spikenard (*jaṭāmāṁsī*) Nardostachys jatamansi DC **GVDB**: 163, etc :
 spikenard (*māṁsī*) Nardostachys grandiflora, DC. See **NK**: 1, #1691 : 134
 spikenard (*nalada*) → *māṁsī*. Nardostachys grandiflora, DC. See **NK**: 1, #1691 : 113
 spiny bitter cucumber (*karkārūka*) Momordica cochinchinensis (Lour.) Spreng., (Thunb.) Cogn. See **AVS**: 2, 1135, **IGP** 754 (or Beninkasa hispida? **AVS**: 2, 1127; cf. **AVS**: 1, 261) :
 strychnine tree (*viṣamuṣṭika*) Strychnos nux vomica Linn. **GVDB**: 373 : 272
 sugar (*sitā*) Ḍalhaṇa makes this equation at 1.37.25 (**Su** 1938: 162) : 134
 sugar (*śarkara*) Saccharum officinarum, Linn. **NK**: #2182 : 119
 sugar cane (*ikṣu*) Saccharum officinarum, Linn. **NK**: #2182 : 119
 sunflower (*sūryavallī*) → *ādityavallī*, *sūryamukhī*, Helianthus annuus Linn. **GVDB**: 35, 443 : 132
 swan (*haṁsa*) haṁsa. ?. See ? :
 sweet flag (*vacā*) Acorus calamus Linn. See **GVDB**: 352–355 : 93, 100
 sweet melon (*ervārūka*) Cucumis melo, L. See **AVS**: 2, 227; **AVS**: 2, 1140–3, **IGP**

- 325–6, **NK**: 1, #729 (*C. momordica*): sweet plants (*madhuravarga*) The sweet plants are enumerated at *Suśrutasamhitā* 1.42.11. See also **GVDB**: 127: 45
- sweet-scented oleander (*aśvamāra*) *Nerium oleander*, L. See **ADPS**: 223, **NK**: 1, #1709:
- sweet-scented oleander (*aśvamāraka*) *Nerium oleander*, L. See **ADPS**: 223, **NK**: 1, #1709: 122
- teak (*śāka*) *Tectona grandis*, L.f. See **AVS**: 5, 245, (**MW**: 1061):
- Tellicherry bark (*kuṭaja*) *Holarrhena pubescens* Wall. ex G.Don, with *Wrightia tinctoria* and *W. arborea* considered **GVDB**: 101–102, **ADPS**: 267–270: 90, 267
- ten roots (*daśamūla*) Described at *Suśrutasamhitā* 1.38.70–71 (**Su** 1938: 169) as a combination of the lesser five roots and the greater five roots: 266
- thorn apple (*karambha*) *Datura metel*, L. See **GVDB**: 76 for useful discussion. Also, **AVS**: 2, 305 (cf. *Abhidhānamāñjarī*), **NK**: 1, #796 ff. **Potter**_{rev}: 292 f, **ADPS**: 132. Possibly the same plant as plumed cockscomb (*indīvara*) (**GVDB**: 76, 44–45): 123, 264, 272
- 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: 133
- three-leaf soapberry (*ariṣṭaka*) *Sapindus trifoliatus* L. (**GVDB**: 22):
- three-leaved caper (*varuṇa*) *Crataeva magna* (Lour.) DC. See **AVS**: 2, 202; cf. **NK**: 1, #696: 118
- top layer of fermented liquor (*surāmaṇḍa*) **K&B**: 2, 502, **NK**: 2, appendix VI, #49, McHugh 2021: 39: 43, 44
- 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: 42, 275
- tree cotton (*picu*) See tree cotton (*kārpāsa*): 44, 46
- turmeric (*gaūrī*) *Curcuma longa*, L. See **ADPS**: 169, **AVS**: 2, 259, **NK**: 1, #750: 94
- turmeric (*haridrā*) *Curcuma longa* Linn. **GVDB**: 465: 95, 133, 139
- turmeric (*rajanī*) *Curcuma longa*, L. **ADPS**: 169, **AVS**: 2, 259, **NK**: 1, #750: 28, 134
- turpeth (*trivṛt*) → *trivṛtā*. *Operculina turpethum* (Linn.) Silva Manso = *Ipomoea turpethum* R. Br. **GVDB**: 197.: 88, 119, 215, 264
- 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*): 65
- unhusked rice (*śālī*) *Oriza sativa*, Linn. **GVDB**: 395–396: 28, 273
- various kinds of honey (*madhuvarga*) *Suśrutasamhitā*'s eight categories of honey. See *Suśrutasamhitā* 1.45.132 and **Dutt**: 278–279:
- velvet bean (*svayamguptā*) *Mucuna pruriens* DC., **GVDB**: 461:
- velvet-leaf (*pāṭhā*) *Cissampelos pariera*, L. See **ADPS**: 366, **NK**: 1, #592, **GJM**1: 573, **AVS**: 1, 95; cf. **AVS**: 2, 277: 36, 85, 100, 132
- velvet-mite (*indragopa*) *Kerria lacca* (Kerr.). Lienhard 1978: 114
- verbena (*bhāṛīgī*) → *phañjī*. *Clerodendrum serratum*, L. See **AVS**: 2, 121, **ADPS**: 87:
- verbena (*phañjī*) *Clerodendrum serratum*, L. See **AVS**: 2, 121, **ADPS**: 87: 117

- ‘Virāṭa’s plant’ (*vairāṭaka*) unknown. See ? :
 watered buttermilk (*udaśvit*) MW: 183 : 114
 watermelon (*kāṇḍaka*) *Citrullus lanatus* (Thunb.) Matsum & Nak. See IGP 257, NK: 1, #596, AVS: 2, 1149 :
 weaver’s beam tree (*muṣkaka*) *Schrebera swietenoides*, Roxb. See AVS: 5, 88, Lord, NK: 1, #2246 : 90, 138
 ‘web-milk’ (*jālakṣīri*) unknown. See ? :
 wheat (*godhūma*) *Triticum vulgare*, L. See HK: 744 :
 white babool (*arimeda*) *Acacia leucophloea*, (Roxb.) Willd. See AVS: 1, 23 : 36
 white calotropis (*alarka*) *Calotropis procera*, (Ait.) R. Br. See NK: 1, #428, Chopra: 46b, Chopra IDG: 305–308 : 45
 white clitoria (*Xsitā*) Possibly → [white clitoria](#)? *Clitoria ternatea*, L. See AVS: 2, 129, NK: 1, #621 :
 white clitoria (*giryāhvā*) → [śvetā](#). *Clitoria ternatea*, L. See AVS: 2, 129, NK: 1, #621 :
 white clitoria (*śvetā*) → *giryāhvā*. *Clitoria ternatea*, L. See AVS: 2, 129, NK: 1, #621 : 116, 276
 white cutch tree (*somavalka*) *Acacia polyacantha*, Willd. See AVS: 1, 30, IGP 7, GJM1: 602, AVS: 2, 935; *pace* NK: 1, #1038 : 117, 138
 white dammer tree (*sarja*) *Vateria indica*, L. See NK: 1, #2571, AVS: 5, 349 f, AVS: 1, 292 f, Chopra: 253a : 36, 65
 white siris (*kaṭabhī*) *Albizia procera* (Roxb.) Benth. or *A. lebbeck* (Linn.) Benth. GVDB: 63–64, AVS: 1, 81–84. Cf. [siris](#) : 160, 274
 white siris (*kiṇihī*) *Albizia procera*, (Roxb.) Benth. See GVDB 98, NK: 1, #93 : 133
 white teak (*kāśmarī*) → [kāśmarī](#) : 171
 white teak (*kāśmaryā*) → [kāśmarī](#) : 65
 white teak (*kāśmarī*) → *kāśmaryā*, *kāśmarī*, *madhuparṇī*. *Gmelina arborea*, Roxb. See GJM1: 543, Trees: 51, ADPS: 240 : 94, 96, 267
 white teak (*madhuparṇī*) → [kāśmarī](#) : 65
 white water-lily (*kumuda*) *Nymphaea alba*, Linn. GVDB: 105 : 27
 wild asparagus (*bahuputrā*) → *nandana*? *Asparagus racemosus*, Willd. See further [wild asparagus](#) (*śatāvārī*) : 117
 wild asparagus (*śatāvārī*) *Asparagus racemosus*, Willd. See ADPS: 441, AVS: 1, 218, NK: 1, #264, IGP: 103, AVS: 4, 249 ff, Dymock: 3, 482 ff : 92–94, 96, 176, 276
 wild celery (*agnika*) → may be *bhallātaka*, *lāṅgalī*, *ajamodā*, *moraṭa*, or *agnimantha*, GVDB: 4. Uncertain : 132
 wild celery (*ajamodā*) *Apium graveolens*, L. : 132
 wild chinchona (*kādamba*) *Anthocephalus cadamba*, Miq. See NK: 1, #204 :
 wild mustard (*sauryāka*) *Cleome viscosa*, L.? (cf. Rā.4.144). See AVS: 2, 116, NK: 1, #615 :
 wild sugar cane (*kāṇḍekṣu*) *Saccharum spontaneum* L., GVDB: 90 : 65
 Withania (*aśvagandhā*) *Withania somnifera* (L.) Dunal. See AVS: 5, 409 f, Dymock: 2, 566 f., Chevallier 150 : 45, 89, 95
 wolfsbane (*vatsanābha*) *Aconitum napellus*, L. See AVS: 1, 47, NK: 1, #42, Potter_{rev}: 4 f. Or *Aconitum chasmanthum* Stapf ex Holmes, GVDB: 357 : 263
 wood apple (*kapittha*) *Limonia acidissima*, L. See AVS: 3, 327, NK: 1, #1021 : 95, 116, 118, 170
 woodrose (*mūṣikakarṇī*) *Jatopha curcas*, L. AVS: 3, 261, NK: 1, #1374. GVDB: 317; ADPS: 23–25 discuss this issue well : 116
 woodworm (*ghuṇa*) See [note to Atharvaveda 4.16](#) :
 yellow-berried nightshade (*kṣudrā*) *Solanum virginianum*, L. See ADPS: 100, NK: 1, #2329, AVS: 5, 164 : 133, 134
 yellow-fruit nightshade (*kaṇṭakārī*)

Solanum virginianum L. (also called
Solanum xanthocarpum, Schrad. &

Wendl.) [GVDB: 68–69](#). A component of
[lesser five roots: 270](#)

Glossary

- √*pīḍ* - pain: 156
 √*śodh* - purge: 161
 √*ūh* - propelled: 156
 yoga - cohesion: 212
 'angry beetles' - *toṭaka*: 136
 'bellied' - *kukṣita*: 137
 'cook-fish' - *pākamatsya*: 136
 'darts' - *śārikā*: 137
 'earth scorpions' - *viśvambhara*: 137
 'flat insects' - *piccitā*: 136
 'lids' - *śārava*: 137
 'liquors' - *medaka*: 137
 'orange-dwellers' - *kaṣāyavāsika*: 136
 'pepper snakes' - *saṣapaka*: 136
 'poisonous snakes' - *pracalāka*: 136
 'pot insects' - *kaunḍinya*: 136
 'speckle-heads' - *citraśīrṣa*: 137
 'wing-scorpions' - *patravṛścika*: 137
 'wood-enemies' - *dārukāri*: 137

 abdominal lump - *gulma*: 188
abhayā - chebulic myrobalan: 172
abhramukta - free from clouds: 178
abhyaṅga - massage oil: 112, 118 - oil
 massage: 116
abīja - seedless: 64
ācamana - lavagas: 66
ācāra - regimen: 15
ācārika - medical advice: 44
 accents - *svara*: 160
 accumulation - *samudāya*: 41 - *sañcaya*: 16
Aconite - *hālāhala*: 128
ādarśamaṇḍala - the mirror ring: 150
adhikaraṇa - topic: 212f
adhimantha - irritation: 180
adhiṣṭhāna - base, foundation: 135
 - carriers: 135 - located: 15
ādhmāna - distension: 127 - tympanites:
 60
ādhmāta - swollen: 154
adhodṛṣṭitva - downward vision: 180
adhyāya - sections: 18
 afflicted - *upasṛṣṭa*: 64
 affliction - *upasarga*: 118

 afterbirth - *aparā*: 103
agada - antidote: 131, 160f - antitoxic: 160
āgantū - external factors: 17
 aggregation - *samuccaya*: 212, 216
agnika - the flame: 151
agra - supernatant layer: 175
agramukta - free from the point: 178
āhāra - diet: 15
āhārya - take away: 42
ahipatāka - the snake flag: 151
ahorātra - day and night: 16
 aids - *aṅga*: 173
 air - *samīraṇa*: 156
ajagara - constrictor: 154 - the goat
 swallower: 151
ajākṣīrārdita - stirred with goat's milk:
 180
ajeya - invincible: 119 - "invincible": 134
akhiladehavyāptirūpam - takes the form of
 pervading the whole body: 129
akriya - inactive: 60
ākṣepa - contractions: 57
ākṣepaka - convulsion: 58 - convulsions:
 57
alagarda - the hungry sting: 150
alagarddā - sting-gush: 25
ālepa - liniment: 170
ālepana - liniments: 25, 118
 alleviated - *yāpya*: 172
 alleviation - *pratīkāra*: 16
 along these lines - *evam*: 17
āmāśaya - stomach: 130f
amṛta - immortal: 119
anāgatāpekṣaṇa - future reference: 212,
 216
ānāha - constipation: 127, 130, 134
aṇḍaja - born from eggs: 16
aṇḍinī - with testicles: 189
anekānta - variable statement: 212
 - variable statement: 215
aṅga - aids: 173 - parts: 17
aṅgamarda - bruising of the limbs: 130
 anger - *krodha*: 15

- aṅgulirāji* - the finger stripe: 151
 animals - *paśu*: 16
añjana - application of collyrium: 170, 175 - collyrium: 161f, 169–172, 174ff, 181 - eye make-up: 112, 117 - eye ointment: 118 - eye salve: 132 - stibnite: 175
annamada - intoxication from food: 130
antarāyāma - emprosthotonos: 58
antidote - *agada*: 131, 160f
antitoxic - *agada*: 160
antra - entrails: 172 - gut: 131
 ants - *pipīlika*: 16
anulepana - massage ointment: 112, 116 - ointment: 116
anumata - consent: 212, 215
anuvāsana - oily enema: 65
apadeśa - statement of reason: 212, 214
apakṣāghāta - paralysis: 58
apāṅga - outer corner of the eye: 177
aparā - afterbirth: 103
apatānaka - spasmodic contraction: 57
āpatantraka - spasmodic contradiction: 58
apavarga - exception: 212, 214
 apertures of the head - *kha*: 117
 aphorism - *sūtra*: 213
 application of collyrium - *añjana*: 170, 175
apuṣpa - the grass flower: 150
araga timira - non-bloodshot blindness: 177
ardhakaṇṭhāpāṣaṇḍhika - half door-hinge: 42
ardita - spasm of the jaw-bones: 59
 arid-land animals - *jāṅgala*: 175
ariṣṭā - bandage: 158f, 163
ariṣṭa - omens: 49
aṇṇavamala - cuttle fish: 172
arocaka - loss of appetite: 130
arśas - prolapses: 188
ārtava - menstrual blood: 188 - seasonal blood: 64
arthāpatti - implication: 212
arthāpatti - implication: 215
aruci - disinterest in food: 163
asādhya - incurable: 64, 169 - untreatable: 177
āsaṅgima - fastening: 42
āśoka - grief: 15
āśrayin - substrate: 15
āsthāpana - tisane: 65
asthi - bones: 17
aṣṭhīlā - pebble: 114
asūyā - jealousy: 15
atibalā - strong mallow: 173
atideśa - prediction: 212, 214
atikrāntāpekṣaṇa - past reference: 212, 216
ātmaka - nature: 14
āṭopa - flatulence: 115
atyānandā - extremely excited: 189
avadāraṇa - fissuring: 118
avalekhana - combs: 112
avapiḍa - sternutatory: 162
āvarta - spiral: 177
avaśardhita - fart: 136
 axelwood - *dhava*: 181
ayana - half-year: 16
āyatta - depends on: 15
āyur - life: 24 - life, longevity: 11
āyurveda - the science of life: 12

babhru - the brown: 151
babhrūkuṭīmukha - the brown hut mouth: 150
baddham - bound, connected: 46
balā - country mallow: 173
bala - strength: 15
bali - morsel: 112 - sacrificial offerings: 159
bandage - *ariṣṭā*: 158f, 163 - *bandha*: 158
bandha - bandage: 158
 base, foundation - *adhiṣṭhāna*: 135
bāṣpa - vapour: 113f, 117
basti - instillation: 64
 be exhausted - *sāda*: 131
 bearers - *voḍhāra*: 112
 beauty berry - *priyaṅgu*: 175
 bellyache - *jaṭhara*: 134
 bent brow and eye - *vakrabhrūnetra*: 179
 benumbed - *jāḍya*: 155
 beryl - *vaiḍūrya*: 181

bhadradāru - deodar: 181
bhakṣya - masticable: 217
bhaṅga - leaves: 178
bhavet - it may be: 177
bhāvita - cooked: 175 - infused: 171
bheṣaja - treatment: 188
bhojya - edible: 217
bhramaraka (drongo): 113
bhr̥ṅgarāja (racket-tailed drongo): 113
bīja - semen: 188
bile - pitta: 173
bile-fever - pittajvara: 164
bilious / choleric - pittalā: 189
bindurāji - the drop stripe: 151
black drongo (dhūmyāṭa): 113
black - kṛṣṇā: 25
black part - kṛṣṇa: 177
black soot - maṣī: 170
blindness - timira: 177
blink of the eye - nimeṣa: 16
blockage of the vision (dr̥ṣṭyavarodha):
 154
blood - rakta: 64 - *rudhira*: 16 - *śoṇita*: 63
 - *śoṇita*: 173 - *śoṇita*: 63f
blood-bile - raktapitta: 169
blood-bile - śoṇita-pitta, rakta-pitta: 173
blood-letting - sirāvedha: 170
bloodshot blindness - rāgin timira: 174
 - *rāgiṇi timire*: 177
blue dot cataract - mlāyīn: 176
blue vitriol - tuttha: 175
bodily constituents - dhātu: 129
bodily tissues - dhātu: 156
body language - iṅgita: 112
body tissue - dhātu: 131
bones - asthi: 17
born from eggs - aṇḍaja: 16
born in in a caul - jarāyuja: 16
born of sweat - svedaja: 16
bound, connected - baddham: 46
box myrtle - kaṭphala: 172
brahma - holiness: 159
brahmarṣi - holy sages: 159
bristles - śūka: 136
bṛ̥ṃhaṇa - nourishment: 15

bruising of the limbs - *aṅgamarda*: 130
 bubbling - *budbuda*: 180
budbuda - bubbling: 180
bulbs - kanda: 16
bull (vṛṣabha): 113
burning sensation in feet - pādadaḥa: 60

cakradhārā - rim of a wheel: 43
cakra - the ringed: 151
cala - liquid: 178
 can be mitigated - *yāpya*: 177
caraṇī - *caraṇī*: 189
caraṇī - *caraṇī*: 189
cardamom - elā: 172
carman - pelt: 16
carmānta - leather: 158
carnivore - kravvabhuj: 174
carriers - adhiṣṭhāna: 135
cassia cinnamon - patra: 180
castor oil - pañcāṅgulataila: 173
cāsyāt (from his mouth): 114
cataract - liṅganāśa: 177
caturvarga - fourfold grouping: 17
catuṣṭaya - four factors: 17
caused by wind - pavanodbhava: 173
causes - hetu: 189
causing a fall - sraṃsanī: 189
causing the destruction of actions such
 as moving - *gamanādikriyāvināśakarī*:
 179
caustic - kṣāra: 65
chebulic myrobalan - abhayā: 172
chedya - excision: 17
cheek-ear - gaṇḍakarṇa: 42
chest - hṛd: 131
chidra - opening: 177
child bearing - kaumārabhṛtya: 184
child-murderess - putraghnī: 189
chinna - segmented: 25
chital deer (pr̥ṣata): 113
cholera - pitta: 189
chyle - rasa: 130
chyle - rasa: 31
cihna - signs: 189
circuit of the pupil - dr̥ṣṭimaṇḍala: 178
citraka - the mark: 151

- citraśīrṣa* - 'speckle-heads': 137
citron - *mātuluṅga*: 180
clean - *pra√sādh*: 118
cloth - *plota*: 158
clusters - *samplava*: 16
cock - *tāmracūḍa*: 174
cohesion - *yoga*: 213
cohesion - *yoga*: 212
collection - *varga*: 17
collyrium - *añjana*: 161f, 169–172, 174ff, 181
combined - *upahita*: 173
combs - *avalekhana*: 112
comfort - *sukha*: 17
compendium of diseases - *rogasaṃgraha*: 186
complexion - *varṇa*: 15, 49
compounds - *yoga*: 170
compressed - *saṃkṣipta*: 43
compressed - *saṃkṣipta*: 42
compulsion - *niyoga*: 212, 216
conch - *salilotthita*: 176
cone snails - *śambūka*: 136
congested humours - *sannipāta*: 17
consent - *anumata*: 212, 215
constipation - *ānāha*: 127, 130, 134
constitution - *prakṛti*: 163
constrictor - *ajagara*: 154
contamination dropsy - *duṣyodara*: 130
contractions - *ākṣepa*: 57
contraposition - *viparyaya*: 212, 215
convulsion - *ākṣepaka*: 58
convulsions - *ākṣepaka*: 57
cooked barley - *yavaudana*: 177
cooked - *bhāvita*: 175
copper - *tāmra*: 179
coral - *vidruma*: 181
cośa - *driness*: 180
cottony jujube - *kākolī*: 181
counteraction - *pratiśedha*: 169
country mallow - *balā*: 173
cow snout - *gonasa*: 152
cow's flesh - *gomāṃsa*: 170
cow's urine - *gomūtra*: 172
cow-dung - *gośakṛt*: 171
cow-praising - *govandanā*: 25
crabs - *uccīṭiṅga*: 137
creeper-ear - *vallīkārṇa*: 42
creepy-crawlies - *sarīrpa*: 13, 16
crow's foot - *kākapada*: 132
crow's lip - *kākauṣṭha*: 42
cuñcumālaka - *little ring of spots*: 148
curable - *sādhya*: 64, 169
curds - *dadhi*: 115, 119
cure - *siddhi*: 132
cured - *sādhya*: 134
cuscut grass - *uśīra*: 175
cutting with a blade - *śastrakṣata*: 170
cuttle fish - *aṇṇavamala*: 172
cuttlefish bone - *phena*: 181
 - *samudraphena*: 172
dadhi - *curds*: 115, 119
dadhimukha - *the curd mouth*: 150
dāha - *overheating*: 169
dainya - *misery*: 15
dais - *pīṭha*: 42
daivakṛte - *naturally-occurring*: 177
dantamāṃsa (gum): 115
dantaveṣṭa (tooth socket): 115
darbhapuṣpa - *the grass flower*: 151
darita - *torn*: 147f
dark colour - *dhyāma*: 128
dart-mouth - *śaṅkumukhī*: 26
dārukāri - 'wood-enemies': 137
datta (given): 113
day and night - *ahorātra*: 16
deadly substance - *kālakalpa*: 156
decoction - *kaṣāya*: 65 - *kvātha*: 132
decoctions - *kaṣāya*: 112, 178
decomposition - *kuṇapa*: 63f
deducible - *ūhya*: 212, 217
deer - *eṇa*: 174
defects - *doṣa*: 188
deity - *devatā*: 159
delirium - *moha*: 126
demons - *graha*: 184
demons - *graha*: 184
deodar - *bhadradāru*: 181
depends on - *āyatta*: 15
depression - *viśāda*: 15

description - *nirdeśa*: 212, 214
 desert date - *ingudī*: 175
 desire - *icchā*: 15
 determination - *nirṇaya*: 212
devadinna - the gift of god: 150
devatā - deity: 159
dhātṛī - emblic: 172
dhātu - bodily constituents: 129 - bodily
 tissues: 156 - body tissue: 131
 - element: 122, 125, 127
dhava - axelwood: 181
dhūma - inhaled smoke: 112
dhūmadarśin - seeing smoke: 169
dhūmyāṭa (black drongo): 113
dhyaṃma - dark colour: 128 - grimy: 112
 diet - *āhāra*: 15
 dilator - *pravardhanaka*: 41
dīpyaka - the stimulator: 151
 discharge - *praseka*: 128 - *srāva*: 116, 118
 disease - *vyadhi*: 17
 diseases - *roga*: 188
 disinterest in food - *aruci*: 163
 disjunction - *viśleṣa*: 130
 disorders of the female reproductive
 system - *yonivyāpat*: 188
 distension - *ādhmāna*: 127
 door-hinge - *kapāṭasandhika*: 42
doṣa - defects: 188 - humour: 129, 177,
 213 - humours: 16 - humours: 188
 - pathology: 64
doṣapariplava - unsteadiness of the
 humours: 179
 double - *yamalā*: 115
 doubt - *saṃśaya*: 212, 216
 downward vision - *adhodṛṣṭitva*: 180
drākṣā - grapes: 180
dravāñjana - liquid collyrium: 175
dravya - substance: 49
 dried flesh - *vallūraka*: 42
 dried ginger - *nāgara*: 171
 driness - *coṣa*: 180
 drinkable - *peya*: 217
 drongo (*bhramaraka*): 113
drṣṭi - pupil: 169, 178f
drṣṭimāṇḍala - circuit of the pupil: 178

drṣṭivibhrama - faulty vision: 118
drṣṭyavarodha (blockage of the vision):
 154
 dry rub - *utsādana*: 116
 dry rubs - *utsādana*: 112
 dry - *rūkṣa*: 129
 duct - *sirā*: 160
 ducts - *sirā*: 17 - *srotas*: 153
duḥkha - suffering: 15
 dumb - *mūka*: 60
 dung beetles - *varcaḥkīṭa*: 136
dūrva - panic grass: 180
dūṣī-viṣa - slow-acting poison: 131
dūṣīviṣa - slow poisoning: 161
 - slow-acting poison: 134
dūṣīviṣāri - enemy of slow-acting poison:
 134 - slow-acting poison antidote:
 115
duṣyodara - contamination dropsy: 130
dveṣa - hatred: 15
dvyāhika - the two-day: 151
dvyāṅgulirāji - the two finger stripe: 151
 dwindling away - *kṣaya*: 130

 ear-ache - *karṇaśūla*: 60
 earth - *pāṃśu*: 158
 earth products - *pārthiva*: 16
 earthen products - *pārthiva*: 17
 edible - *bhojya*: 217
ekāṅgaroga - monoplegia: 58
ekānta - invariable statement: 215
 - invariable statement: 212
elā - cardamom: 172
 element - *dhātu*: 122, 125, 127
 elephant/snake - *nāga*: 137
 elixir salve - *rasāñjana*: 171, 174, 176
 elixir-salve - *rasāñjana*: 171
 elixir-salve - *śīta*: 171
 ellipsis - *vākyaśeṣa*: 212
 ellipsis - *vākyaśeṣa*: 215
 embelia - *vidāṅga*: 175
 emblic - *dhātṛī*: 172
 emprosthotonos - *antarāyāma*: 58
eṇa - deer: 174
 enclosed roasting - *puṭākhyā*: 174
 - *puṭapāka*: 175

- ends - *vaktra*: 179
 enemy of slow-acting poison - *dūṣīviṣāri*: 134
 energy - *ojas*: 49
eṇīpada - the deer foot: 151
 entrails - *antra*: 172
 envy - *īrṣyā*: 15
 errhine - *nasya*: 173
 errhines - *nasya*: 118
 essence - *sāra*: 16
evam - along these lines: 17
 exception - *apavarga*: 212, 214
 excision - *chedya*: 17
 expansive - *vikāsin*: 129
 explication - *vyākhyāna*: 212, 216
 expressed juice - *svarasa*: 170
 extensive meaning of the collection of statements (*vāksamūhārthavistāra*): 152
 external factors - *āgantū*: 17
 extract - *niryāsa*: 118
 extract of rohu carp - *rauḥita*: 171
 extracted juice - *svarasa*: 117
 extracts - *rasa*: 175
 extremely excited - *atyānandā*: 189
 eye make-up - *añjana*: 112, 117
 eye ointment - *añjana*: 118
 eye salve - *añjana*: 132
 eyewash - *tarpaṇa*: 118, 170, 174f
 fart - *avaśardhita*: 136
 fastening - *āsaṅgima*: 42
 fat - *vasā*: 174
 faulty medical treatment - *mithyopacāra*: 188
 faulty vision - *dṛṣṭivibhrama*: 118
 feeling of heat all over - *paridāha*: 155
 female reproductive organ - *yoni*: 188f
 female reproductive system - *yoni*: 188
 field-specific term - *svasaṃjñā*: 212
 field-specific term - *svasaṃjñā*: 216
 filaments - *kiñjalka*: 171
 first point of view - *pūrvapakṣa*: 215
 fissuring - *avadāraṇa*: 118
 flame of the forest - *palāśa*: 175
 flatulence - *āṭopa*: 115
 flavour - *rasa*: 213
 flavours - *rasa*: 15, 49
 flesh - *māṃsa*: 17
 flooded - *pariplutā*: 189
 flowering trees - *vrkṣa*: 15
 flowers - *puṣpa*: 16
 follicles - *kha*: 116
 fortnight - *pakṣa*: 16
 foul-smelling pus - *pūtipūya*: 64
 four factors - *caturvarga*: 17
 fourfold grouping - *caturvarga*: 17
 free from clouds - *abhramukta*: 178
 free from the point - *agramukta*: 178
 frogs - *maṇḍūkā*: 16
 from his mouth (*cāsyāt*): 114
 fruit trees - *vanaspati*: 15
 fruits - *phala*: 16
 future reference - *anāgatāpekṣaṇa*: 212, 216
 gadgad - stammers: 60
 gāḍha - pinched: 44
 gairika - ochre: 170f
 gairikaḥ - red chalk: 180
 gamanādikriyāvināśakarī - causing the destruction of actions such as moving: 179
 gaṇḍakarṇa - cheek-ear: 42
 garlands - *sraja*: 112
 gauze - *plota*: 44
 gavedhuka - the gavedhuka: 150
 geckos - *grhagoḍikā*: 136
 general rule - *paribhāṣā*: 175
 gently - *mṛdu*: 180
 ghee - *sarpis*: 170 - *sarpiṣ*: 119
 girisarpa - the mountain snake: 150
 given (*datta*): 113
 giving of fumes (*paridhūpāyana*): 153
 giving off fumes (*paridhūpana*): 153
 glassy opacity - *kāca*: 175
 godhā - monitor lizard: 172
 gold - *śātakumbhī*: 179
 gomāṃsa - cow's flesh: 170
 gomūtra - cow's urine: 172
 gonasa - cow snout: 152

gośakṛt - cow-dung: 171 - juice of cow-dung: 171
govandanā - cow-praising: 25
graha - demons: 184 - demons: 184
grahaṇī (seat of fire in the gut): 155
grahaṇī - seat of fire in the gut: 154
granthi - knots: 128 - lumps: 63, 116, 127
grapes - *drākṣā*: 180
gṛdhrasī - sciatica: 59
great aconite - *mahāviṣa*: 128
great antidote - *mahāgāda*: 25
great fragrance - *mahāsugandha*: 118
great poison - *mahāviṣa*: 128
greed - *lobha*: 15
green vitriol - *kāśīsa*: 176
gṛhadhūma - soot: 141
gṛhagoḍikā - geckos: 136
grief - *āśoka*: 15
grimy - *dhyāma*: 112
gruel - *yavāgū*: 132, 161
guḍikā - pill: 171
guḷma - abdominal lump: 188
gum (*dantamāmsa*): 115
guṇa - qualities: 129
gut - *antra*: 131

haemorrhaging - *śonitāgamana*: 153
hālāhala - Aconite: 128
half door-hinge - *ardhakaṇṭhasandhika*: 42
half-year - *ayana*: 16
hare foot uraria - *pr̥thakparṇī*: 180
hareṇu - hareṇu: 171
hareṇu - hareṇu: 171f
hareṇu - hareṇu: 172
hari - sun: 178
haridrā - turmeric: 175
harṣa - horripilation: 130
 - overexcitement: 15
hastābharaṇaka - the hand decoration: 151
hatred - *dveṣa*: 15
herbs - *oṣadhi*: 15
hetu - causes: 189
hetvartha - premise: 212 - the sense of the cause: 214
himalayan cherry - *padmaka*: 180f
hīnakarṇa - reduced-ear: 42

hoarseness - *pāruṣya*: 127
holiness - *brahma*: 159
holostemma - *payasyā*: 180
holy sages - *brahmarṣi*: 159
honey collyrium - *kṣaudrāñjana*: 172
honey - *kṣaudra*: 170f - *madhu*: 170
 - *madhus*: 113
horripilation - *harṣa*: 130
horseradish tree - *śigru*: 176
hot all over (*samantatastāpaḥ*): 153
hot over the whole body
 (*sarvāṅgasantāpaḥ*): 153
hṛd - chest: 131
huge - *mahatī*: 189
human being - *puruṣa*: 14f, 17
humoral colligation - *sannipāta*: 64
humour - *doṣa*: 129, 177, 213
humours - *doṣa*: 188
humours - *doṣa*: 16

icchā - desire: 15
if, then not - *na ced*: 177
ilikinī - the ilikinī: 151
illness - *ruj*: 171
illustration - *nidarśana*: 212, 216
immortal - *amṛta*: 119
implication - *arthāpatti*: 212
Implication - *arthāpatti*: 215
impotent - *śaṇḍhī*: 189
in those cases - *tatra*: 173
in yama's direction - *yāmya*: 141
inactive - *akriya*: 60
incised - *pracchāna*: 163
incising - *pracchāna*: 160
incurable - *asādhya*: 64, 169
indian madder - *mañjiṣṭhā*: 180
indian sarsaparilla - *kālānusāriva*: 171
 - *śārivā*: 180 - *sāriva*: 172 - *śārivā*: 180
indication - *pradeśa*: 212, 214
indigo - *nīlī*: 115
indragopa - red velvet mites: 16
indrāyudhā - rainbow: 25
infertile - *vandhyā*: 189
inflamed - *saṃrambha*: 45 - *vidagdha*: 170
infused - *bhāvita*: 171
ingita - body language: 112

- iṅgudī* - desert date: 175
 inhaled smoke - *dhūma*: 112
 inherent factors - *svabhāva*: 17
 inherent - *svābhāvika*: 15
 injured - *utpīḍita*: 177
 inspissation - *rasakriyā*: 176
 instillation - *basti*: 64
 intended - *vyākhyāta*: 17
 interpretation - *nirvacana*: 212, 216
 interstitial layers - *kalā*: 156
 intestines - *pakvādhāna*: 131 - *pakvāśaya*: 115, 130
 intoxication from food - *annamada*: 130
 invariable statement - *ekānta*: 215
 invariable statement - *ekānta*: 212
 invincible - *ajeya*: 119
 irregularities - *vaiṣamya*: 15
 irrigated - *pratipūraṇa*: 117
 irrigation - *seka*: 170 - *tarpaṇa*: 188
 irritation - *adhimantha*: 180 - *prakopa*: 16
īrṣyā - envy: 15
 it may be - *bhavet*: 177
 itemization - *vidhāna*: 215
 itemization - *vidhāna*: 212
 items created by time - *kālakṛta*: 16f

jāḍya - benumbed: 155
jāḍyatā - rigidity: 163
jala - water: 24
jalaukas - water-dwellers: 24
jāṅgala - arid-land animals: 175
jaṅgama - mobile: 122 - moving: 15, 17
japa - mantra repetition: 159
jarāyujā - born in in a caul: 16
jaṭhara - bellyache: 134
jātī - royal jasmine: 181
 jealousy - *asūyā*: 15
 joints - *sandhi*: 17
 juice extract - *svarasa*: 16
 juice of cow-dung - *gośakṛt*: 171
 juices - *rasa*: 174
jyotīratha - the chariot of light: 151

kāca - glassy opacity: 175
kākapada - crow's foot: 132
kākauṣṭha - crow's lip: 42

kākolī - cottony jujube: 181
kalā - interstitial layers: 156 - layer: 145
 - layers of skin: 156 - minutes: 16
kālakalpa - deadly substance: 156
kālakṛta - items created by time: 16f
kālānusāriṇa - indian sarsaparilla: 171
kalāyakhāṇja - lathyrism: 59
kalka - mash: 134 - paste: 65f
kalpa - procedure: 145, 158 - rule: 135
kāma - lust: 15
kaṇabha - wasps: 137
kanda - bulbs: 16
kaṇṭaka - spots: 117
kapālacūrṇa - powdered earthenware
 crockery: 43
kapāṭasandhika - door-hinge: 42
kapha - mucus: 117 - phlegm: 127, 130f, 155, 189
kapilā - tawny: 25
kapittha (wood apple): 170
karburā - mottled: 25
kardama - the mud: 151
karma - regimen: 179
karman - therapies: 17
karṇaśūla - ear-ache: 60
karṇavyadha - piercing the ear: 39
karṇinī - protuberant: 189
kaṣāya - decoction: 65 - decoctions: 112, 178 - the ochre: 151
kaṣāyavāsika - 'orange-dwellers': 136
kāśīpati - lord of kāśī: 111
kāśīsa - green vitriol: 176
kāṣṭhā - trice: 16
kaṭphala - box myrtle: 172
kaumārabhṛtya - child bearing: 184
kaunḍīnīya - 'pot insects': 136
kavala - mouthwash: 116
kevala - simply: 162
kha - apertures of the head: 117
 - follicles: 116
khaluṣa - the khaluṣa: 151
khaṇḍaphaṇa - the break hood: 150
khañja - limpness: 59
khara - rough: 179
kikkisāda - the worm eater: 151

- kinihī* - white siris: 175
kiñjalka - filaments: 171
kitchen - *mahānasa*: 112
kiṭṭipa - lice: 136
knots - *granthi*: 128
knowledge - *veda*: 11
kohl - *srotas*: 174 - *srotoja*: 171, 181
koṣṭha - trunk of the body: 154
koṣṭukaśīrṣa - synovitis of knee joint: 59
koṭha - skin disease: 130
kravyabhuj - carnivore: 174
kṛcchra - with difficulty: 177
kriyā - procedures: 14, 17 - treatment: 17, 64, 175f
kriyākāla - the time for therapies: 17
kriyāsaṅga - loss of function: 179
kṛmī - worms: 16
krodha - anger: 15
kṛṣṇā - black: 25
kṛṣṇa - black part: 177
kṛṣṇā - long pepper: 170
kṛṣṇasarpa - the black snake: 150
kṛṣṇodara - the black belly: 150
kṣaṇadāndhya - night blindness: 171
kṣāra - caustic: 65
kṣāraka - lye: 174
kṣaudra - honey: 170f
kṣaudrāñjana - honey collyrium: 172
kṣaya - dwindling away: 130
kṣīṇa - low volume: 63 - wasted: 44
kṣīra - milky sap: 122, 125, 127 - sap: 16
kṣīrikāpuṣpa - the milk flower: 151
kukṣita - 'bellied': 137
kūkuṭa - the kūkuṭa: 150
kūṇapa - decomposition: 63f - smell of decomposition: 64
kunta - small insects: 16
kupyaka - metal: 170
kuśa grass - *kuśa*: 174
kuśa - kuśa grass: 174
kuṣṭha - pallid skin disease: 131
kvātha - decoction: 132

lac - *lākṣā*: 180
lākṣā - lac: 180
lame - *paṅgu*: 59

lathyrism - *kalāyakhañja*: 59
lavagas - *ācamana*: 66
layer - *kalā*: 145 - *paṭala*: 177
layers of skin - *kalā*: 156
leather - *carmānta*: 158
leaves - *bhaṅga*: 178 - *patra*: 16
lehya - suckable: 217
lekhana - scarification: 15
lice - *kiṭṭipa*: 136
life - *āyur*: 24
life, longevity - *āyur*: 11
limpid - *viśada*: 129
limpness - *khañja*: 59
liṅga - symptom: 117 - symptoms: 130
liṅganāśa - cataract: 177
liniment - *ālepa*: 170
liniments - *ālepana*: 25, 118
liquid - *cala*: 178
liquid collyrium - *dravāñjana*: 175
liquorice - *madhukair*: 180
little ring of spots - *cuñcumālaka*: 148
liver extract - *yakṛdrasa*: 171
liver - *yakṛt*: 172
lobha - greed: 15
located - *adhiṣṭhāna*: 15
located on the limb - *śākhāśrayā*: 160
lodh tree - *lodhra*: 175
lodhra - lodh tree: 175
logical methods of the system - *tantrayukti*: 212
lohitākṣa - the red eye: 150f
long pepper - *kṛṣṇā*: 170 - *māgadha*: 175
 - *māgadhi*: 172, 174 - *māgadhi*: 172
loose stool - *viḍbheda*: 127, 138
lord of kāsī - *kāśipati*: 111
loss of appetite - *arocaka*: 130
loss of function - *kriyāsaṅga*: 179
lotus-mouth - *punḍarikamukhī*: 26
lotus-splittable - *utpalabhedyaka*: 42
lotus-spots - *padminīkaṇṭaka*: 117
low volume - *kṣīṇa*: 63
lumps - *granthi*: 63, 116, 127
lust - *kāma*: 15
lūtā - spiders: 13
lye - *kṣāraka*: 174

- madanaka* - the intoxicator: 150
madhu - honey: 170 - mead: 159
madhūka - mahua: 174ff
madhukair - liquorice: 180
madhus - honey: 113
madira - spirits: 175
madirā - spirits: 172
māgadha - long pepper: 175
māgadhi - long pepper: 172
māgadhi - long pepper: 172
māgadhi - long pepper: 174
mahāgada - great antidote: 25
mahākapota - the big pigeon: 150
mahākṣṇa - the big black: 150
mahānasa - kitchen: 112
mahāpadma - the great lotus: 150
mahāpanasaka - the big jackfruit: 150
mahāsarpa - the great snake: 150
mahāśīrṣa - the big head: 150
mahāsugandha - great fragrance: 118
mahatī - huge: 189
mahāviṣa - great aconite: 128 - great
 poison: 128
mahua - *madhūka*: 174ff
mākuli - *mākuli*: 152
mākuli - *mākuli*: 152
mākuli - *mākuli*: 152
mākuli - *mākuli*: 152
malice - *mātsarya*: 15
māṃsa - flesh: 17
māṃsanirgama - prolapse: 180
manahṣilā - realgar: 171, 174f, 181 - red
 arsenic: 170, 172
mānasa - mental: 15
maṇḍala - round blotches: 130
maṇḍūka - frogs: 16
mañjiṣṭhā - indian madder: 180
 mantra repetition - *japa*: 159
manyāstambha - stiffness of the neck: 155
manyāstambha - rigidity of neck: 59
markaṭa - monkey: 128
 marks with a knife - *śastrapada*: 28
māruta - wind: 64
māsa - month: 16
mash - *kalka*: 134
maṣī - black soot: 170
 massage oil - *abhyāṅga*: 112, 118
 massage ointment - *anulepana*: 112, 116
 masticable - *bhakṣya*: 217
mātsarya - malice: 15
mātuluṅga - citron: 180
 matured - *vipakva*: 171
 mead - *madhu*: 159
medaka - 'liquors': 137
 medical advice - *ācārika*: 44
 medicines cooked in a crucible
 - *puṭapāka*: 170
 men - *nara*: 136
 menstrual blood - *ārtava*: 188
 mental - *mānasa*: 15
 mention - *samuddēśa*: 212, 214
meṣaśṛṅga - periploca of the woods: 181
meṣaviṣāṇa - periploca of the woods: 173
 metal - *kupyaka*: 170
 metamorphopsia - *viparītadarśana*: 153
 milk - *payas*: 119
 milky sap - *kṣīra*: 122, 125, 127
mimmira - mumbles: 60
 minutes - *kalā*: 16
 misery - *dainya*: 15
miśrakacikitsa - various treatments: 46
 misshapen eyeball - *vilocana*: 179
mithuna - pair: 216 - triad: 216
mithyopacāra - faulty medical treatment:
 188
 mitigatable - *yāpya*: 169
mlāyin - blue dot cataract: 176
 mobile - *jaṅgama*: 122
moha - delirium: 126
 monitor lizard - *godhā*: 172
monkey - *markaṭa*: 128
monkey - *vānara*: 136
 monoplegia - *ekāṅgaroga*: 58
 month - *māsa*: 16
 morsel - *bali*: 112
 mottled - *karburā*: 25
 mouse - *mūṣikā*: 26
 mouthwash - *kavala*: 116
 moving - *jaṅgama*: 15, 17
mṛdu - gently: 180

mucous - *śleṣman*: 155
 mucus - *kapha*: 117
muhūrta - three-quarters of an hour: 16
mūka - dumb: 60
mukhasaṃdamśā - nipping with the mouth: 136
muktā - pearl: 177
muktvā - separate: 177
mūla - root: 15 - roots: 16
mūlaka - *mūlaka*: 128
mūlaka - *mūlaka*: 128
 multi-joins - *vyāyojima*: 42
 mumbles - *mimmira*: 60
mūrcchā - stupor: 114
mūṣikā - mouse: 26
mūṣika - rodents: 13
mustā - nutgrass: 180
mustaka - *mustaka*: 128
mustaka - *mustaka*: 128

na ced - if, then not: 177
nadīja - salt: 171
nāga - elephant/snake: 137
nāgara - dried ginger: 171
nalada - spikenard: 175
nara - men: 136
 nasal medicine - *nasya*: 132
 nasal medicines - *nasya*: 170
nasya - errhine: 173 - errhines: 118 - nasal medicine: 132 - nasal medicines: 170
nasya - snuff: 112
nasya - snuff: 117
 naturally-occurring - *daivakṛte*: 177
 nature - *ātmaka*: 14
 needle - *sūcī*: 178
nemīsandhānaka - rim-join: 42 - rim-join: 43
nidarśana - illustration: 212, 216
 night blindness - *kṣaṇadāndhya*: 171
niḥkṣvātha - stewed juice: 132
nīlī - indigo: 115
nimeṣa - blink of the eye: 16
 nipping with the mouth
 - *mukhasaṃdamśā*: 136
nirdeśa - description: 212, 214
nirṇaya - determination: 212

nirvacana - interpretation: 212, 216
nirvedhima - ready-split: 42
nirviṣa - without venom: 147
niryāsa - extract: 118 - resin: 16, 122, 124, 127
niśācara - nocturnal creature: 176
niṣevita - prepared: 174 - used: 172
nivāta - no wind: 16
niyoga - compulsion: 212, 216
 no wind - *nivāta*: 16
 nocturnal creature - *niśācara*: 176
 non-bloodshot blindness - *araga timira*: 177
 non-flowering tree - *vanaspati*: 175
 nourishment - *bṛmhaṇa*: 15
 numbness - *svāpa*: 118
 nutgrass - *mustā*: 180

 objection - *pūroapakṣa*: 212
 oblations - *upahāra*: 159
 oceanic - *sāmudrikā*: 25
 ochre - *gairika*: 170f
 off his hand - *sapāṇa*: 173
 oil massage - *abhyāṅga*: 116
 oil - *sneha*: 16
 oil stripe - *snigdharāji*: 152
 oily enema - *anuvāsana*: 65
 oily stripe - *snigdharāji*: 152
 ointment - *anulepana*: 116 - *pralepa*: 114, 117
ojas - energy: 49 - vital energy: 15
 omens - *ariṣṭa*: 49
 opening - *chidra*: 177
 ophidian - *sarpita*: 147
 option - *vikalpa*: 212, 216
 or not distorted - *vāvikṛtā*: 115
oṣadhi - herbs: 15 - remedies: 17
oṣadhī - remedies: 15
 outer corner of the eye - *apāṅga*: 177
 overexcitement - *harṣa*: 15
 overheating - *dāha*: 169

 pacification - *saṃśamana*: 15 - *upaśama*: 16
pādadaḥa - burning sensation in feet: 60

- padārtha* - word meaning: 212
 - word-meaning: 213
padma - the lotus: 150
padmaka - himalayan cherry: 180f
padminīkaṇṭaka - lotus-spots: 117
pain - $\sqrt{pīḍ}$: 156
pain and injury - *vedanābhighāta*: 12
pain - *śūla*: 131
pair - *mithuna*: 216
pāka - sepsis: 118
pākamatsya - 'cook-fish': 136
pakṣa - fortnight: 16
pakṣāṅghāta - paralysis: 58
pakoādhāna - intestines: 131
pakoāśaya - intestines: 115, 130
palāśa - flame of the forest: 175
pālindaka - the morning glory: 150
pallava - shoots: 178
pallid skin disease - *kuṣṭha*: 131
pāṁśu - earth: 158
panasaka - the jackfruit: 150
pañcāṅgulataila - castor oil: 173
pañgu - lame: 59
panic grass - *dūrvā*: 180
paralysis - *apakṣāṅghāta*: 58
paralysis of arms and back - *viśvañci*: 59
paralysis - *pakṣāṅghāta*: 58
pārāvata - the pigeon: 151
paribhāṣā - general rule: 175
paridāha - feeling of heat all over: 155
paridhūpana (giving off fumes): 153
paridhūpāyana (giving of fumes): 153
pariplutā - flooded: 189
parisarpa - the snake around: 150
parīṣeka - shower: 116
parśvabheda - ribs crack: 131
pārthiva - earth products: 16 - earthen products: 17
partial blindness - *timira*: 173
particulars - *vikalpa*: 17
parts - *aṅga*: 17
pāruṣya - hoarseness: 127
past reference - *atikrāntāpekṣaṇa*: 212, 216
paste - *kalka*: 65f
paśu - animals: 16
paṭala - layer: 177
pāthā - velvet leaf: 175
pathology - *doṣa*: 64
patra - cassia cinnamon: 180 - leaves: 16
patravṛścika - 'wing-scorpions': 137
pavanodbhava - caused by wind: 173
payas - milk: 119
payasyā - holostemma: 180
pearl - *muktā*: 177
pebble - *aṣṭhīlā*: 114
pelt - *carman*: 16
periploca of the woods - *meṣaviṣāṇa*: 173
periploca of the woods - *meṣaśṛṅga*: 181
person - *puruṣa*: 216
pervasive - *vyavāyīn*: 129
peya - drinkable: 217
phala - fruits: 16
phena - cuttlefish bone: 181
phlegm - *kapha*: 127, 130f, 155, 189
phlegmatic - *śleṣmalā*: 189
physical - *śārīravat*: 17
picciṭā - 'flat insects': 136
pīḍ - press: 177
piercing the ear - *karnavyadha*: 39
piercing - *vyadha*: 178
pigs' eye - *sūkarākṣitā*: 180
pilindaka - the pilindaka: 150
pill - *guḍikā*: 171
pinched - *gāḍha*: 44
piṅgalā - ruddy: 25
pipilika - ants: 16
pith - *sāra*: 122, 124, 127
pīṭha - dais: 42
pitta - bile: 173 - choler: 189
pittajvara - bile-fever: 164
pittalā - bilious / choleric: 189
pittaviṣa - poison in the bile: 159
plīhan - spleen: 172
plota - cloth: 158 - gauze: 44
plutā - sprung: 189
poison in the bile - *pittaviṣa*: 159
poṭa throat - *poṭagala*: 152
poṭagala - poṭa throat: 152
powdered earthenware crockery - *kapālacūrṇa*: 43

pra√*sādh* - clean: 118
pra√*kuth* - rot: 115
prabha - shine: 177
pracalāka - 'poisonous snakes': 136
pracchāna - incised: 163 - incising: 160
 practical purposes - *prayojanavat*: 16
pradeśa - indication: 212, 214
pragāḍha - steeped: 173
prakopa - irritation: 16
prakṛti - constitution: 163 - temperament: 15
pralāpa - ranting: 126
pralepa - ointment: 114, 117
prasaṅga - recontextualization: 215
 - recontextualization: 212
praseka - discharge: 128
pratīkāra - alleviation: 16 - remedy: 169
pratipūraṇa - irrigated: 117
pratisāraṇa - rub: 115 - rubbing: 115
pratiśedha - counteraction: 169
pravardhanaka - dilator: 41
prayojanavat - practical purposes: 16
 prediction - *atideśa*: 212, 214
 premise - *hetvartha*: 212
 premiss - *sādhana*: 214
 prepared - *niṣevita*: 174
 prepared with tilvaka - *tailvaka*: 170
 prepared with turpeth - *traivṛta*: 170
 prescription - *upadeśa*: 212
 prescription - *upadeśa*: 214
 press - *pīḍ-*: 177
priyaṅgu - beauty berry: 175
 probe - *śālākā*: 177f
 procedure - *kalpa*: 145, 158
 procedures - *kriyā*: 14, 17
 prolapse - *māṃsanirgama*: 180
 prolapses - *arśas*: 188
 propelled - √*ūh*: 156
 protuberant - *karṇinī*: 189
prṣata (chital deer): 113
prṣata - the speckled: 150
prṥhakparṇī - hare foot uraria: 180
 pulse interval - *vegāntara*: 156
puṇḍarīka - *puṇḍarīka*: 128

puṇḍarīka - *puṇḍarīka*: 128 - the lotus: 151
puṇḍarīkamukha - the lotus mouth: 150
puṇḍarīkamukhī - lotus-mouth: 26
 pupil - *drṣṭi*: 169, 178f
 purge - √*sodh*: 161
 purification - *saṃśodhana*: 15
puruṣa - human being: 14f, 17 - person: 216
pūrvapakṣa - first point of view: 215
 - objection: 212
puṣpa - flowers: 16
puṣpābhikīrṇnābha - the flower sprinkle beauty: 150
puṣpapāṇḍu - the pale as a flower: 151
puṣpasakalī - the flower all: 151
puṭāhvaya - taken hot: 174
puṭākhyā - enclosed roasting: 174
puṭapāka - enclosed roasting: 175
 - medicines cooked in a crucible: 170
 - roasting: 188
pūtipūya - foul-smelling pus: 64
 - stinking pus: 63
putraghnī - child-murderess: 189
 qualities - *guṇa*: 129
 racket-tailed drongo (*bhṛṅgarāja*): 113
rāgin timira - bloodshot blindness: 174
rāgiṇi timire - bloodshot blindness: 177
 rainbow - *indrāyudhā*: 25
 rainy seasons - *varṣā*: 16
rajana - turmeric: 171
rājicitra - the stripe speckle: 151
rājimat - striped snake: 132
rakta - blood: 64
raktakṣayā - with bloodloss: 189
raktamaṇḍala - the red ring: 150
raktapitta - blood-bile: 169
 ranting - *pralāpa*: 126
 rarified - *sūkṣma*: 129
rasa - chyle: 31 - chyle: 130 - extracts: 175
 - flavour: 213 - flavours: 15, 49
 - juices: 174 - the blood of birds and animals: 171
rasakriyā - inspissation: 176

- rasāñjana* - elixir salve: 171, 174, 176
 - elixir-salve: 171
rauhita - extract of rohu carp: 171
 ready-split - *nirvedhima*: 42
 realgar - *manahṣilā*: 171, 174f, 181
 recontextualization - *prasaṅga*: 215
 recontextualization - *prasaṅga*: 212
 red arsenic - *manahṣilā*: 170, 172
 red chalk - *gairikaḥ*: 180
 red velvet mites - *indragopa*: 16
 reduced-ear - *hīnakarṇa*: 42
 regimen - *ācāra*: 15 - *karma*: 179
 religious power - *tapas*: 159
 remedies - *oṣadhi*: 17 - *oṣadhī*:- 15
 remedy - *pratikāra*: 169
 resin - *niryāsa*: 16, 122, 124, 127
 restrictions - *yantraṇā*: 178
retas - semen: 63
 rheum - *upadeha*: 117
 ribs crack - *parśvabheda*: 131
 rigid - *sthirā*: 179
 rigidity - *jāḍyatā*: 163
 rigidity of neck - *manyāsthambha*: 59
 rim of a wheel - *cakradhārā*: 43
 rim-join - *nemīsandhānaka*: 43
 rim-join - *nemīsandhānaka*: 42
ṛjusarpa - the straight snake: 150
 roasting - *puṭapāka*: 188
 rodents - *mūṣika*: 13
roga - diseases: 188
rogasaṃgraha - compendium of diseases: 186
rohita - rohita tree: 175
 rohita tree - *rohita*: 175
 root - *mūla*: 15
 roots - *mūla*: 16
 rot - *pra√kuth*: 115
 rough - *khara*: 179
 round blotches - *maṇḍala*: 130
 royal jasmine - *jātī*: 181
ṛtu - season: 16
 rub - *pratisāraṇa*: 115
 rubbing - *pratisāraṇa*: 115
 ruddy - *piṅgalā*: 25
rudhira - blood: 16
ruj - illness: 171
rūkṣa - dry: 129
 rule - *kalpa*: 135
 sacrificial offerings - *bali*: 159
sāda - be exhausted: 131
ṣaḍaṅga - the six part: 151
sādhana - premiss: 214
sādhya - curable: 64, 169 - cured: 134
saindhava - salt: 132 - sind salt: 170f
 - sindh salt: 174
śākhāśrayā - located on the limb: 160
śālākā - probe: 177f
salilotthita - conch: 176 - water-born: 176
 saliva - *śleṣman*: 114
 salt - *nadīja*: 171 - *saindhava*: 132
śalya - spike: 214 - splinter: 214
samāñjana - same collyrium: 175
samantatastāpaḥ (hot all over): 153
śambūka - cone snails: 136
 same collyrium - *samāñjana*: 175
samīraṇa - air: 156
śaṃkhaṭṭhā - the conch keeper: 150
saṃkṣipta - compressed: 42
 - compressed: 43
samlava - clusters: 16
saṃrambha - inflamed: 45
saṃśamana - pacification: 15
saṃśaya - doubt: 212, 216
saṃśodhana - purification: 15
samuccaya - aggregation: 212, 216
samudāya - accumulation: 41
samuddeśa - mention: 212, 214
samudraphena - cuttlefish bone: 172
sāmudrikā - oceanic: 25
saṃvatsara - year: 16
sañcaya - accumulation: 16
 sandal - *sugandhi*: 173
śaṇḍhī - impotent: 189
sandhi - joints: 17
śaṅkumukhī - dart-mouth: 26
sannipāta - congested humours: 17
 - humoral colligation: 64
 sap - *kṣīra*: 16
sapāṇa - off his hand: 173
sāra - essence: 16 - pith: 122, 124, 127

śārava - 'lids': 137
śārikā - 'darts': 137
śārīravat - physical: 17
sarīsrpa - creepy-crawlies: 13, 16
sāriva - indian sarsaparilla: 172
śārīvā - indian sarsaparilla: 180
sarpis - ghee: 170
sarpiṣ - ghee: 119
sarpita - ophidian: 147 - serpented: 147
sārṣapa - *sārṣapa*: 127
sārṣapa - *sārṣapa*: 127
sarṣapaka - 'pepper snakes': 136
sarvakṛṣṇa - the all black: 150
sarvāṅgasantāpaḥ (hot over the whole body): 153
sarvātmikā - *sarvātmikā*: 189
sarvātmikā - *sarvātmikā*: 189
śastrakṣata - cutting with a blade: 170
śastrapada - marks with a knife: 28
śātakumbhī - gold: 179
sātmya - suitability: 163
sauvīraka - stibnite: 171
sāvarikā - *sāvarikā*: 26
sāvarikā - *sāvarikā*: 26
scarification - *lekhaṇa*: 15
sciatica - *gr̥dhrasī*: 59
scramberry - *tālīśapatra*: 171
season - *rtu*: 16
seasonal blood - *ārtava*: 64
seat of fire in the gut (grahaṇī): 155
seat of fire in the gut -grahaṇī: 154
secondary ailments - *upadrava*: 163
sections - *adhyāya*: 18
seedless - *abīja*: 64
seeing smoke - *dhūmadarśin*: 169
segmented - *chinna*: 25
seka - irrigation: 170
semen - *bīja*: 188
semen - *retas*: 63
separate - *muktā*: 177
sepsis - *pāka*: 118
serpented - *sarpita*: 147
sesame oil - *taila*: 164
sharp - *tikṣṇa*: 161
shine - *prabha*: 177

shooting pain - *śūla*: 179
shoots - *pallava*: 178 - *udbhid*: 16
shower - *parīṣeka*: 116
shrubs - *vīrudh*: 15
siddhārthaka - white mustard: 180
siddhi - cure: 132
side-effects - *upadrava*: 118, 134
signs - *cihna*: 189
śigru - horseradish tree: 176
simply - *kevala*: 162
sind salt - *saindhava*: 170f
sindh salt - *saindhava*: 174
sinews - *snāyu*: 17
sirā - duct: 160 - ducts: 17
sirāvedha - blood-letting: 170
siris - *śirīṣa*: 181
śirīṣa - *siris*: 181
śīśuka - the kid: 150
śīta - elixir-salve: 171
sitā - white sugar: 180
skin (tvac): 145
skin disease - *koṭha*: 130
skin - *tvak*: 16f
sleep - *svāpa*: 127
śleṣmalā - phlegmatic: 189
śleṣman - mucous: 155 - saliva: 114
slice of flesh - *vadhra*: 46f
slow poisoning - *dūṣṭviṣa*: 161
slow-acting poison antidote - *dūṣṭviṣāri*: 115
slow-acting poison - *dūṣṭ-viṣa*: 131
 - *dūṣṭviṣa*: 134
small insects - *kunta*: 16
smell of decomposition - *kuṇapa*: 64
snāyu - sinews: 17
sneha - oil: 16
sniffing - *ucchiṅgana*: 178
snigdharāji - oil stripe: 152 - oily stripe: 152
snuff - *nasya*: 112
snuff - *nasya*: 117
sole-heart - *talahr̥daya*: 216
solid - *styāna*: 178
soma creeper (somalatā): 114
somalatā (soma creeper): 114

- śonita* - blood: 173
śonita - blood: 63f
śonita-pitta, rakta-pitta - blood-bile: 173
śonitāgamana - haemorrhaging: 153
śonitena - with blood: 179
 soot - *gr̥hadhūma*: 141
 spasm of the jaw-bones - *ardita*: 59
 spasmodic contraction - *apatānaka*: 57
 spasmodic contradiction - *āpatantraka*: 58
 sperm - *śukra*: 63
sphoṭa - spots: 117f
 spiders - *lūtā*: 13
 spike - *śalya*: 214
 spikenard - *nalada*: 175
 spiral - *āvarta*: 177
 spirits - *madirā*: 172 - *madira*: 175
 spleen - *plīhan*: 172
 splinter - *śalya*: 214
 spots - *kaṇṭaka*: 117 - *sphoṭa*: 117f
 sprung - *plutā*: 189
sraja - garlands: 112
sraṃsanī - causing a fall: 189
srāva - discharge: 116, 118
śreyas - welfare: 12
srotas - ducts: 153 - kohl: 174 - tubes: 155
srotoja - kohl: 171, 181
 stalk - *vr̥nta*: 170
 stammers - *gadgad*: 60
 statement of reason - *apadeśa*: 212, 214
 stationary - *sthāvara*: 15, 17, 122
 steeped - *pragādha*: 173
 sternutatory - *avapīḍa*: 162
 stewed juice - *niḥkvātha*: 132
sthāvara - stationary: 15, 17, 122
sthirā - rigid: 179
 stibnite - *añjana*: 175 - *sauvīraka*: 171
 stick-ear - *yaṣṭikarṇa*: 42
 stiffness of the neck - *manyāstambha*: 155
 sting-gush - *alagarddā*: 25
 stings - *śūla*: 137
 stinking pus - *pūtipūya*: 63
 stirred with goat's milk - *ajākṣīrārdita*: 180
 stomach - *āmāśaya*: 13of
 strength - *bala*: 15
 striped snake - *rājimat*: 132
 strong mallow - *atibalā*: 173
 stupor - *mūrcchā*: 114
styāna - solid: 178
 substance - *dravya*: 49
 substrate - *āśrayin*: 15
sūcī - needle: 178
sūcīvaktṛā - with a needle-like opening: 189
 suckable - *lehya*: 217
 suffering - *duḥkha*: 15
sugandhi - sandal: 173
 suitability - *sātmya*: 163
śūka - bristles: 136
śukapatra - the white leaf: 151
sūkarākṣitā - pigs' eye: 180
sukha - comfort: 17
śukra - sperm: 63
sūkṣma - rarified: 129
śūla - pain: 131 - shooting pain: 179
 - stings: 137
 sun - *hari*: 178
 supernatant layer - *agra*: 175
sūtra - aphorism: 213
svabhāva - inherent factors: 17
svābhāvika - inherent: 15
svāpa - numbness: 118 - sleep: 127
svara - accents: 160
svarasa - expressed juice: 170 - extracted juice: 117 - juice extract: 16
śvāsa - wheezing: 127
svasaṃjñā - field-specific term: 216
 - field-specific term: 212
svedaja - born of sweat: 16
śvetadara - the white rip: 150
svetahanu - the white jaw: 151
śvetakapota - the white pigeon: 150
śvetamaṇḍala - the white ring: 150
 swollen - *ādhmāta*: 154
syanda - watery eye: 176
 symptom - *liṅga*: 117
 symptoms - *liṅga*: 130
 synovitis of knee joint - *koṣṭukaśīrṣa*: 59
taila - sesame oil: 164

- tailasugandhi* - the fragrant one in oil: 173
tailvaka - prepared with tilvaka: 170
 take away - *āhārya*: 42
 taken hot - *puṭāhvaya*: 174
 takes the form of pervading the whole
 body - *akhiladehavyāptirūpam*: 129
talahṛdaya - sole-heart: 216
tālīśapatra - scrambleberry: 171
tāmra - copper: 179
tāmracūḍa - cock: 174
tantrayukti - logical methods of the
 system: 212
tantuka - the stretch: 151
tapas - religious power: 159
tarpaṇa - eyewash: 118, 170, 174f
 - irrigation: 188
tatra - in those cases: 173 - the tatra: 151
tawny - *kapilā*: 25
 temperament - *prakṛti*: 15
 the all black - *sarvakṛṣṇa*: 150
 the bamboo leaf - *veṇupatraka*: 150
 the big black - *mahākṛṣṇa*: 150
 the big cow snout - *vṛddhagonasa*: 150
 the big head - *mahāśīrṣa*: 150
 the big jackfruit - *mahāpanasaka*: 150
 the big pigeon - *mahākapota*: 150
 the black belly - *kṛṣṇodara*: 150
 the black snake - *kṛṣṇasarpa*: 150
 the blood of birds and animals - *rasa*: 171
 the break hood - *khaṇḍaphaṇa*: 150
 the brown - *babhru*: 151
 the brown hut mouth - *babhrūkuṭīmukha*:
 150
 the chariot of light - *jyotīratha*: 151
 the conch keeper - *śaṁkhapāla*: 150
 the curd mouth - *dadhimukha*: 150
 the deer foot - *eṇīpada*: 151
 the drop stripe - *bindurāji*: 151
 the finger stripe - *aṅgulirāji*: 151
 the flame - *agnika*: 151
 the flower all - *puṣpasakalī*: 151
 the flower sprinkle beauty
 - *puṣpābhikīrṇnābha*: 150
 the fragrant one in oil - *tailasugandhi*: 173
 the gavedhuka - *gavedhuka*: 150
 the gift of god - *devadinna*: 150
 the goat swallower - *ajagara*: 151
 the grass drier - *ṛṇaśoṣaka*: 151
 the grass flower - *apuṣpa*: 150
 - *darbhapuṣpa*: 151
 the great lotus - *mahāpadma*: 150
 the great snake - *mahāsarpa*: 150
 the hand decoration - *hastābharaṇaka*: 151
 the hungry sting - *alagarda*: 150
 the ilikinī - *ilikinī*: 151
 the intoxicator - *madanaka*: 150
 the jackfruit - *panasaka*: 150
 the khaluṣa - *khaluṣa*: 151
 the kid - *śīśuka*: 150
 the kūkuṭa - *kūkuṭa*: 150
 the little tree - *vṛkṣaka*: 151
 the lotus mouth - *punḍarikamukha*: 150
 the lotus - *padma*: 150 - *punḍarika*: 151
 the mark - *citraka*: 151
 the milk flower - *kṣīrikāpuṣpa*: 151
 the mirror ring - *ādarśamaṇḍala*: 150
 the morning glory - *pāṇḍaka*: 150
 the mountain snake - *girisarpa*: 150
 the mud - *kardama*: 151
 the ochre - *kaṣāya*: 151
 the pale as a flower - *puṣpapāṇḍu*: 151
 the pigeon - *pārāvata*: 151
 the pilindaka - *pilindaka*: 150
 the rain cloud - *valāhako*: 150f
 the red eye - *lohitākṣa*: 150f
 the red ring - *raktamaṇḍala*: 150
 the ringed - *cakraka*: 151
 the science of life - *āyurveda*: 12
 the sense of the cause - *hetvartha*: 214
 the six part - *ṣaḍaṅga*: 151
 the snake around - *parisarpa*: 150
 the speckled - *prṣata*: 150
 the stimulator - *dīpyaka*: 151
 the straight snake - *ṛjusarpa*: 150
 the stretch - *tantuka*: 151
 the stripe speckle - *rājicitra*: 151
 the tatra - *tatra*: 151
 the three fruits - *triphalā*: 175
 the three spices - *vyoṣa*: 172
 the time for therapies - *kriyākāla*: 17

- the two finger stripe - *dvyāṅgulirāji*: 151
 the two-day - *dvyāhika*: 151
 the variegated - *vicitra*: 150
 the white jaw - *svetahanu*: 151
 the white leaf - *śukapatra*: 151
 the white pigeon - *śvetakapota*: 150
 the white ring - *śvetamaṇḍala*: 150
 the white rip - *śvetadara*: 150
 the worm eater - *kikkisāda*: 151
 the year-snake - *varṣāhika*: 151
 the snake flag - *ahipatāka*: 151
 therapies - *karman*: 17
 three fruits - *triphalā*: 170, 172
 three-quarters of an hour - *muḥūrta*: 16
 tikṣṇa - *sharp*: 161
timira - blindness: 177 - partial
 blindness: 173
 tisane - *āsthāpana*: 65
 tooth socket (*dantaveṣṭa*): 115
 topic - *adhikaraṇa*: 212f
 torn - *darita*: 147f
toṭaka - 'angry beetles': 136
 toxic reaction - *vega*: 146, 156, 161
 - *viṣavega*: 154
trairvṛta - prepared with turpeth: 170
 treatable - *yāpya*: 134
 treatment - *bheṣaja*: 188 - *kriyā*: 17, 64,
 175f
 triad - *mithuna*: 216
 trice - *kāṣṭhā*: 16
triphalā - the three fruits: 175 - three
 fruits: 170, 172
trivṛt - turpeth: 173
trṇaśoṣaka - the grass drier: 151
 trunk of the body - *koṣṭha*: 154
 tubes - *srotas*: 155
 turmeric - *haridrā*: 175
 turmeric - *rajana*: 171
 turpeth - *trivṛt*: 173
tuttha - blue vitriol: 175
tvac (skin): 145
tvak - skin: 16f
 tympanites - *ādḥmāna*: 60

ucchiṅgana - sniffing: 178
uccīṅga - crabs: 137

udāvartā - *udāvartā*: 189
udāvartā - *udāvartā*: 189
udbhid - shoots: 16
udveṣṭana - writhing: 126
ūhya - deducible: 212, 217
 unsteadiness of the humours
 - *doṣapariplava*: 179
 untreatable - *asādhya*: 177
upadeha - rheum: 117
upadeśa - prescription: 214 - prescription:
 212
upadrava - secondary ailments: 163
 - side-effects: 118, 134
upahāra - oblations: 159
upahita - combined: 173
upaśama - pacification: 16
upasarga - affliction: 118
upasṛṣṭa - afflicted: 64
 urethral instillation - *uttarabasti*: 64, 66
 used - *niṣevita*: 172
uśīra - cuscus grass: 175
utpalabhedyaka - lotus-splittable: 42
utpīḍita - injured: 177
utsādana - dry rub: 116 - dry rubs: 112
uttarabasti - urethral instillation: 64, 66

vadhra - slice of flesh: 46f
vaiḍūrya - beryl: 181
vaiṣamya - irregularities: 15
vakrabhrūnetra - bent brow and eye: 179
vāksamūhārthavistāra (extensive meaning
 of the collection of statements): 152
vaktra - ends: 179
vākyasēṣa - ellipsis: 212 - ellipsis: 215
valāhako - the rain cloud: 150f
vallīkarṇa - creeper-ear: 42
vallūraka - dried flesh: 42
vāminī - vomiting: 189
vānara - monkey: 136
vanaspati - fruit trees: 15 - non-flowering
 tree: 175
vandhyā - infertile: 189
 vapour - *bāṣpa*: 113f, 117
varaki - wasps: 137
varcaḥkiṭa - dung beetles: 136
varga - collection: 17

- variable statement - *anekānta*: 215
 variable statement - *anekānta*: 212
 various treatments - *miśrakacikitsa*: 46
varṇa - complexion: 15, 49
varṣā - rainy seasons: 16
varṣāhika - the year-snake: 151
vartti - wick: 41 - wicks: 181
vasā - fat: 174
vāta - wind: 188f
vātalā - windy: 189
vāvikṛtā - or not distorted: 115
veda - knowledge: 11
vedanābhigāta - pain and injury: 12
vega - toxic reaction: 146, 156, 161
vegāntara - pulse interval: 156
 velvet leaf - *pāthā*: 175
venupatraka - the bamboo leaf: 150
vicitra - the variegated: 150
vidagdha - inflamed: 170
vidaṅga - embelia: 175
viḍbheda - loose stool: 127, 138
vidhāna - itemization: 212 - itemization: 215
vidruma - coral: 181
vikalpa - option: 212, 216 - particulars: 17
vikāsin - expansive: 129
vilocana - misshapen eyeball: 179
vipakva - matured: 171
viparītadarśana - metamorphopsia: 153
viparyaya - contraposition: 212, 215
vīrudh - shrubs: 15
viśāda - depression: 15
viśada - limpid: 129
viśavega - toxic reaction: 154
viśleṣa - disjunction: 130
viśvambhara - 'earth scorpions': 137
viśvañci - paralysis of arms and back: 59
 vital energy - *ojas*: 15
voḍhāra - bearers: 112
 vomiting - *vāminī*: 189
vṛddhagonasa - the big cow snout: 150
vṛkṣa - flowering trees: 15
vṛkṣaka - the little tree: 151
vṛnta - stalk: 170
vṛṣabha (bull): 113
vyadha - piercing: 178
vyadhi - disease: 17
vyākhyāna - explication: 212, 216
vyākhyāta - intended: 17
vyāla - wild animals: 16
vyāna breath - *vyāna*: 155
vyāna - *vyāna* breath: 155
vyavāyin - pervasive: 129
vyāyojima - multi-joins: 42
vyoṣa - the three spices: 172
 wasps - *kaṇabha*: 137 - *varaki*: 137
 wasted - *kṣṇa*: 44
 water - *jala*: 24
 water-born - *salilotthita*: 176
 water-dwellers - *jalaaukas*: 24
 watery eye - *syanda*: 176
 welfare - *śreyas*: 12
 wheezing - *śvāsa*: 127
 white mustard - *siddhārthaka*: 180
 white siris - *kinihī*: 175
 white sugar - *sitā*: 180
 wick - *vartti*: 41
 wicks - *vartti*: 181
 wild animals - *vyāla*: 16
 wind - *māruta*: 64 - *vāta*: 188f
 windy - *vātalā*: 189
 with a needle-like opening - *sūcīvaktrā*: 189
 with blood - *śonitena*: 179
 with bloodloss - *raktakṣayā*: 189
 with difficulty - *kṛcchra*: 177
 with testicles - *aṇḍīnī*: 189
 without venom - *nirviṣa*: 147
 womb - *yoni*: 184
 wood apple (*kapittha*): 170
 word meaning - *padārtha*: 212
 word-meaning - *padārtha*: 213
 worms - *kṛmi*: 16
 writhing - *udveṣṭana*: 126
yakṛdrasa - liver extract: 171
yakṛt - liver: 172
yamalā - double: 115
yāmya - in yama's direction: 141
yantranā - restrictions: 178

yāpya - alleviated: 172 - can be mitigated:
 177 - mitigatable: 169 - treatable: 134
yaṣṭīkarṇa - stick-ear: 42
yavāgū - gruel: 132, 161
yavaudana - cooked barley: 177
 year - *saṃvatsara*: 16
yoga - cohesion: 213 - compounds: 170
yoni - female reproductive organ: 188f

- female reproductive system: 188
 - womb: 184
yonivyāpat - disorders of the female
 reproductive system: 188
yuga - *yuga*: 16
yuga - *yuga*: 16
 “invincible” - *ajeya*: 134

Todo list

■ Can't be "sedation"	37
■ JG could you provide a standard citation reference for this information?	63
■ find out about <i>uttarabasti</i>	64
■ This is a change we should make in the edition.	85
■ You need not give all the grammatical details about <i>śrotādi</i> . Assume you are talking to knowledgeable Sanskrit scholars.	86
■ Perhaps <i>kalka</i> here could also mean the <i>Terminalia Bellerica</i> (विभीतक).	88
■ Euphorbia Antiquorum (Antique spurge)	90
■ The webpage https://hindi.shabd.in/vairagya-shatakam-bhagacharya-arjun-tiwari/post/117629 says that this verse belongs to the <i>Nītiratna</i> . I could not find this text.	93
■ The provisional edition should be modified accordingly.	95
■ There, Ḍalhaṇa comments that deliberation on <i>avapīḍa</i> had been done earlier when it was mentioned. Find that description to know more details.	97
■ Search for the section where the treatment of <i>ākṣepaka</i> is described.	98
■ Make the first letter of sentence capital.	98
■ ?	104
■ ?	104
■ ?	104
■ (?)	104
■ Cf. Arthaśāstra 1.21.8.	112
■ I'm still unhappy about this verse.	115
■ Mention this in the introduction as an example of the scribe knowing the vulgate.	115
■ fn about <i>sadyas+</i>	115
■ Bear's bile instead of deer's bile.	116

■ punarṇṇavā in the N & K MSS	117
■ śrita for śṛta	117
■ explain more	117
■ Medical difference from Sharma.	118
■ example where the vulgate clarifies that these should be used separately; appears to be a gloss inserted into the vulgate text. . . .	118
■ The two uses of prāpta are hard to translate. prāptāḥ → kṣipraṃ is an example of the vulgate banalizing the Sanskrit text to make sense of a difficult passage.	118
■ √ vyadh not √ vedh (also elsewhere and for the ears), causative optative.	118
■ -> ativiṣa	128
■ Look up the ca. reference.	128
■ Come back to the issue of "kalpa". Look up passages in the Kośa. . . .	135
■ write footnote: don't repeat ativiṣā; vulgate similar to H.	139
■ material corresponds to SS.1.45.205ab, where it describes how alcohol affects the body.	141
■ Or "There are 20 phaṇins and 6 maṇḍalins. The same number are known. There are 13 Rājīmats." Or even, "there are 20 Phaṇins and six of them are Maṇḍalins." Are phaṇins really the same as darvīkaras?	147
■ grammar	148
■ ri- ṛ-?	150
■ varṇa means "colour" elsewhere?	152
■ write note on pariṣekān pradehāmś	162
■ check MSS on emendation to avaśiṣṭa from avatiṣṭha	163
■ ?	163
■ where is cutting with a knife related to removing bile or phlegm. . . .	170
■ maṣī burned charcoal. Find refs.	170
■ find ref.	176
■ Check out these refs.	176
■ meaning of kalpa	176
■ or a dual?	181
■ Check if Jejjaṭa is available	202
■ See also Ḍalhaṇa at 1.1.1 (Su 1938: 1)	214
■ See chapter 40 of Sūtrasthāna.	215
■ vasā / medas / majjan	215
■ Does bhūtādi a compound or it means ahaṅkāra or ego?	216

