A Translation of the Nepalese Text of the Suśrutasaṃhitā

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

> Draft of 8th November 2023 © The Authors

Contents

Sūtrasthāna	7
Sūtrasthāna 1: The Origin of Medical Knowledge	ģ
Literature	9
Translation	9
Sūtrasthāna 2: The Initiation of a Student	17
Literature	17
Translation	17
Sūtrasthāna 3: The Table of Contents	19
Literature	19
Translation	19
Sūtrasthāna 13: On Leeches	2 1
Literature	21
Translation	21
Sūtrasthāna 14: On Blood	29
Previous scholarship	29
Translation	29
Sūtrasthāna 16: Repairing Pierced Ears	37
Previous literature	· · 37
Translation	· · 37
Sūtrasthāna 28: Unfavourable Prognosis in Patients with Sores	47
Literature	47
Translation	

4	Contents
T	

Nidānasthāna	49
Nidānasthāna 1: The Diagnosis of Diseases Caused by Wind	51
Literature	51
Translation	-
Śārīrasthāna	59
Śārīrasthāna 2: On Semen and Menstrual Fluid	61
Literature	61
Translation	61
Cikitsāsthāna	63
Cikitsāsthāna 4: On the Treatment of Wind Diseases	65
Literature	65
Translation	65
Cikitsāsthāna 5: On the Treatment of Serious Wind Diseases	71
Literature	7^{1}
Translation	71
Cikitsāsthāna 15: On Difficult Delivery	83
Literature	_
Translation	83
Kalpasthāna	87
Kalpasthāna 1: Protecting the King from Poison	89
Introduction	89
Literature	90
Manuscript notes	90
Translation	91
[Threats to the king]	91

Contents 5

	01
Introduction	01
Literature	
Translation	02
The effects of poisons	06
Slow-acting poison	
The invincible ghee	
Curing the 'slow-acting' poison	
Kalpasthāna 3: Poisonous Insects and Animals	15
Literature	15
Translation	.15
The origin of poison	
Patients beyond help	
1 '	23
Introduction	23
Literature	23
Translation	25
[Types of snake]	28
[Symptoms of snakebite]	
Uttaratantra 12	35
	37
Literature	
Translation	
[Complications]	
[Characteristics of the probe]	
[Complications]	47
	51
Introduction	
Literature	
Placement of the Chapter	-
Parallels	
Philological notes	54

6	Contents

Metrical alterations	. 154
The original opening verses	
Translation	. 156
Uttaratantra 39: On Fevers and their Management [draft]	143
Literature	
Remarks on the Nepalese version	
Translation	. 143
Uttaratantra 65: Rules of Interpretation	157
Literature	. 157
Early Sources	
Terminology	
Characteristics of the Manuscript Transmission	. 160
Translation	. 160
Editions and Abbreviations	167
Index of Manuscripts	173
Bibliography	175
Materia Medica Reference Works	201
Materia Medica	205
Glossary	215



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

- 2 Dalhaṇa 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 (2021*b*) has discussed these authors in the context of an anonymous commentary on the *Suśrutasaṃhitā* that cites them.

¹ HIML: IA, 203–204.

- "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."
- The Lord said to them:
 "Welcome to you! My children, all of you are beyond reproach and worthy to be taught.
- "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.
- "[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.
- "[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.
- "[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 Brahmā, 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.

- "[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.
- "[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
- "[The component] called the discipline of rejuvenation is maintaining youth, bringing about a long life and mental vigour and for curing diseases.
- "[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.
- "Thus, this Ayurveda 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."
- 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."
- "Now, as is well-known, the aim of Ayurveda 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),

Dānavas. The insertion marks ($k\bar{a}kapadas$) below the text at this point appears to be by the original scribe.

The vulgate doesn't have *vināyaka*s but does add *asuras*, probably under the influence of Dalhaṇa. 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 ($l\bar{u}t\bar{a}$) and creepy-crawlies ($sar\bar{s}rpa$) in the list, it does seem that MS K had a shorter list, and the vulgate edition adds rodents ($m\bar{u}sika$).

- which is being taught in accordance with tradition, perception, inference and analogy.
- "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.'
- "And also, of the eight disciplines of \bar{A} yurveda, [surgery] alone is the best because of the quick action of its procedures ($kriy\bar{a}$), its application of blunt instruments, knives, caustics and fire, and it is common to all disciplines.
- "Therefore, [surgery] is eternal, meritorious, leads to heaven, brings renown, bestows a long life, and affords a livelihood.
- "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

- 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
- In this context, as far as this discipline is concerned, a human being $(puru \not sa)$ is called an amalgam of the five elements and the embodied soul. This is where procedures $(kriy \bar a)$ apply. This is the locus. Why?
 - Because of the duality of the world, the world is twofold: the stationary and the moving. Its nature ($\bar{a}tmaka$) 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 are his

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

⁹ Note that this verse about the origin of surgery is the first place that the name 'Dhanvantari' is introduced in the Nepalese version of the work. Dhanvantari is here identified with Brahmā, the creator of the world.

¹⁰ See Wujastyk 2004.

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

support. Therefore, the human being (puruṣa) is the locus.

29 Diseases are said to be the conjunction of the person and suffering (duḥkha). There are four of them: invasive, bodily, mental and inherent. The invasive ones are caused by an injury. The bodily ones are based on food, caused by irregularities (vaiṣamya) in wind, bile, phlegm and blood.¹²

The mental $(m\bar{a}nasa)$ ones, caused by desire $(icch\bar{a})$ and hatred (dveṣa), include: anger (krodha), grief $(\bar{a}śoka)$, misery (dainya), overexcitement (harṣa), lust $(k\bar{a}ma)$, depression $(viṣ\bar{a}da)$, envy $(\bar{i}rṣy\bar{a})$, jealousy $(as\bar{u}y\bar{a})$, malice $(m\bar{a}tsarya)$, 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 (bṛmhaṇa), purification (saṃśod-hana), pacification (saṃśamana), diet ($\bar{a}h\bar{a}ra$) and regimen ($\bar{a}c\bar{a}ra$), properly employed, bring about their cure.

- Furthermore, food is the root $(m\bar{u}la)$ of living beings as well as of strength (bala), complexion (varna) and vital energy (ojas). It depends on $(\bar{a}yatta)$ the six flavours (rasa). Flavours, furthermore, have substances as their substrate $(\bar{a}\acute{s}rayin)$. And substances are remedies $(o\dot{s}adh\bar{\iota}-)$. There are two types: stationary $(sth\bar{a}vara)$ and moving (jangama).
- Of these, there are four types of stationary ones: fruit trees (*vanaspati*), flowering trees (*vṛkṣa*), herbs (*oṣadhi*) and shrubs (*vīrudh*). Amongst these, the "fruit trees" have fruit but no flowers. 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 $(\to oṣadh\bar{\imath})$ 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 $oṣadh\bar{\imath}$. 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: <code>oṣadhi</code> is a plant that ends after fruiting, <code>vīrudh</code> is a plant that branches out, <code>vanaspati</code> is a tree with fruit, and <code>vānaspatya</code> is a tree with fruit and flowers.

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.

- As is well known, moving remedies are also of four types: those born in in a caul (*jarāyuja*), those born from eggs (*aṇḍaja*), those born of sweat (*svedaja*), and shoots (*udbhid*). Amongst these, those born in a caul include animals (*paśu*), humans, and wild animals (*vyāla*). Birds, creepycrawlies (*sarīṣṛpa*) 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|
- In this context, among the stationary remedies, skin (tvak), leaves (patra), flowers (puṣpa), fruits (phala), roots ($m\bar{u}la$), bulbs (kanda), sap ($kṣ\bar{t}ra$), resin ($niry\bar{a}sa$), essence ($s\bar{a}ra$), 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
- The items created by time $(k\bar{a}lakrta)$ are clusters (samplava) as far as wind and no wind $(niv\bar{a}ta)$, heat and shade, darkness and light and the cold, hot and rainy seasons $(vars\bar{a})$ are concerned. The divisions of time are the blink of the eye (nimesa), a trice $(k\bar{a}sth\bar{a})$, minutes $(kal\bar{a})$, three-quarters of an hour $(muh\bar{u}rta)$, a day and night $(ahor\bar{a}tra)$, a fortnight (paksa), a month $(m\bar{a}sa)$, a season (rtu), a half-year (ayana), a year (samvatsara), and yuga (yuga).
- 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

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; Dalhana 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 <code>Dalhana</code> considers them to be "food, behaviour, earthen products and items created by time." He refers to

There are two kinds of invasive diseases. Some certainly²³ affect $(ni\sqrt{pat})$ the mind, others the body. Their treatment (kriyā) is of two kinds too.

- For those that affect the body there is physical (śārīravad) therapy, whereas for those that affect the mind there is the collection (varga) of desirable sensory experiences like sound that bring comfort (sukha).
- 40 Along these lines (*evam*), this brief explanation of the four factors (*catuṣtaya*) is given:
 - human being (puruṣa),
 - disease (vyadhi),
 - remedies (oṣadhi),
 - the time for therapies (*kriyākāla*).

In this context,

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

the author of the lost commentary entitled $Pa\~nijik\=a$, and to Jejjaṭa (HIML: IA, 372–3, 192). In his view, these early commentators do not agree that the fourfold grouping (caturvarga) refers to the quartet of stationary ($sth\=avara$), moving (jangama), earthen products ($p\=arthiva$) and items created by time ($k\=alakṛta$) (Su 1938: 9a).

²³ The text uses an archaic interjection here, ha.

²⁴ See footnote 8.

- This seed of medicine has been declared in brief. Its explanation will be given in one hundred and twenty chapters.²⁵
- 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 Ślokasthāna, the Nidāna, the Śārīra, the Cikitsita and the Kalpa, we shall mention this in the Uttaratantra.²⁷

[There is a verse about this:]²⁸

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.

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 $\emph{vim\'sa}$ in the sense of "greater by 20" see P.5.2.46 $\emph{\'sadantavim\'sate\'s}$ ca.

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

1

Sūtrasthāna 3: The Table of Contents

Literature

Translation

1

Sūtrasthāna 13: On Leeches

Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of studies on Indian leeches and their application.²⁹

A Persian version of this chapter of the *Suśrutasaṃhitā* was included in *Sikandar Shāh's Mine of Medicine (Ma'din al-shifā' i Sikandar-Shāhī*) composed in 1512 by Miyān Bhūwah b. <u>Kh</u>awāṣṣ <u>Kh</u>ān.³⁰

More recently, Brooks has explored the sense of touch in relation to leeching and patient-physician interactions.³¹

Translation

- 1 And now we shall explain the chapter about leeches.
- 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 be made to flow by any of them in their particular way.³²

²⁹ HIML: IA, 209; IB, 324, n. 131.

³⁰ Siddiqi 1959: 96–109; Azeez Pasha 1971; Storey 1971: 231–232; HIML: IB, 324, n. 128; Speziale 2019: 8–9.

³¹ Brooks 2020*a*,*b*; 2021*a*,*b*.

³² This sentence is hard to construe grammatically, although its meaning seems clear. In place of विशेषस्तु, Cakrapāṇidatta and Dalhaṇa both read विशेषतस्, which helps interpretation (Su 1939: 95, Su 1938: 55). It is notworthy 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.³³
- 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.³⁴
 - 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.³⁵
 - 7 A gourd is well known for being pungent, dry and sharp. So when someone is afficted 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.³⁶
 - 9 Leeches are called "jala-ayu-ka" because water (jala) is their life ($\bar{a}yur$).³⁷ "Home" (okas) means "dwelling;" their home is water, so they are called "water-dwellers (jalaukas)."
 - 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 शृङ्गजलौकालाबुभिर्गृह्णीयात्. This insertion is not included in the earlier edition of the vulgate, but is replaced by सिग्धशीतरूक्षत्वात् (Su 1931: 54). Dalhana noted that, "this reading is discussed to some extent by some compilers (नि-बन्धकार), but it is definitely rejected by most of them, including Jejjhata."

- 33 The vulgate replaced "smooth" with "hot."
- This passage is not found in the vulgate, but it is similar to the passage cited by <code>Dalhaṇa</code> at 1.13.8 (Su 1938: 56) and attributed to Bhāluki. Bhāluki was the author of a <code>Bhālukitantra</code> that may have predated Jejjaṭa and might even have been one of the sources for the <code>Suśrutasaṃhitā</code> (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).
- 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.
- 36 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.
- 37 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*)³⁸
- Rainbow (*indrāyudhā*)
- Oceanic (*sāmudrikā*)
- Cow-praising (govandanā)³⁹

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 ($mah\bar{a}gada$) should be applied in drinks and liniments ($\bar{a}lepana$), etc.⁴⁰ 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.⁴¹
 - Tawny (kapilā)
 - Ruddy (piṅgalā)

³⁸ Treating गर्दा as गल्दा and translating as in RV 8.1.20, with Jamison and Brereton (2014: 1023, verse 20 and cf. commentary). But if गर्द is to be taken from √गर्द् then we might have "crying from the sting."

³⁹ The manuscripts all read गोवन्दना against the vulgate's गोचन्दना.

⁴⁰ The "Great Antidote" is described in the Kalpasthāna, at 5.5.61–63ab (Su 1938: 578). Palhaṇa and the vulgate included errhines in the list of therapies, and Palhaṇa added that "etc." indicated showers and baths too.

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

- Dart-mouth (*śankumukhī*)
- Mouse (*mūṣikā*)
- Lotus-mouth (puṇḍarīkamukhī)
- 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.⁴²
- 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.43 Those in
- 42 The compound स्निग्धमुद्भवर्णा is supported by all the manuscript witnesses and is translated here. Nevertheless, the reading of the vulgate, that separates स्निग्धा, f., "slimy" as an adjective for the leech, seems more plausible: "it is slimy and the colour of a mung bean."
- This passage is discussed by Karttunen (2015:109–110, 388–389). At the time of the composition of the *Suśrutasaṃhitā*, Yavana would most likely have referred the Hellenistic Greek diaspora communities in Bactria and India (Law 1984:136–137; Mairs 2013; 2014). Unproblematically, the Pāṇḍya country is the extreme south-eastern tip of the Indian subcontinent (Schwartzberg, Bajpai, et al. 1978: E8, p. 20 *et passim*), and Sahya refers to the Western Ghats (Schwartzberg, Bajpai, et al. 1978: D5–7, p. 20 *et passim*). The vulgate reading "Pautana" is not a known toponymn. Potana was the ancient capital of the Aśmaka Mahājanapada mentioned in Pali sources and in inscriptions at Ajāntā and elsewhere, and identified by Law (1984:142, 179) and P. Gupta (1989:18) with Pratiṣṭhāna, modern Paithan on the Godavarī 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.
- In that context, the venomous leeches are those originating in decomposing venomous insects, frogs, urine, feces and in polluted water.⁴⁴ 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.⁴⁵

- 16 They can be caught with a fresh hide or after being caught in other ways.⁴⁶
- 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 Nizam's dominions," "possibly to be identified with Bodhan."

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

- 44 The vulgate on 4.13.14 (Su 1938:57) includes fish in this list.
- 45 Dalhaṇa 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. Dalhaṇa'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)).
- 46 "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 गृह्णी-यात् "one may grasp (by other means)." This is hard to construe clearly.

Dalhana 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,⁴⁷ or thin, those that are not born in the proper habitat, those that will not attach, that drink little or those that are venomous.

- 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 (śastrapada).⁴⁸ And if it still will not attach, make other ones attach.
- 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.
- 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.
- 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. 49 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.50

⁴⁷ Pace Dalhana on 1.13.18 (Su 1938: 57) who glossed अमनोज्ञदर्शन as "nasty looking."

⁴⁸ 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 415.

⁴⁹ The expression शालितण्डुलकाण्डन, "rice-grain chaff" could be read as "unhusked rice, rice grains and chaff" but this seems unlikely in the context.

⁵⁰ 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.⁵¹

- 23 After observing the proper or improper flow of the blood, one should rub the opening made by the leech with honey.⁵² 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.

⁵¹ The vulgate includes "well purged" as the object in this sentence, which makes better sense.

⁵² In the Nepalese witnesses, the object of this passage is जलोकामुखम् "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.⁵³

Translation

1 Now we shall declare the chapter about blood.

2

Food is of four types.⁵⁴ It is endowed with six tastes and is made of the five elements.⁵⁵ It has either two or eight potencies, and is endowed with many qualities. ⁵⁶ Chyle (*rasa*) is the most intangible essence of this food that is properly transformed. It is of the nature of fire. Chyle is situated in the heart. From the heart, it enters into the twenty-four arteries—ten upward arteries, ten downward, and four sideways—and doing so day after day owing to the reaction of past

⁵³ 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) discussed Sanskrit veterinary texts in the light of their standard theory of four humours, including blood.

⁵⁴ Dalhaṇa on 1.14.3 (Su 1938: 59) said that the four types of food are those that can be drunk, licked, eaten and chewed(पेयलेह्यभोज्यभक्ष्य). The main text of the *Carakasaṃ-hitā* is explicit about these categories, 4.3.4(1) (Ca 1941: 308): पानाशनभक्ष्यलेह्य । "things drunk, eaten, chewed or licked." On the distinction of भक्ष्य/भोज्य, see Yagi 1994; for further background on foods, see Olivelle 2001.

⁵⁵ *Idem*, Earth, water, fire, air, space

⁵⁶ Dalhaṇa related these qualities to the twenty standard गुण of āyurveda; see, e.g., their listing by Vāgbhaṭa, translated by Wujastyk (2003b: 207).

activities that are caused by the invisible,⁵⁷ it satisfies the entire body, enlivens it, prolongs it,⁵⁸ 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 flowing⁵⁹ and due to attributes such as mobility, lubrication, enlivening, satisfaction, and supporting.⁶⁰

- 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.

- 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.⁶¹ That is due to the embryo being fiery and moist.⁶²
- 8 Others state that the embryo as constituted of the five elements and the preceptors call it the living blood.
- 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.

⁵⁷ সম্ভ (unseen): Doing any righteous or unrighteous action produces good merit and demerit respectively. This good merit and demerit are called সম্ভ (invisible) because it cannot be directly known but can only be assumed through logical deduction.

⁵⁸ In the sense of prolonging its lifespan

⁵⁹ 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."

⁶⁰ 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).

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

⁶² Dalhaṇa 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.

- 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 preserve⁶³ chyle by administering food and drink, being nicely disciplined with food⁶⁴.

- The verbal root *rasa* means movement.⁶⁵ Because it keeps moving day after day, it is called *rasa* (chyle).⁶⁶
- 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 group⁶⁷ is 18,090.

This is the particular transformation period regarding chyle that lasts for a person with mild fire⁶⁸. For a person with developed fire, one should know it to last for the exact same time⁶⁹

Resembling the expanse of sound, flame, and water, that entity moves along in a minute manner throughout the entire body⁷⁰.

⁶³ All three manuscripts have रक्षेत which is an incorrect form. रक्षेत् is the correct form.

⁶⁴ आहरिण - 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.

⁶⁵ kunj-1907

⁶⁶ In the list of verbal roots of Pāṇini, the verbal root रस(rasa) means taste and moistening. It does not mean movement.

⁶⁷ duration of chyle in all the body tissues as a whole

⁶⁸ Perhaps this refers to the digestive fire.

⁶⁹ Although the vulgate does not have this verse, there is an argument presented in Palhaṇa'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. Palhaṇa said that this opinion is refuted by Gayadāsa Ācārya in many different ways. Palhaṇa 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.

⁷⁰ Dalhana 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.
- 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 entities⁷¹, it,⁷² 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 age⁷³. 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.
- These entities are called body tissues $(dh\bar{a}tu$ -s) because they bear the body⁷⁴.
- 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 blood⁷⁵ just as bile. The blood that has the combined characteristics of vitiations of two humours is vitiated by two humours.
- 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.

⁷¹ This is the doctrine of pre-existence of the effect (सत्कार्यवाद, satkāryavāda) first propounded by Sāṅkhya philosophers.

⁷² fragrance

⁷³ 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.

⁷⁴ 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.

⁷⁵ 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.

- 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.
- In that regard, one should quickly insert the surgical instrument that is simple, not very close, fine, uniform, not deep, and not shallow.
- One should not insert the instrument into the heart, lower belly, anus, navel, waist, groins, eyes, forehead, palms, and soles.
- In the case of swellings filled with pus, one should treat them in the same way as stated earlier.
- 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.
 - 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.
 - 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), $\bar{a}g\bar{a}radh\bar{u}ma$, 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.

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 dhanvana (Camelthorn), or a linen cloth⁷⁶, or vadhyāsita, or bone of cuttlefish, or powdered lac, along with the binding materials mentioned. After the piercing, the physician should pierce it again. The physician should serve cool clothing, food, a dwelling place, a bath, cooling ointments, and plastering. Or, one can cauterize it with heat. Or, as mentioned, one should give a decoction of kākolī, etc. sweetened by sugar and honey to drink. Or, one should consume the blood of black buck, deer, ram, buffalo, rabbit, or pig, accompanied by milk, green gram soup and meat soup⁷⁷. The physician should treat the pains as mentioned.

36a Here are verses about this.

When blood flows out due to the decay of body tissue, fire becomes weak⁷⁸ 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.

⁷⁶ 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.

⁷⁷ Based on Dalhana's comment as found in Su 1938: 66

⁷⁸ 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 pure ⁷⁹ and not drain blood in excess.
44ab-cd 44ef	Blood is the basis of the body. It is sustained by blood only. 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.

 $^{\,}$ <code> Palhaṇa</code> 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 2002.⁸⁰ 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.81

81 The topic of piercing the ear (kaṛnavyadha) is not discussed in the Carakasaṃhitā (HIML: IB, 326, n. 175), but it is mentioned in some texts that followed the Suśrutas-aṃhitā, such as the Kaśāpyasaṃhitā (HIML: IIA, 30). Also, the instrument for piercing the ear is described in the Aṣṭāṅgahṛdayasaṃhitā 1.26.26 (Ah 1939: 321). In the versions of the text known to Dalhaṇa (Su 1938: 76) and Cakrapāṇidatta (Su 1939: 125), the heading of this chapter is "the method of piercing and joining the ear" (कर्णव्याधाविध), instead of the Nepalese version's "the method of piercing the ear" (कर्णव्याधाविध). The topic of joining the ear (कर्णवन्ध) 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, Dalhaṇa (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-

⁸⁰ HIML: IA, 211–212317.

- 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,⁸² on the lap of a wetnurse.⁸³ Then, he should pull the ear with his left hand and pierce straight through with his right hand at a naturally-occurring cleft.⁸⁴ 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.⁸⁵
- 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.⁸⁶

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.

- 82 The causative form व्यथ्येत् 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.
- 83 The versions of 1.16.3 known to Cakrapāṇidatta (Su 1939:126) and Dalhaṇa (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 Dalhaṇa'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 Dalhaṇa on 1.16.3 (Su 1938:76), the toys include replica elephants, horses, bulls and parrots. Dalhaṇa further mentions that others read भक्ष्यविशेषैर्वा ("or by special treats") before बालक्रीडनकैः, but we see no trace of these small kindnesses in our witnesses.
- 84 The versions of 1.16.3 of Cakrapāṇidatta (Su 1939: 126) and Dalhaṇa (Su 1938: 76) add that this naturally-occurring cleft is illuminated by a ray of sunshine (आदित्यकरावभा-सिते).
 - The syntax of this slightly long sentence is unusual because of the dual object तौ "the two (ears)" at the start of the sentence, which is remote from the main verb. The other singular accusatives referring to the ear being pierced are governed by absolutives.
- 85 Dalhaṇa 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" (Lakṣmaṇaṭip-paṇaka) 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 Suśrutasaṃhitā that was available to Dalhaṇa in twelfth-century Bengal. See Meulenbeld (HIML: IA, 386).
- 86 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.⁸⁷

- Having removed the wick (*vartti*) because of the accumulation of humours or an unsatisfactory piercing at that location, ⁸⁸ 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. ⁸⁹
- 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.⁹⁰
- 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.⁹¹
 - constructed on the basis of witnesses MS Kathmandu NAK 5-333 and MS Kathmandu NAK 1-1079.
- 87 This passage is significantly augmented in Cakrapāṇidatta's and Dalhaṇa'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.'
- 88 In addition to these reasons, Dalhaṇa at 1.16.6 (Su 1938:77) added "because of piercing with a painful, crooked and unsatisfactory needle" (क्रिष्टजिह्माप्रशस्तसूचीव्यधात्) and "because of a wick that is too thick" (गाढतरवर्तित्वात्). Dalhaṇa 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 accummulation 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).
- 89 The description of the drug is ambigious: 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.
- 90 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).
- 91 Cakrapāṇidatta on 1.16.6 (Su 1939: 127) and Dalhaṇa 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 humours⁹² 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. 93 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 (kākaustha). 94

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.⁹⁵

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

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

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

equal, the other unequal.

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. Dalhaṇa 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.

⁹² Dalhaṇa 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.

⁹³ 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 Dalhaṇa'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.

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 2003*b*: 154).

⁹⁵ For an artist's impression of this join, see Majno 1975: 291 (reproduced as Figure 3.3 in Wujastyk 2003*b*: 155).

These ten options for joins of the ear should be bound. They can mostly be explained as resembling their names. The five from compressed (saṃkṣipta) on are incurable. 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. 8

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.⁹⁹ And in this regard, he should particularly gather¹⁰⁰ top layer of fermented liquor, milk, water, fermented rice-water, and powdered earthenware crockery (*kapālacūrṇa*).¹⁰¹

⁹⁶ Cakrapāṇidatta on 1.16.9–13 (Su 1939: 128–129) and Dalhaṇa on 1.16.10 (Su 1938: 77–78) provide examples of how the names of these joins describe their shapes. For example, the rim-join (nemīṣandhānaka) is similar to the join of the rim of a wheel (cakradhārā).

⁹⁷ Dalhaṇa on 1.16.10 (Su 1938:77–78) mentions that some do not read the statement that only five are incurable, and they understand the causes of unsuccessful joins given below (i.e., heat, inflammation, suppuration and swelling) as also pertaining to the first ten when they do heal.

⁹⁸ The version of 1.16.11–13 known to Dalhaṇa (Su 1938: 78) has four verses (श्लोक) at this point that are not in the Nepalese manuscripts. The additional verses iterate the types of joins required for ear flaps that are missing, elongated, thick, wide, etc. All four verses were probably absent in the version of the *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 चित्पवन्ति). However, in Trikamajī Ācārya's edition of the *Sūtrasthāna* of the *Bhānumatī*, the root text is largely identical to the one commented on by Dalhaṇa (Su 1938), even in instances like this where Cakrapāṇidatta's commentary indicates that he was reading a different version of the *Suśrutasaṃhitā*. See further the discussion on p.?? above.

⁹⁹ *Suśrutasaṃhitā* 1.5 (Su 1938: 18–23), probably verse 6 especially, that lists the equipment and medications that a surgeon should have ready.

¹⁰⁰ The reading in the Nepalese manuscripts of विशेषतश्वाग्रोपहरणीयात् has been emended to विशेषतश्वाग्रोपहरेत् to make sense of the list of ingredients, which is in the accusative case. Also, the repetition of अग्रोपहरणीयात् in the Nepalese version suggests that its second occurrence, which does not make good sense here, is a dittographic error.

¹⁰¹ The term कपालचूर्ण is unusual. Palhaṇa (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. 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 ($\bar{a}c\bar{a}rika$). And he should supplement with food as taught in the "Two Wound" chapter.¹⁰³

- One should avoid rubbing, sleeping during the day, exercise, overeating, sex, getting hot by a fire, or the effort of speaking.
- One should not make a join when the blood is too pure, too copious, or too thin. For when the ear is tainted by wind, then it is obstructed by blood, unhealed and will peel. When tainted with choler, is becomes pinched $(g\bar{a}dha)$, 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 $(ks\bar{\imath}na)$ flesh and it will not grow. 105
- When the ear is properly healed and there are no complications, one may very gradually start to expand it. Otherwise, it may be inflamed

102 There are syntactic difficulties in this sentence. We have adopted the reading in Dalhaṇa'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.

enware vessels.

¹⁰³ Suśrutasaṃhitā 4.1 (Su 1938: 396–408).

^{104 1.16.17} of Dalhaṇa'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 Dalhaṇa's version.

¹⁰⁵ 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 परिषेचयेत्रिरात्राञ्च पिचुं परिवर्तयेत्).

(samrambha), burning, septic or painful. It may even split open again.

- 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, ¹⁰⁶ fat, marrow, milk, and sesame oil, and white mustard oil. ¹⁰⁷ 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. ¹⁰⁸ 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. 109
- 16 Ears which do not enlarge even when sweated and oiled, should be scarified at the edge of the hole, but not outside it.¹¹⁰
- 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.¹¹¹

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

- 107 Palhaṇa's version of 1.16.19 (Su 1938: 79) includes ghee. However, Palhaṇa'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. Palhaṇa also noted that others simply read four oils, beginning with fat and without milk, whereas Cakrapānidatta said that some say it is made with four oils and milk.
- 108 The version of of this verse known to <code>Dalhaṇa</code> (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, <code>Dalhaṇa</code> (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.
- 109 For these aims (i.e., healing and enlarging the ear), the text known to Dalhaṇa (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.
- 110 Dalhaṇa'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.
- 111 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 Palhaṇa (Su 1938:80) stated that some read about the diseases of the ear lobes in this chapter whereas others read about them in

- 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.¹¹²
- 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.
- Next, having cut a slice of flesh (vadhra),¹¹³ with the same measurements, off the cheek, the end of the nose is then scarified.¹¹⁴ Then the undistracted physician, should quickly put it back together so that it is well joined.
- Having carefully observed that it has been sewn up properly, he should then fasten it along with two tubes. Having caused it to be raised, the powder of sappanwood, it liquorice and Indian barberry should be sprinkled on it. 118
- 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 chapter on various treatments (*miśrakacikitsa*) (SS 5.25), which does indeed begin with a discussion of the disease परिपोट. Dalhaṇa went on to say that some believe that these verses were not composed by sages and, therefore, do not read them.

¹¹² The order of verses 17 and 18 is reversed in Dalhana's version (Su 1938: 80).

¹¹³ The version of 1.16.28b known to Dalhana (Su 1938:81) reads "bound, connected (baddham)" instead of "slice of flesh (vadhra)." This is a critical variant from the surgical point of view. If the slice remains connected, it will have a continuing blood supply. This is one of the effective techniques that so astonished surgeons witnessing a similar operation in Pune in the eighteenth century (see Wujastyk 2003b:67–70).

¹¹⁴ 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, Dalhaṇa (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.

¹¹⁵ Dalhaṇa 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.

¹¹⁶ The Sanskrit term उन्नामियत्वा in 1.16.21 is non-Pāṇinian.

¹¹⁷ 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 पताङ्ग in a verse in 1.14 (cf. 1.14.36 (Su 1938:66)). The text known to Dalhana has पतङ्ग (1.16.29 (Su 1938:81)) and this term is propagated in modern dictionaries.

¹¹⁸ Dalhaṇa glossed अञ्चन as रसाञ्चन, elixir salve (Su 1938: 81).

instructions specific to him. 119

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

¹²⁰ The vulgate transmission has lost the word বঘ and replaced it with अर्घ "half," which makes little sense in this surgical context.

¹²¹ Dalhaṇa accepted a verse following this, 1.16.32 (Su 1938:81), which pointed out that the procedure for joining the nose is similar to that of joining the lips without fusing the ducts. He noted that earlier teachers did not think this statement on the nose and lips was made by sages, but he included it because it was accepted by Jejjaṭa, 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. 122

Goswami studied the commentaries of Dalhaṇa 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 Indriyas-thāna of the Carakasaṇihitā in their commentaries on this topic.¹²³

Translation

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.¹²⁴



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 2002.¹²⁵

Translation

- 1 And now we shall explain the chapter about diagnosis of diseases caused by wind. 126
- 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!¹²⁷ Divodāsa¹²⁸ 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

¹²⁵ HIML: IA, 234. (Ruben 1954b) studied the wind doctrines in the *Carakasaṃhitā*.

¹²⁶ Present chapter discribes the diseases caused by vitiated wind and its mixing with other humours. In the medical term it is known as rheumatism.

¹²⁷ H and N both mss read भूपते instead of कौपनैः in the vulgate.

¹²⁸ 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 tangibility¹²⁹. Having all chief qualities which are sattva, rajas and tamas but predominated by rajas. It has inconceivable power. It is inducer of humours¹³⁰ and distinguished in the group of diseases¹³¹. *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. 132
 - 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 body 133 .

¹²⁹ According to Dalhaṇa, 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, शरीराद्बहिस्तु संचरतो धरणीधारणादिः Su 1938:257)

¹³⁰ Palhaṇa suggests नेता=प्रेरक (Su 1938:257)

¹³¹ Dalhana suggests राट्=राजते not राजा

¹³² According to Dalhaṇa, सम्पत्तिः=सम्पन्नता at 1.6.3 (Su1938:23). Dalhaṇa commented that Gayadāsa reads `इन्द्रियार्थोपसंप्राप्तिंऽ but not written here because of being detailed. (ग-यदासाचार्यस्तु इमं श्लोकं `इन्द्रियार्थोपसंप्राप्तिऽ इत्यादि कृत्वा पठित, स च विस्तरभयान्न लिखितः) But H and N MSS suggest 'इन्द्रियार्थोपसम्पत्तिः'

¹³³ Dalhaṇa suggests स्थान=साम्य, यापयन्ति=धारयन्ति (The manuscripts all read प्राणोदानः स-मानश्च व्यानोपानस्तथैव च . against the vulgate's प्राणोदानौ समानश्च व्यानश्चापान एव च . I think प्राणोदानौ, व्यानापानौ or व्यानश्चापान एव च should be read)

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 fluid¹³⁴. Unvitiated Vital wind mostly causes hiccups, asthma etc. diseases.

- 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 ears¹³⁵.
- 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.

¹³⁴ Dalhaṇa suggests head, chest, throat and nose as locations of prāṇa. (Sus1938:259) Gayadāsa suggests अग्नि for प्राण.

¹³⁵ Dalhaṇa suggests it also causes diseases like cough etc. (चकारादन्यादिप प्राणोदानौ, व्या-नापानौ कासादीन करोति .)

- Residing in the skin, ¹³⁶ 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. ¹³⁷

 Residing in the artery it causes acute pain, contraction and filling up of the artery. ¹³⁸ It stuns, vibrates and destroys ¹³⁹ 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. ¹⁴⁰
- 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.
- 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.

¹³⁶ Dalhaṇa 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.

¹³⁷ The MS H does not read व्रणांश्च रक्तगो ग्रन्थीन् सशूलान् मांससंश्रितः . against the vulgate. (Su 1938: 261).

¹³⁸ According to Dalhana सिराकुञ्चनं is also known as कुटिला सिरा (Su 1938: 262)

¹³⁹ Dalhaṇa 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) ...

¹⁴⁰ Palhaṇa 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, uddaņḍaka? and pain in the swelling.

- 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.??
 - 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.
- 81–44 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 Gout¹⁴¹.
- 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 ¹⁴² 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.
 - 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 convulsions आक्षेप it is called आक्षेपक.
- Because in this situation a person often sees darkness and fall, it calls spasmodic contraction (□□□□□□) ¹⁴³ . If wind mixed with phlegm stays excessively in the arteries, it stiffs body like a staff and it is called दण्डा-पतानकः epilepsy with convulsions. Vitiated wind entered in the arteries and bends the body like a bow, it is called धनुःस्तम्भ Tetanus. When

¹⁴¹ In the medical term वातरक्त is known as Gout. Cakrapāṇi called it आढ्यरोगः Carakas-aṃhitā sū.14.18 and ci.28.66

¹⁴² Gayadāsa suggests सर्वे दुष्टाः शोणितं चापि nominative plural instead of locative singular.

¹⁴³ 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.

- 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 144.
- 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 (□□□□□□□□). ¹⁴⁵ 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. ¹⁴⁶.
- Verses from 64–66 are not found in the Nepalese manuscripts. These verses discuss the term spasmodic contradiction (□□□□□□□□□) which is the same as अपतानक. Dalhaṇa 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 Dalhaṇa commented that the आक्षेपक and अपतानक is same (Su 1938:266) and again

¹⁴⁴ According to Dalhaṇa convulsion (□□□□□□□) is also known as अपतानक (Su 1938:266). He further mentions that even if fortunately, it is cured, it cripples the limb.

¹⁴⁵ In the ca.6.28.55 पक्षाचात is described as monoplegia (□□□□□□□□). In that case it damages one of the limbs. In the medical terms paralysis (□□□□□□□□) is known as hemiplegia.

¹⁴⁶ 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.

¹⁴⁷ Here the term যুद्धवात 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. Gayadāsa further commented that the Caraka has not read आक्षेपक as अपतानक and therefore described the अपतन्त्रक separately (Su 1938:267).

- 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 jawbones (produce) disease. In that case, half of the face and neck become curved, head trembles, speech hindrances, deformity occurs in the eys, eyebrows and cheeks. Experts in diseases call this disease spasm of the jaw-bones (produce)
 - 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.
 - Arteries of Heel and toes stricken by vitiated wind prevents stretching of thighs. This disease is known as sciatica (□□□□□□□).
 - 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 (□□□□□□□□□).
 - 76 Vitiated wind and blood in the joint of knee causes Synovitis of knee join (□□□□□□□□□□□□□□). In this extremely painful situation, the shape of swelling in knee joints seems like a head of Jackal.
 - Vitiated wind resides in the waist attacks on the arteries of thigh causes limpness (DDDD) and when it attacks on both the thighs a person becomes lame (DDDDD).
 - A person who trembles at the beginning of walking or walks limping and whose foot joint has become loose is called lathyrism (□□□□□□□□).
 - 79 Vitiated wind residing in the ankle-joint causes pain when one steps on uneven ground. This disease occurs is called वातकण्टक.
 - 80 Vitiated wind mixed with bile and blood cause burning sensation in

¹⁴⁸ Dalhana suggests नेत्रादीनाम् इत्यादि शब्दात् भूगण्डादि उपसङ्ग्रहः

¹⁴⁹ Both the MSS N and H read विश्वञ्च instead of the vulgate reading विश्वाची. There is no such word found in other Āyurveda texts.

- feet. It should be declared as burning sensation in feet (\pippi \pip \pi).
- 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. 150
- 83 Vitiated wind singly or mixed with phlegm cover the channel of ears causes deafness.
- 85 Vitiated wind penetrating into the cheekbones, temporal bones, head and neck causes piercing pain in the ears. It is called ear-ache (DDDDDDDD). 152
- 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 प्रतित्नी.
- Retention of vitiated wind inside abdomen causes distension of the stomach and flatulence and intense pain and rumbling inside, is called tympanites (□□□□□□). Vitiated wind mixed with phlegm causes স্বন্ধাध्मान. It rises in the stomach and causes pain in the heart and sides. ¹⁵³
- 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 বানাষ্ঠীলা.

 A tumour of similar shape rose obliquely in the abdomen obstructing the passage of wind, faeces and urine should be known as प्रत्यष्ठीला.

¹⁵⁰ Dalhaṇa and Gayadāsa both have defined two diseases i.e., अंसशोष and अवबाहुक respectively.

¹⁵¹ 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.

¹⁵² In the medical terms, this disease is known as Otitis.

¹⁵³ There's an addition in ms N. नाभेरधस्तात् संजातः संचारी यदि वाऽचलः



Śārīrasthāna 2: On Semen and Menstrual Fluid

Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002. Das (2003: chs 6–8) also studied topics of this chapter.

Translation

- 1 We shall now explain the purification of sperm and women's fertile blood.
- 2 ...



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. 155

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 (মন্ত্র্বাण) remedy with cool water for seven nights. 156
- 4 The remedy constituting of leadwort, ??, velvet-leaf, ??, Himalayan monkshood, and myrobalan cures serious diseases and is called the six-bearing (ঘদ্ধবর্ণা).
- 5 When the wind has entered the abdomen (पक्वाशय), 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. 157

155 HIML: IA, 265-266.

This is a change we should make in the

¹⁵⁶ The vulgate has the reading छर्दियत्वा 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.

¹⁵⁷ In H, the reading সামা: should be read as সামা: for it to mean "foods". Otherwise, সামা: means "throwing/discharging" or "darts/spears".

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.¹⁵⁸
- 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 bloodletting (असृग्विमोक्षण).
- 8 On the wind having entered the ligaments, joints, and bones, the wise [physician] should employ the application of an unctuous poultice (से-होपनाह), 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.¹⁵⁹
- On the wind having entered the semen, one should perform the treatment for the defects of the semen. 160
- The intelligent physician should conquer the wind situated within the whole body by immersion, *kuṭī*, *karṣa*, *prastara*, oil massage, enema, and blood-letting. Or, in case of wind situated in one part of the body and

¹⁵⁸ 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 "ह्य" 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.

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

¹⁶⁰ Dalhaṇa comments (Su 1938: 421) that this treatment for the defects of the semen is mentioned [earlier] as the যুক্তমাणিনযুদ্ধি, the purification of the semen and the blood. This is the Śārīrasthāna Ch. 2, যুক্তমাणিনবিযুদ্ধি. 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.

¹⁶¹ In H, the last syllable नि of the compound word does not make sense. The vulgate has the compound word ending with भिः which makes proper sense. For making a meaningful translation, we have accepted the vulgate reading here. Furthermore, Dalhaṇa 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.

- 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 $??^{162}$ mixed with oil, and one should indeed consume meat soup made sour with fruit. 163
- 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.¹⁶⁴ with a wind-removing remedy combined with all sour substances and with the meat from a water body along with lots of unction, lukewarm¹⁶⁵ and salty, is well known as *Sālvala*.
- 16ab For patients with diseases of the wind, one should always apply this $(s\bar{a}lvala)$ as a poultice.
- 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 *śālvala* poultice on it, one should insert it into a sack made of the hide of a cat, mongoose, *udra* or deer.
 - 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.¹⁶⁸

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

¹⁶² Āgāradhūma seems to be a plant as seen in Monier Williams' Sanskrit dictionary.

¹⁶³ The vulgate reading दिह्यात् (should apply) totally changes the meaning.

¹⁶⁴ For grammatical accuracy, there needs to be a visarga at the end of the word काकोल्यादि.

¹⁶⁵ Perhaps सुखोष्णम् is an indeclinable. But, it could also be a grammatical inaccuracy where it should have a *visarga* at the end: सुखोष्णः.

¹⁶⁶ This seems to be the correct spelling as against the unclarity in the earlier verses.

¹⁶⁷ some aquatic animal

¹⁶⁸ 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).

- Oils, perspiration, oil massage, enema, unctuous purging of the bowels, *śirobasti*, oiling the head, unctuous smoke, gargling with lukewarm water, *nasya*, unctuous paste, milks, meats¹⁶⁹, soups, oils¹⁷⁰, 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.
 - One should take *akṣa* quantities of unguent pastes¹⁷¹ of turpeth,¹⁷² ??, ??, ??, ??, and embelia, a Bengal quince fruit equivalent measure of ??-root and ??, two *pātra* quantities of both *triphalā*-decoction¹⁷³ and yogurt, and one *pātra* measure of ghee.¹⁷⁴ 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.¹⁷⁵ This procedure of making ??-ghee should also be referred for making ??-ghee and ??-ghee.¹⁷⁶
 - 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

¹⁶⁹ The plural indicates milk and meat from various animals.

¹⁷⁰ This is the second occurrence of the word सेहाः in this sentence. This seems to be an anomaly.

¹⁷¹ কলে also means an unguent paste. Refer to Apte's dictionary.

¹⁷² In H, perhaps it should have been त्रिवृद् instead of तृवृत्.

¹⁷³ त्रिफलारस is here taken to mean a decoction of triphalā.

¹⁷⁴ The exact measurements of akṣa and $p\bar{a}tra$ are given in Dalhaṇa's commentary in Su 1938: 422.

¹⁷⁵ It should be understood here that the unctuous substance to be used for purging the bowels is the ??-ghee.

¹⁷⁶ अशोक and रम्यक are the Ashoka and Chinaberry respectively.

cooked.¹⁷⁷ This is the *anutaila* (अनुतैल)¹⁷⁸ that is mentioned in wind disorders. It is called *anutaila* because it is produced from tiny oily objects.¹⁷⁹

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 oily¹⁸⁰ in a big vessel and totally cover it with water. 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 possible¹⁸² with one thousand parts of each of the following—a decoction of wind-alleviating herbs, meat soup, milk, and *kāñjika*¹⁸³—and thus prepare the *sahasra-pāka* (that which is cooked with thousands). The admixture added to the oil contains the *hemavata* herbs¹⁸⁴, 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. Thereafter, the perfectly cooked oil should be poured into a golden or silver pot and stored. This $sahasra-p\bar{a}ka$ is the oil possessing undiminishing potency and is fit for

¹⁷⁷ In H, the word दन्तप्रतीवायं in the compound word वातप्नौषधदन्तप्रतीवायं 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.

¹⁷⁸ The न् should be read ण्.

¹⁷⁹ The word अनु in the compound word अनुतैलद्रव्येभ्यः should be read अणु.

¹⁸⁰ In H, the word यावन् should have been यावान्.

¹⁸¹ The reading in H, कटाहेभ्यः सिंचेत्, does not make sense here. Thus, we have accepted the vulgate reading कटाहे ऽभ्यासिंचेत् for the translation.

¹⁸² The phrase "यावता कालेन राक्नुयात् पक्तुम्" appears as a part of a new sentence in H. But, we should take it to be a part of the earlier sentence for it to make proper sense.

¹⁸³ Dalhaṇa comments (Su 1938: 423) that the word अम्ल here means কাञ्चिक which is the water drained after boiling rice and is a little fermented. Refer Monier Willams's Sanskrit Dictionary.

¹⁸⁴ The word should be हैमवताः as in the vulgate. It means "the herbs of the snowy mountains". Dalhaṇa comments (Su 1938: 423) that हैमवताः refers to the herbs that grow in the northern region.

¹⁸⁵ These activities are a symbolic way of showing reverence.

kings.

- Thus, that which is cooked with a thousand parts is called *sahasra-pāka*. One should collect fresh leaves of castor oil tree, ??, ??, weaver's beam tree, Indian beech, ??, and leadwort. These leaves should be completely pounded along with salt in a mortar. This mixture should be put in a pot filled with oil 187. It (pot) should be smeared 188 with cowdung. Thereafter, the pot should be heated. This (resultant) is the *patra-lavana* (leaf-salt) that is mentioned in wind disorders.
- In the same way, one should pound the stalks of ?? and eggplants smeared with salt and fill a pot with it.¹⁹⁰ In that pot, one should add ghee, oil, fat, and marrow. Then, one should smear it¹⁹¹ and heat it as earlier. This (resultant) is the *sneha-lavaṇa* (fat-salt) that is mentioned in wind disorders.
- One should collect the fresh fruits, roots, leaves, and branches of all the twenty [herbs]: ??, ??, Tellicherry bark, Bengal quince, purple calotropis, ??, ??, ??, ??, ??, ??, ??, ??, Indian beech, ??, poison berry, ??, marking-nut tree, ??, ??. One should then mix them with salt and heat them as earlier. 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 *plīhāgnisaṇga*, indigestion, loss of appetite, and piles.

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

Euphorbia Antiquorum (Antique spurge)

¹⁸⁶ In H, the ending नाम should be णाम due to sandhi.

¹⁸⁷ स्नेहघट can also mean a pot filled with ghee

¹⁸⁸ The H or vulgate do not specify with words that it is the pot to be smeared. But, it is to be understood.

¹⁸⁹ The word दाहयेत् usually refers to burning, but sometimes it can refer to heating.

¹⁹⁰ In H, there should be a visarga after लवणा.

¹⁹¹ As earlier, the pot should be smeared with cow-dung.

¹⁹² 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. 193

Translation

1 Now we shall describe the treatment of serious wind diseases.

2

- 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). 194 However, this is not correct. 195 Why? Just as leprosy, after spreading over a surface it (afflicted blood) becomes deeply situated. Therefore, its being of two different types is refuted.
- When the wind is aggravated by fighting a strong person, etc. 196, 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.

¹⁹³ HIML: IA, 266.

¹⁹⁴ Dalhaṇa comments (Su 1938: 424) that उत्तान refers to being situated in the skin and flesh, and अवगाढ refers to being situated internally.

¹⁹⁵ In H, the word तन् should be तत्.

¹⁹⁶ 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.¹⁹⁷ Later, it spreads throughout the body. Its early forms are pricking pain, burning, itching, ulcer, trembling¹⁹⁸, roughness of the skin, pulsation in the blood vessels, tendons, and tubular vessels¹⁹⁹, 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.
- 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.²⁰⁰ 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 uraria²⁰¹, 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, ??, ??, hare foot uraria²⁰², ??, wild asparagus, ??, and ??. This milk should then be used to cook oil with the admixture of pastes of ??, ??, ??, ??, deodar,

¹⁹⁷ In H, the word तन् should be तत्.

¹⁹⁸ In H, there should not have been the स् after स्तम्भ.

¹⁹⁹ In addition to blood vessels, it would also include the nerves.

²⁰⁰ In H, the reading अम्लान does not make sense given the context. Therefore, we have accepted the vulgate reading ম্লান for the translation.

²⁰¹ Dalhaṇa glosses (Su 1938: 425) śṛgālavinnā as pṛśniparṇī.

²⁰² According to Dalhaṇa, śṛgālavinnā is pṛśniparṇī.

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-flower²⁰³, ??, liquorice, giant potato, heart-leaf sida, country mallow, and ??²⁰⁴, with the admixture of cottony jujube, etc. Or, one should use the heart-leaf sida-oil that is cooked as *śatapāka*.²⁰⁵ 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.²⁰⁶ 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*²⁰⁷ separately with each of these powdered grains or pulses—barley, wheat, sesame, mung beans, or green gram that is mixed with unctuous pastes of cottony jujube, purple roscoea, ??, ??, heart-leaf sida, country mallow, hare foot uraria²⁰⁸, ??, ??, sugar, bulrush²⁰⁹, ??, and sweet flag. Or, the essence of unctuous fruits²¹⁰ can be used as a poultice. Or, a veśavāra²¹¹ prepared from the flesh of a fat ci*licima* fish²¹² can be used instead. Or, [one can use] the poultice contain-

203 Dalhaṇa glosses (Su 1938: 425) mayūraka as apāmārga.

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

²⁰⁴ Dalhana comments (Su 1938: 425) that sacred grass, ??, ??, ??, and ?? are called *tṛna* (grass).

²⁰⁵ 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.

²⁰⁶ Palhaṇa comments (Su 1938: 425) that the sour things (amla) are ??, ??, ??-water, etc. Surā is some kind of liquor, sauvīraka is perhaps the fruit of the jujube tree, and tuṣa is perhaps Terminalia Bellerica (विभीतक).

²⁰⁷ In the $Su\acute{s}rutasamhit\bar{a}$, the word for milk is $k\bar{s}\bar{i}ra$ or payas but not dugdha. Therefore, the word dugdha here can mean the sap of plants or something that is extracted.

²⁰⁸ śrgālavinnā

²⁰⁹ For kaśerukā

²¹⁰ Palhana comments (Su 1938: 425) that the unctuous fruits mentioned here are sesame, castor, flax, ??, etc.

²¹¹ 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.

²¹² 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

- ing Bengal quince-rind²¹³, crape jasmine, deodar, ??, ??, peas, costus, ??, liquor, yogurt, and whey. Or, [one can use] the ointment prepared by mixing citron, *amla*²¹⁴, salt, and ghee with honey and horseradish treeroot. Or else, [one can use] the unctuous sesame paste.
- 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].²¹⁵
 - [The patient] should be sprinkled with a decoction of ??, lotus stalk, ??, and ?? mixed with goat-milk²¹⁶, or with rice water that is mixed with milk, sugarcane juice, honey, and sugar, or with whey and sour rice gruel mixed with a decoction of grapes and sugarcane. Or else, [the patient] should be sprinkled with ghee that is prepared with *jīvanīya*²¹⁷ 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 ??, ??, ??²¹⁸, ??, ??, turmeric, horned pondweed, sacred lotus, etc. The poultice should be mixed with ghee.
- 9 The [condition of wind-blood] with a predominance of blood should be treated in the same way. Also, blood-letting should be done repeatedly.
- 10 However, when the [condition of wind-blood] has a predominance of

fat fish that is a ਜਲ (cilicima)".

Palhaṇa 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.

²¹³ The word पेसिका in H should be read पेशिका.

²¹⁴ Perhaps it could mean vinegar or sour curds. Refer to Monier Williams Sanskrit Dictionary.

²¹⁵ Dalhaṇa comments (Su 1938: 425) that the sweet remedies are cottony jujube, etc., bitter remedies are pointed gourd, etc., and astringent remedies are *triphalā*, etc.

²¹⁶ The compound word ending with कषायेण is taken to be a bahuvrīhi for अजाक्षीरेण (goatmilk).

²¹⁷ *Jīvanīya* seems to be a group of medicinal herbs. There is an Ayurvedic preparation called *jīvanīya-ghṛta*. Refer to the *Āyurvedīya Śabdakośa* vol. 1.

²¹⁸ तालीस should be read तालीश

phlegm, the patient should be made to consume a decoction of emblic and turmeric that is sweetened with honey, or a decoction of $triphal\bar{a}$, 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 acidic²¹⁹. 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, ??²²⁰, liquorice, ??²²¹, and ??.

The poultice should be made of either the paste of white mustard, or the paste of sesame and Withania, or the paste of ??²²², selu plum, and wood apple, or the paste of honey, horseradish tree, and hogweed,²²³ or the paste of dry ginger, long pepper, black pepper,²²⁴ ??, and poison berry.²²⁵ These five poultices are prepared with salty water. Thus, they have been described.

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.²²⁶

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].²²⁷ In this way, one should [reduce] all the long peppers. This is called *Pippalīvarddhamānakam* (Increasing Long Peppers). It indeed cures wind-blood, intense fever,²²⁸

The provisional edition should be modified accordingly.

²¹⁹ Reading the word सुक्त in H as शुक्त

²²⁰ Monier Williams states Rumex Vesicarius for śuktā

²²¹ DCS has this entry: Cryptolepsis buchananii Roem. et Schult. (Surapāla (1988), 453) Decalepis hamiltonii Wight et Arn. (Surapāla (1988), 453)

²²² According to V. S. Apte, दारु can mean देवदारु.

²²³ H has a short अ at the end instead of the long आ.

²²⁴ व्योषतिक्ता refers to the group of these three pungent spices. Also see Sūtrasthāna 14.35.

²²⁵ 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.

²²⁶ Ît means that the respective methods of treating the aggravation of individual humours should be combined.

²²⁷ In H, the letter ञ্ in भूयञ्च should have been য্.

²²⁸ Perhaps विषमज्वर could mean irregular fever.

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, bulrush,²²⁹ ??, ??, 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 ?? 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 eating²³⁰. 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.²³¹

There is immediate relief by the application of remedies such as these by which the physicians cure the chronic condition of wind-blood.

- Poultice, sprinkling [oil], plaster, oil massage,²³² spacious and comfortable rooms²³³ with no wind, soft pillows, comfortable beds, and soft massages are recommended in the condition of wind-blood.
 - Exercise, mating, anger, eating hot, sour, or salty foods, sleeping during the day, and food that is slimy or heavy should be avoided.
 - One should treat the person who is affected with spasmodic contraction,²³⁴ who does not have droopy eyes and crooked eyebrows, whose

²²⁰ H has कशेरुका.

²³⁰ Perhaps it means that one should eat foods cooked in that oil.

²³¹ The word भवति in H should have been भवन्ति.

²³² In H, the part व्यजनानिलाः 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.

²³³ In H, read the स सरणानि as श.

²³⁴ In H, the reading अपताकिनम् should have been अपतानकिनम्.

fingers have not become rigid, who is not perspiring or trembling, who is not in a state of delirium, who is not bed-ridden,²³⁵ and who is not restrained externally. There at the beginning itself,²³⁶ after rubbing the patient with oil and making him perspire, one should treat him with a strong *avapīḍa*²³⁷ 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 ??, 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*²³⁸ 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.²³⁹ Or else he should be made to sweat by [a mixture of] ??, *veśavāra*,²⁴⁰ and milk.

Oil cooked with the juice of radish, ??, ??, and ?? should be used in sprinking, etc. for patients with spasmodic contractions. ²⁴¹ Sour yogurt mixed with black pepper and drunk on an empty stomach alleviates spasmodic contractions. Or else, ghee, oil, body fat, or bone marrow

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

²³⁵ V. S. Apte has खद्मयति. The Āyurvedīya Śabdakośa has the entry खद्मापातिन् 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.

²³⁶ In H, प्रागैव should have been प्रागेव.

²³⁷ 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.

²³⁸ It refers to an admixture of substances to medicines either during or after decoction. Refer to Monier-Williams's Sanskrit dictionary.

²³⁹ H has the reading रथाकारचुल्ल्याम् that means "fireplace shaped like a chariot", but the vulgate reading रथकारचुल्ल्याम् makes more sense here. Thus, we have accepted it.

²⁴⁰ Refer the above text no.7 for *veśavāra*. In H, the syllable ਕੈ should have been ਕੇ.

²⁴¹ The word तैलम् is not present in H but is present in the vulgate. We have accepted it.

[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.²⁴² Milk prepared with wind-alleviating medicines. Gruel prepared with barley, ??, ??, 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.

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,²⁴³ 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.²⁴⁴ Anutaila should be used for massage.²⁴⁵ Sālvala should be used for poultice.²⁴⁶ heart-leaf sida oil should be used for oily enema. In this way, the unremitting patient should take the treatment for three to four months.

20

21

One should treat the patient with $ardita^{247}$ who is strong and possesses the means with the method prescribed in treating wind diseases. The unique thing is the treatment with enemas of the brain and the head, errhine, smoke, poultice, and steam bath through tubes. Then, one should take the great five roots ($pa\bar{n}cam\bar{u}l\bar{l}$) with grass and prepare its

Search for the section where the treatment of $\bar{a}k$ sepaka is described.

Make the first letter of sentence capital.

²⁴² 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.

²⁴³ According to P. V. Sharma, this refers to mild evacuatives (purgatives).

²⁴⁴ Refer Nidānasthāna 1.50-51 for ākṣepaka.

²⁴⁵ For the procedure of preparing anutaila, refer Cikitsāsthāna 4.28.

²⁴⁶ For the procedure of preparing *sālvala*, refer *Cikitsāsthāna* 4.14-15.

²⁴⁷ Refer Nidānasthāna 1.71-72 for ardita.

decoction in milk mixed with twice the water. Then, the decoction with the milk remaining²⁴⁸ should be brought down [the stove] and filtered. It should then be mixed with a $prastha^{249}$ 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 $k\bar{s}\bar{t}rataila$ that should be used in drinks, etc. for patients with ardita.

- In the diseases of <code>gṛdhrasī</code>, <code>viścañcī</code>, <code>kroṣṭukaśīrṣa</code>, <code>paṅgukalāya</code>, lameness, <code>vātakaṇṭaka</code>, burning sensation in the foot, numbness of the foot, <code>avabāhuka</code>, deafness, and <code>dhamanīvāta</code>, one should pierce the blood vessel as described earlier and, barring the case of <code>avabāhuka</code>, one should look up the treatment for wind diseases.
- However, in the case of *karṇamūla*,²⁵⁰ lukewarm juice of ??²⁵¹ mixed with liquorice, oil, and salt should be put into the ears.²⁵² Or else one can use goat urine, liquorice, and oil. Or else one can use oil that is cooked with citron, ??, ?? juice, and urine.²⁵³ 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.
- In the case of tūnī and pratitūnī, one should make the patient drink ghee and salt with hot water. Or else one should administer the powder of long pepper and other herbs with hot water. Or else one should make the patient drink ghee that is made thick with asafoetida and ??.²⁵⁴ One should also treat the patient with enemas.

²⁴⁸ It means that the water has evaporated.

²⁴⁹ Dalhana comments (Su 1938: 425) that a *prastha* is a measure of weight that is equal to 32 *pala-s*.

²⁵⁰ The vulgate has the reading कर्णशूले which appears to be a more credible reading according to the context.

²⁵¹ शङ्गवेर appears to be a name of ginger. Refer to the Sanskrit dictionary of Monier Williams.

²⁵² In H, the reading रसैः does not seem to make sense here. Hence we have accepted the vulgate reading रसम्.

²⁵³ In H, the word ਜੈਲ should have been ਜੈਲਸ਼ to make proper sense. The vulgate has this reading. Thus we have accepted it.

²⁵⁴ यवश्वार is an alkali prepared from the ashes of burnt green barleycorns. Refer to the Sanskrit dictionary of Monier Williams.

- In the case of ādhmāna,²⁵⁵ however, one should do avatarpaṇa,²⁵⁶ heating the hands, phalavartikriyā,²⁵⁷ stimulation of digestion, and [administer] digestives. One should also employ the purging of bowels and enemas. In the case of pratyādhmāna,²⁵⁸ one should employ vomiting, fasting, and stimulation of digestion.
- 27 In the case of aṣṭhīlā and pratyaṣṭhīlā,²⁵⁹ the procedure is that of gulma and internal abscess.
- The beneficial asafoetida, the three pungent spices (long pepper, black pepper, and dry ginger), sweet flag, ?? grains, ??, ??, velvet-leaf, leadwort, ??, rock salt, ??, ??, ??, natron, long pepper root, ??, ??, ??, ?? (juniper berry), and ?? (cumin seeds) should be powdered. This powder should be mixed with a lot of citron juice. Then it should be made into pills each weighing one akṣa. Thereafter the patient of wind disease should consume one pill every morning. This medicine indeed cures gulma, rapid breathing, cough, loss of appetite, heart disease, ādhmāna, pārśvodara, 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 humours²⁶⁰ and should be cured accordingly.

The wind that is accompanied by fat causes a swelling that is painful, hard, and cold. The physician should properly treat it like a

²⁵⁵ Refer to *Nidānasthāna* 1.88. V. S. Apte explains it as "swelling of the belly". P.V. Sharma has translated it as flatulence.

²⁵⁶ We are unclear about its meaning. The vulgate has the reading अपतर्पण that means fasting.

²⁵⁷ 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.

²⁵⁸ Refer to *Nidānasthāna* 1.89. According to the Sanskrit dictionary of Monier Williams, it is a kind of tympanites or wind-dropsy.

²⁵⁹ Refer to Nidānasthāna 1.90 and 1.91.

²⁶⁰ In H, the reading लक्षणोन्याम् ४ does not make sense. Hence I cannot translate it. Perhaps the correct reading could be लक्षणाभ्याञ्च. This would connect with the two conditions of the wind as stated in the verse.

- treating a swelling.
- 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.
- Also, the thighs become pained, stiff, cold, and do not quiver due to sleep. They become heavy and as if belonging to someone else.²⁶¹
- That is called ūrūstambha. Others call it āḍhyavāta. In that case, one should drink the ṣandharaṇa powder with cool water.
- 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 ??.
- 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.²⁶²

One should eat old ??s, ??, etc. along with uncooked $etacket{263}$ flesh of wild animals and unsalted vegetables that are beneficial.

When the phlegm and fat become amply reduced one should again employ the treatment of oil massage, etc. for the patient.

²⁶¹ 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.

²⁶² The word दिहेत् in H is not a proper Sanskrit word. We have taken its proper form दिह्यात् as given in the vulgate.

²⁶³ 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 $2002.^{264}$ Das made observations about the afterbirth ($apar\bar{a}$) that is mentioned in 4.15.17 (Su 1938: 432). Selby has explored gyencological narratives in ayurveda. 266

Translation

- 1 And now we shall explain the difficult delivery medically treated.
- 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.

²⁶⁵ Das 2003: 517.

²⁶⁶ Selby 2005*a*,*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.
- 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 *śālmalī* - 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 (तियेक्चीनस्य ?) 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.
- But, the live fetus should not be torn apart in any case. As, the live fetus may kill the mother and self soon.
- 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(अङ्गलिशस्त्र); 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.
- For, irritated wind causes different movements of the fetus. In this situation, the wise physician should act intelligently.
- 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 1: Protecting the King from Poison

Introduction

The first chapter of the Kalpasthāna of the *Suśrutasaṃhitā* 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.²⁶⁷

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.²⁶⁸

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

exhibits characteristic signs when added to milk and other drinks.²⁶⁹ 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.²⁷⁰ Translations of this chapter since Meulenbeld's listing have appeared by Wujastyk (2003*b*: 131–139), P. V. Sharma (1999–2001: 3, 1–15), and Srikantha Murthy (2000–02).²⁷¹

Manuscript notes

 MS Kathmandu NAK 5-333 has foliation letter numerals, for example on f. 323a, that are similar to MS Cambridge Add. 1693,²⁷² dated to 1165 CE noted in Bendall's chart of Nepalese letter-numerals Bendall 1883: Lithograph V, after p. 225

²⁶⁹ Cf. *Arthaśāstra* 1.21.6 again.

²⁷⁰ HIML: IA, 289–290.

²⁷¹ For a bibliography of translations to 2002, including Latin (1847), English (1877), Gujarati (1963) and Japanese (1971), see HIML: IB, 314–315.
272 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.²⁷³

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.²⁷⁴

[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.²⁷⁵
 - 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.²⁷⁶
 - 273 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).
 - 274 This is a quite different statement from the vulgate which has Dhanvantari as the teacher, and calls him the Lord of Kāśī (kāśipati) (Su 1938: 559). Dalhaṇa followed the vulgate but explicitly noted the reading before us with small differences: दिवोदासः क्षितिपतिस्तपोधर्मश्रुताकरः "Divodāsa, the king of the earth, was a mine of traditions about discipline and virtue."
 - 275 Verses about the use of Venemous Virgins as a weapon do not appear in the Nepalese manuscripts. Cf. Wujastyk 2003*b*: 81 f., 132. This material is present in the commentary of Gayadāsa.
 - 276 The verb $\sqrt{\text{s}}$ svas 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,²⁷⁷ have clean utensils and be staffed by men and women who have been vetted.²⁷⁸
- 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.²⁷⁹
- 18cd–19ab An expert knows people's body language (*ingita*) through abnormalities in voice, movement and facial expression. He should be able to identify a poisoner by the following signs.

Cf. Arthaśāstra 1.21.8.

- 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.²⁸⁰ A poisoner goes the wrong way and is absent-minded.
 - I shall explain the signs to look for in toothbrush twigs, in food and drink as well as in massage oil (abhyaṅga) and combs (avalekhana); in dry rubs (utsādana) and showers, in decoctions (kaṣāya) and massage ointment (anulepana); in garlands (sraj), clothes, beds, armour and ornaments; in slippers and footstools, and on the backs of elephants and horses; in 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)

²⁷⁷ We read महच्छुचिः with the Nepalese manuscripts and against the vulgate's महच्छुचि. We understand शुचिस् as a neuter noun meaning "light" following Apte (Apte: 1050a).

²⁷⁸ Verses detailing the ideal staff are omitted in the Nepalese manuscripts. Cf. Su 1938: 560; Wujastyk 2003*b*: 132.

²⁷⁹ 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-gṛhyasūtra* 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).

²⁸⁰ The word ध्याम is glossed by Dalhaṇa (in a variant reading) as someone who is the colour of dirty clothes 5.1 (Su 1938: 560).

- 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.²⁸¹ 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.²⁸² The chital deer sheds tears and the monkey releases excrement.²⁸³
- Vapour rising from tainted food gives rise to a pain in the heart, it makes the eyes roll, and it gives one a headache.²⁸⁴
- 35, 36cd In such a case, an errhine and a collyrium that are costus, ??, spikenard and honey (*madhus*);²⁸⁵ a paste of sandalwood on the heart may also provide relief.²⁸⁶
 - 281 The verb अच्छिति "rises up" is a rare form best known from epic Sanskrit (see Oberlies 2003: 212, §7.6.1). The transmitted form क्रोञ्च is obviously a colloquial version of Sanskrit क्रोञ्च. Commenting on 1.7.10 (Su 1938: 31), Dalhaṇa interestingly gives the colloquial versions of several Sanskrit bird names, even singling out pronunciation in the specific location of Kāṇyakubja. For क्रोञ्च he says that people pronounce it कुरञ्ज and क्रोचि. The form कोञ्च is found in Pāli (see Cone 2001: 731, who notes that Ardhamāgadhī has the same form). Elsewhere, Dalhaṇa calls the bird क्रोञ्चिर, क्रोञ्च, and कैचर (1.46.105 (Su 1938: 223), 6.31.154 (Su 1938: 684) and (6.58.44 (Su 1938: 790) respectively).
 - 282 Dalhana 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."
 - 283 MS Kathmandu KL 699 reads "bull (বৃषभ)" 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.
 - 284 "Tainted" translates उपिक्षप्त. The word's semantic field includes "to hurl, throw against," and especially "to insult verbally, insinuate, accuse." The commentator Dalhaṇa glossed the term as, "spoiled food given to be eaten" (विदूषितस्यान्नस्य 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 Dalhaṇa's "given (दत्त)."
 - 285 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.
 - 286 **sing-1972** discussed the difficulties in identifying लामज्ज, a plant cited more often in the *Suśrutasaṃhitā* than in the *Carakasaṃhitā*; Dalhaṇa adopted the common view that

- 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.²⁸⁷
- 38–39 If he eats that food, through inattention or by mistake, then his tongue will feel like a pebble ($asthīl\bar{a}$) and it will lose its sense of taste. It stings and burns, and his saliva ($\acute{s}lesman$) dribbles out. ²⁸⁸ In such a case, he should apply the treatment recommended above for vapour ($b\bar{a}spa$), and what will be stated below under "toothbrush twigs". ²⁸⁹
 - On reaching his stomach, it causes stupor $(m\bar{u}rcch\bar{a})$, vomiting, the hair stands on end, there is distension, a burning feeling and an impairment of the senses.²⁹⁰
 - In this case, vomiting must quickly be induced using the fruits of emetic

- 287 "Beautyberry" (Callicarpa macrophylla Vahl.) is one identification of श्यामा, but vaidyas and commentators have different ideas about the plant's identity (see glossary). On translating इन्द्रगोप as "velvet-mite," see Lienhard 1978. Dalhana's remarks show that he had a reading इन्द्रागोपा before him, and he tries to explain इन्द्रा and गोपा as separate plants. But he also says that some people read इन्द्रगोप. Dalhana curiously parsed the name सोमा (f.) out of the compound; this feminine noun is almost unknown to Ayurvedic literature. Some dictionaries and commentators consider it a synonym for गुडूची, others for ब्राह्मी or चन्द्रतरु. 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).
- 288 The word সম্বীলা is normally feminine. The Nepalese manuscripts read it with a short अ- ending. Gayadāsa noticed that some manuscripts read সম্বীল 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 facilior), but is not attested in the Nepalese manuscripts.
- 289 Poisoned toothbrushes are discussed in verses 48 ff. below.
- 290 I translate मूच्छा in the light of the metaphors discussed by Meulenbeld (2011), that include thickening and losing consciousness.

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."

nut, gourd, red gourd, and luffa, taken with milk and watered butter-milk, or alternatively with rice-water.

- Reaching the intestines ($pakv\bar{a}\acute{s}aya$), it causes a burning feeling, stupor, diarrhoea, thirst, impairment of the senses, flatulence ($\bar{a}\acute{t}opa$) and it makes him pallid and thin.
- In such a case, purgation with the fruit of indigo $(n\bar{\imath}l\bar{\imath})$, together with ghee, is best. And 'slow-acting poison antidote $(d\bar{u}\bar{\imath}\bar{\imath}vi\bar{\imath}\bar{a}ri)$ ' should be drunk with honey and curds (dadhi).²⁹¹
- When poison is in any liquid substances such as milk, wine or water, there are various streaks, and foam and bubbles form.
- And no reflections are visible or, however, if they can be seen once more, they are distorted, fractured, or tenuous and distorted too.²⁹²
- Vegetables, soups, food and meat are soggy and tasteless. They seem to go stale suddenly, and they have no aroma.
- 47 All edibles lack aroma, colour or taste. Ripe fruits rapidly rot $(pra\sqrt{kuth})$ and unripe ones ripen.²⁹³
- When a toothbrush twig has poison on it, the bristles are corroded and the flesh of the tongue, gums and lips swells up.²⁹⁴
- 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.²⁹⁵
- 50 Alternatively, the rubbing (*pratisāraṇa*) can be done with either the roots of sage-leaved alangium, the bark of blackboard tree or siris

I'm still unhappy about this

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

fn about sadyas+

²⁹¹ The 'slow-acting poison' is discussed at 5.2.25 ff. (Su 1938: 565).

²⁹² 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.

²⁹³ The root ्रकुथ् "stink, putrify, rot" is apparently known only from its few uses in the Suśrutasamhitā.

²⁹⁴ Gayadāsa and Dalhaṇa pointed out that "tooth socket (दन्तवेष्ट)" and "gum (दन्तमांस)" have the same meaning (2.16.14–26 (Su 1938: 331–332)).

²⁹⁵ This recipe is different from the vulgate.

seeds.296

- One should give advice about a poisoned tongue-scraper or mouthwash (*kavala*) in the same way as for a toothbrush twig.
- 51cd Massage oil that has been laced with poison is slimy, thick and discoloured.
 - When the massage oil has been contaminated with poison, boils arise, pain, a discharge $(sr\bar{a}va)$, inflammation of the skin, and sweating.²⁹⁷ And the flesh splits open.
- 53–54 In such a case, sandalwood, crape jasmine, costus, and cuscus grass, bamboo leaves, heart-leaved moonseed and heart-leaved moonseed, white clitoria, sacred lotus, and Indian barberry should be made into an ointment (*anulepana*) for the patient, who has been sprinkled with cold water. That is also recommended as a drink with the juice and leaves of wood apple.²⁹⁸
 - 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 (*abhy-aṅga*).²⁹⁹
- 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, 300 ghee, beautyberry,301 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.302

Bear's bile instead of deer's bile.

²⁹⁶ The spelling of the name अङ्कोल varies अङ्कोट, अङ्कोठ, अङ्कोल (GVDB: 5); Dalhaṇa noted that the form अङ्कोल is a colloquialism (1.37.12 (Su 1938: 161)). The sentence is awkward and we have emended হিাरীখদাঘক to be a plural, as in the vulgate, rather than the ablative singular of the Nepalese witnesses. We follow Dalhaṇa in interpreting the compound to refer to the distinctive bean-like siris seeds, rather than to mung beans (5.1.50 (Su 1938: 562)).

²⁹⁷ The feminine स्फोटा for "boils" is unattested.

²⁹⁸ 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.

²⁹⁹ See verse 52 above.

³⁰⁰ Dalhaṇa comments here that 'bile is that fluid which goes along inside the tube attached to the liver' (कालखण्डलग्रनलिकामध्यगतजलं पित्तम्) 5.1.57 (Su 1938: 562).

³⁰¹ See note 287.

³⁰² The plant identifications in this passage follow Dalhana's glosses, although he noted

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 (padminīkaṇṭaka).³⁰³ In this case, the drink is honey and ghee, and the ointment (pralepa) is sandalwood with ghee, curds, honey, verbena, scarlet mallow and hogweed.³⁰⁴
- 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 (*linga*) 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 Him-
 - 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 errhine.
 - 65cd–66 Flowers lose their fragrance and colour, and wilt. On smelling them, he gets a headache and his eyes fill with water. In this case, the treatment is what was proposed above for vapour $(b\bar{a}spa)$ 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

a difference of opinion on the identity of woodrose (lit. "mouse-ear").

punarṇṇavā in the N & K MSS

śrita for śṛta

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 (2008: 443). Cf. note 396, p. 121.

³⁰³ 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.

³⁰⁴ 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.

98

explain môre

Medical ence 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 prāpta are hard to translate. prāptāḥ → kṣipraṃ is an example of the vulgate banalizing the Sanskrit make sense of a difficult passage.

(also elsewhere and for the ears), causative optatare also recommended as something good.³⁰⁵

- When poison is mixed in with eye make-up (añjana), he gets tears and rheum (upadeha), with a burning feeling, pain, faulty vision (*dṛṣtivibhrama*), and possibly even blindness.³⁰⁶
- In this case, one must immediately drink ghee and have it also in an eyewash (tarpana) 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 (sphota) on the feet. One should clean $(pra\sqrt{s\bar{a}dh})$ footstools together with slippers.
 - Ornaments lose their lustre, and they do not shine as they used to. They damage their respective locations with burning, sepsis (pāka), and fissuring (avadārana).³⁰⁷
 - 75ab One should apply the stated procedure for massage oil (abhyanga) to poisoned slippers and ornaments.
- In the case of the affliction (upasarga) by poison which has been de-75cd-76 scribed 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.³⁰⁸
- He should prescribe it in drinks, liniments (*ālepana*), errhines (*nasya*), 77–78ab 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.³⁰⁹

³⁰⁵ The syntax of the Nepalese version is slightly unclear, but the vulgate has smoothed out the difficulties.

³⁰⁶ The term translated as "faulty vision" could also mean "rolling eyes." "Eye make-up" is normally made of Indian barberry.

³⁰⁷ The reading अवदारुण in MS Kathmandu KL 699 is not attested elsewhere in Sanskrit literature. On "sepsis" for पाक, see Wujastyk 2003b: xlv-xlvi.

³⁰⁸ 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.

³⁰⁹ In early Ayurvedic literature, the plant अजरुहा is mentioned only here and its identity

79cd–80 He should always guard his heart when amongst people who are not his friends.³¹⁰ Before eating, he should drink the kinds of ghee called "Invincible" and "Immortal".³¹¹ 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,³¹² 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.³¹³
 - 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.

is unknown. It may be a fern of the Nephrodium family, according to T. B. Singh and Chunekar (GVDB:7). Dalhaṇa, on 5.1.78 (Su 1938:563), cited a description of the two plants from the little-known authority Uśanas (HIML: IA, 660 et passim) who described अजरुहा as a white root with spots on it that looks like collyrium when it is split; when drunk with sandalwood it causes poison to be digested.

³¹⁰ The Carakasaṃhitā 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)). Dalhaṇa 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).

³¹¹ These ghee compounds are described in later chapters: see 5.2.47–49 (Su 1938: 566) and 5.6.13 (Su 1938: 581).

³¹² Dalhana on 5.1.82 (Su 1938: 563) equated this with turpeth.

³¹³ 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, Dalhana, remarked,

In spite of having made the greatest effort, it has been impossible to identify these plants. In the Himalayan regions, Kirātas and Śabaras are able to identify them.³¹⁴

Dalhaṇa also recorded variant readings of these poison names from the manuscripts that he consulted of the lost commentary of Gayadāsa (fl. c. CE 1000). The identities of these poisons have been in doubt for at least a thousand years.³¹⁵ 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.³¹⁶

³¹⁴ After *Suśrutasaṃhitā, kalpasthāna* 2.5 (Su 1938: 564). From the view of Sanskrit authors, Kirāṭas and Śabaras 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).

³¹⁵ See Wujastyk 2003*b*: 80–81.

³¹⁶ 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 2002.³¹⁷

Translation

- 1 And now I shall explain what should be known about stationary poisons.³¹⁸
- 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 $(k \le \bar{i} r a)$, pith $(s \bar{a} r a)$, resin $(n i r y \bar{a} s a)$, the elements $(d h \bar{a} t u)$, and the tuber.
- 5 In that context,
 - the eight root-poisons are:³¹⁹
 - 1. liquorice (?),320
 - 2. sweet-scented oleander,³²¹
 - 3. jequirity,322
 - 4. false daisy,³²³

³¹⁷ HIML: IA, 290-291.

³¹⁸ 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.

³¹⁹ 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).

³²⁰ Liquorice eaten in excess can be poisonous, but it is unlikely to be the plant intended here. T. B. Singh and Chunekar (GVDB: 124) noted that the poisonous root mentioned in this passage, "remains to be identified."

³²¹ The roots of sweet-scented oleander are highly toxic, as are most parts of the plant (Pillay and Sasidharan 2019).

³²² 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.

³²³ 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. (?),³²⁴ and ending with
- 6. ??,325
- 7. country sarsaparilla (?),326 and
- 8. medhshingi,³²⁷
- 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,
 - reņuka (?)ii,
 - kurūkaka (?)iii,
 - 'little bamboo' (venuka) iv, 328,
- 324 This poisonous root cannot at present be securely identified. Similar-sounding candidates include <code>karkaṭaka</code>, <code>karahāṭa</code> (emetic nut), and <code>karaghāṭa</code>, 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 <code>karaṭa</code> (mn.) with safflower (<code>Carthamus tinctorius</code>, L.), but this plant does not have a poisonous root.
- 325 The roots of both rose and white leadwort are very toxic.
- 326 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.
- 327 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 (**mchu-2021a**; Meulenbeld 1989; Wujastyk 2002). The *Sauśrutanighaṇṭu* gives a number of synonyms for *vijayā*, almost none of which have any poisonous parts (Suvedī and Tīvārī 2000: 5.77, 10.143). But one of them, *viṣāṇī* (also *meṣaśṛṇgī*), is sometimes equated with *Dolichandrone falcata* (*DC*.) *Seemann* (ADPS: 518), a plant used as an abortifacient and fish poison (**nadk-1982**). This identification is tenuous.

328 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 $(vall\bar{\imath}ja \rightarrow marica)^{xi}$,
 - thorn apple (karambha)xii, and
 - big thorn apple (mahākarambha)^{xiii};
- the seven bark, pith $(s\bar{a}ra)$ and resin $(niry\bar{a}sa)$ poisons are:
 - 'gutboiler' (antrapācaka) xiv,
 - 'blade' (kartarīya)^{xv},
 - wild mustard (saurīyaka)^{xvi},
 - emetic nut $(karagh\bar{a}ta \rightarrow karah\bar{a}ta? \rightarrow madana)^{xvii}$,
 - thorn apple (*karambha*)^{xviii},
 - wild asparagus ($nandana \rightarrow bahuputr\bar{a}$?) 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

xviiiDatura 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};³²⁹
- the three milky sap $(k \bar{s} \bar{t} r a)$ -poisons are:
 - purple calotropis ($kumudaghn\bar{i} \rightarrow arka?$) xxi , 330
 - oleander spurge (*snuhī*)^{xxii}, and
 - 'web-milk' (jālakṣīri)^{xxiii};
- the two element $(dh\bar{a}tu)$ -poisons are:
 - 'foam-stone' (phenāśma) xxiv, and
 - orpiment (haritāla)^{xxv};³³¹
- the thirteen tuber-poisons are:
 - jequirity (*kālakūta*)^{xxvi},³³²
 - wolfsbane (vatsanābha)^{xxvii},

- 330 The name of this poison, <code>kumuda-ghnī</code>, means 'lotus killer'. In Sanskrit literature, the <code>kumuda</code> 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, <code>arka</code>, is also the name of <code>Calotropis gigantea</code>, which indeed has a milky juice which is a violent purgative, poison and abortifacient.
- 331 Dutt (Dutt: 38–42) conjectured that 'foam-stone' may be impure white arsenic obtained by roasting orpiment.
- 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
xxiiiunknown; see ?
xxivunknown; see ?
xxv Arsenii trisulphidum; see NK v. 2, p. 20 ff.
xxviAbrus precatorius, L.? Cf. RRS 21.14.; see AVS 1.10, NK #6, Potter 168.
xxviAconitum napellus, L.; see AVS 1.47, NK #42, Potter 4 f.
```

³²⁹ The bark of wild asparagus (Asparagus racemosus, Willd.) is toxic.

- Indian mustard (sarṣapa) xxviii
- leadwort $(p\bar{a}laka \rightarrow citraka)^{xxix}$,
- 'muddy' (kardama) xxx, the
- 'Virāṭa's plant' (vairāṭaka)^{xxxi},
- nutgrass (*mustaka*)^{xxxii},
- atis root (śṛṇgīvisa) xxxiii
- sacred lotus (prapuṇḍarīka) xxxiv,
- radish (*mūlaka*)^{xxxv},
- 'alas, alas' (hālāhala) xxxvi,
- 'big poison' (*mahāviṣa*)^{xxxvii}, and
- galls (karkaṭa) xxxviii.333

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,

```
xxviBrassica juncea, Czern. & Coss.; see AVS 1.301, NK #378
xxixPlumbago zeylanica (indica? rosea?), L.; see Rā. 6.124, ADPS 119, NK #1966, 1967
xxx unknown; see ?
xxxiunknown; see ?
xxxiCyperus rotundus, L.; see ADPS 316, AVS 2.296, NK #782
xxxiAconitum heterophyllum, Wall. ex Royle; see AVS 1.42, NK #39
xxxiNelumbo nucifera, Gaertn.; see Dutt 110, NK #1698
xxxxRaphanus sativus, L.; see NK #2098
xxxwinknown; see Cf. Soḍhalanighantu p.43 (sub bola) = stomaka = vatsanābha
xxxwinknown; see ?
xxxvRius succedanea, L.; see NK #2136
```

³³³ 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 (\$halahala\$) 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 \$halahala\$, 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 \$halahil\$ 'deadly (poison)' as a loan from Sanskrit). KEWA: iii.585 also cites a claim for an Austro-Asiatic origin for the word.

writhing, and wheezing (śvāsa).

Fruit-poisons cause swelling of the scrotum, a burning feeling and writhing. Flower-poisons will cause vomiting, distension ($\bar{a}dhm\bar{a}na$) and sleep ($sv\bar{a}pa$).

The consumption of poisons from bark, pith $(s\bar{a}ra)$ and resin $(niry\bar{a}sa)$ will cause foul breath, hoarseness $(p\bar{a}ru\bar{s}ya)$, a headache, and a discharge of phlegm (kapha).³³⁴

The milky sap $(k \circ \bar{\imath} ra)$ -poisons make one froth at the mouth, cause loose stool, and make the tongue feel heavy.³³⁵ The element $(dh \bar{\imath} tu)$ -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 $(k\bar{a}lak\bar{u}\!\!\!/ta)^{xxxix}$, there is numbness and very severe trembling. With wolfsbane $(vatsan\bar{a}bha)^{xl}$, there is rigidity of the neck, and the faeces, and urine become yellow.

With sārṣapa ($s\bar{a}rṣapa$),³³⁶ the wind becomes defective ($v\bar{a}tavaiguṇya$), there is constipation ($\bar{a}n\bar{a}ha$), and lumps (granthi) start to appear. With leadwort ($p\bar{a}laka \rightarrow citraka$)^{xli}, there is weakness in the neck, and speech gets jumbled.³³⁷

³³⁴ At 1.2.6 (Su 1938: 11), Palhaṇa glosses hoarseness (*pāruṣya*) as *vāgrūkṣatā*, "a rough, dry voice."

³³⁵ At 6.54.10 (Su 1938: 773), Dalhaṇa glosses loose stool (viḍbheda) as dravapurīṣatā, "having liquid stool."

³³⁶ *Sārṣapa* would normally mean "connected with mustard," and excessive consumption of mustard oil can be harmful. However, the *Sauśrutanighaṇṭu* (156) gives *rakṣoghnā* as a synonym for *sarṣapā*. This can be *Semecarpus anacardium*, L.f., which has some poisonous parts.

³³⁷ The verse in the Nepalese version ends with a plural verb that does not agree with the dual of the sentence subject.

xxxiAbrus 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).³³⁸

- With great aconite (*mahāviṣa*) one's limbs grow weak, there is a burning feeling and swelling of the belly.³³⁹
- 16a With puṇḍarīka (puṇḍarīka), one's eyes go red, and one's belly becomes distended.³⁴⁰
- 16b With mūlaka ($m\bar{u}$ laka), one's body is drained of colour and the limbs are paralysed.³⁴¹
- 17a With hālāhala (*Aconite*), a man turns a dark colour (*dhyāma*), and gasps.³⁴²
- 17b With atis root $(\dot{s}\dot{r}\dot{n}g\bar{\imath}v\dot{\imath}\dot{s}a)^{xliv}$, one gets violent knots (granthi) and stabbing pains in the heart.³⁴³
- 18a With markaṭa (monkey), one leaps up, laughs, and bites.344
 - 338 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.
 - 339 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.
 - 340 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 Chunekar (GVDB: 252) noted that this poison is unidentified and that it is also listed as a poison in Carakasaṇḥitāci.23.12.
 - 341 The word *mūlaka* very commonly means the radish, *Raphanus sativus*, L. The root is edible and cannot be the poison intended here. T. B. Singh and Chunekar (GVDB: 317) noted that this poison is unidentified.
 - 342 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. (*Soḍhalanighantu* p.43). Dalhaṇa 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.
 - 343 T. B. Singh and Chunekar (GVDB: 407) noted that *vatsanābha* and *śṛṅgīviṣa* are two different varieties of poisonous Aconites that are difficult to distinguish.
 - 344 T. B. Singh and Chunekar (GVDB: 299) said of markaṭa, "an unidentified vegetable

xlii unknown; see?

xliii unknown; see?

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

-> ativișa

Look up the ca. reference.

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.³⁴⁵
 - Because it is fast-acting it kills quickly, and because of its pervasiveness it affects one's whole physical constitution (prakrti).³⁴⁶ Because of its expansiveness it enters into the humour (doṣa)s, bodily constituents $(dh\bar{a}tu)$ 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.
 - 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 Tīvārī 2000: v.36 for synonyms that lead to the non-toxic jujube tree.

³⁴⁵ We read the active *vikaroti* with Palhana against the transmitted passive *vikriyeta*, since it must be the parts of the body that are distorted, not the poison.

³⁴⁶ Palhaṇa on 5.2.22 (Su 1938: 565) explained this as "takes the form of pervading the whole body (akhiladehavyāptirūpam)."

- by itself,³⁴⁷ becomes a slow-acting poison $(d\bar{u}$, \bar{s} \bar{v} i, \bar{s} a).³⁴⁸ 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.³⁴⁹
- 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.³⁵⁰ and it rapidly becomes inflamed on days that are nasty because of cold and wind.
- 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*).³⁵¹ 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*),³⁵² dwindling away (*kṣaya*) of flesh, swelling of the feet, hands, and face, the fever called *pralepaka*, vomiting and diarrhoea.³⁵³ The slow-acting poison might cause wheezing, thirst and fever, and it might also cause distension of the abdomen.
 - These various disorders are of many different types: one poison may produce madness, while another one may cause constipation $(\bar{a}n\bar{a}ha)$, and yet another may ruin the semen. One may cause emaciation, while

³⁴⁷ Dalhana specified that this refers to the ten qualities that are mentioned above (5.2.26 (Su 1938: 565)).

³⁴⁸ Dalhana cited this verse at 1.46.83 (Su 1938: 222) while explaining dūṣīviṣa.

³⁴⁹ 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.

³⁵⁰ The expression *ayathāyathoktān* "stated to be unsuitable" is hard to understand here, but is clearly transmitted in the Nepalese version.

³⁵¹ Dalhaṇa 5.2.30ab (Su 1938: 565) glossed "disjunction" as the loss of function of the joints in regard to movement.

³⁵² The last ailment could perhaps be ringworm.

³⁵³ The *pralepaka* fever was described by Dalhana, 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).
- Something is "corrupted" by repetitively keeping to bad locations, times, foods, and sleeping in the daytime. Or, traditionally, "corrupting poison" (slow-acting poison $(d\bar{u}s\bar{\imath}-visa)$) is so called because it may corrupt $(d\bar{u}sayet)$ the body tissue $(dh\bar{a}tu)s$.

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.
- In the second, he trembles, feels exhausted, has a burning feeling, as well as a sore throat. When the poison reaches the stomach $(\bar{a}m\bar{a}\hat{s}aya)$, it causes pain in the chest (hrd).
- In the third,his palate goes dry, he gets violent pain (\dot{sula}) in the stomach $(\bar{a}m\bar{a}\dot{s}aya)$, and his eyes become weak, swollen and yellow.
- In the fourth shock, it causes the intestines and stomach to be exhausted $(s\bar{a}da)$, he gets hiccups, a cough, a rumbling in the gut (antra), and his head becomes heavy too.
- 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.³⁵⁴

Remedies for the stages of slow poisoning

- 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.
- In the second, he should make the man who has vomited and been purged drink as before;

³⁵⁴ Here at 5.2.24 (Su 1938: 566) Dalhaṇa glossed sannirodha as "complete cessation, i.e., of breath" (sannirodhaḥ samyannirodhaḥ, ucchvāsasya iti śeṣaḥ). The manuscripts all read skanda where skandha must be intended; this confusion is known from Buddhist Hybrid Sanskrit (Edgerton 1953: 608).

- on the third, drink an antidote and a beneficial nasal medicine (nasya) as well as an eye salve ($a\tilde{n}jana$).
- 42a In the fourth, the physician should make him drink an antidote that is salt with a little oil.³⁵⁵
- In the fifth, he should be prescribed the antidote together with a decoction $(kv\bar{a}tha)$ of honey and liquorice.
 - In the sixth, the cure (*siddhi*) is the same as for diarrhoea. And in the seventh, he perishes.³⁵⁶
- In between any one of these shocks, once the above treatment has been done, he should give the patient the following cold gruel $(yav\bar{a}g\bar{u})$ together with ghee and honey, that will take away the poison.
- 45–46 A gruel $(yav\bar{a}g\bar{u})$ made of the following items in a stewed juice $(ni\hbar k v\bar{a}tha)$ destroys the two poisons: luffa gourd, wild celery, wild celery, sunflower, heart-leaved moonseed, myrobalan siris, and selu
 - 355 At 6.52.30 (Su 1938: 769) Dalhana noted that *sindhu* can be interpreted as salt (*saindhava*).
 - 356 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 अवसीदेत to the vulgate's अवपीड्य. The vulgate version is hard to construe, and we see Dalhana 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 2003*b*: 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. Perhaps the therapy migrated into the vulgate *Suśrutasaṃhitā* from the *Carakasaṃhitā* 6.23.66–67 (Ca 1941: 574).
 - 357 At 4.10.8 (Su 1938: 449) Dalhaṇa glossed कोशवती as देवदाली and at 4.18.20 (Su 1938: 472) as कटुकोशातकी, vocabulary pointing to Cucumis cylindrica, Cucumis actangula or Luffa echinata. See glossary under luffa.
 - 358 A plant often cited in <code>Suśrutasaṃhitā</code>, but rarely in <code>Carakasaṃhitā</code> (GVDB: 4). Dalhaṇa glossed it here, 5.2.45 (Su 1938: 566), as <code>ajamodā</code>, wild celery, but noted that others consider it to be <code>moraṭa</code>, rajmahal hemp. There is considerable complexity surrounding the identification of <code>moraṭa/mūrvā</code> and related synonyms (GVDB: 314-316). Taking <code>agnika</code> as a short reference to <code>agnimantha</code>, often identified as migraine tree, might be plausible, since that is antitoxic or anti-inflammatory, but such a short reference is not known elsewhere.
 - 359 At 5.2.45 (Su 1938: 566) Dalhaṇa said that this plant has leaves like the *paṭola*, pointed gourd, T. B. Singh and Chunekar (GVDB: 280, 443) argued plausibly that this is a syn-

plum, white siris, the two kinds of turmeric,³⁶⁰ and the two kinds of poison berry,³⁶¹ hogweed, peas, the three heating spices, the two kinds of Indian sarsaparilla³⁶² and blue water-lily.

onym for *arkapuṣpī*, panacea twiner, as Þalhaṇa 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).

³⁶⁰ I.e., turmeric and Indian barberry.

³⁶¹ I.e., poison berry and yellow-berried nightshade.

³⁶² I.e., country sarsaparilla and black creeper.

The invincible ghee

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 turmerics,³⁶³ the two Indian nightshades,³⁶⁴ the two kinds of Indian sarsaparilla,³⁶⁵ beggarweed, and heart-leaf sida.

Curing the 'slow-acting' poison

- 50–52 Someone suffering from "slow-acting poison $(d\bar{u}s\bar{v}isa)$ " 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 $(d\bar{u}_{\bar{s}\bar{l}vi\bar{s}\bar{a}ri})$," and it is not prohibited in other situations.
- 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 antitoxic medicines.
 - For a prudent person, the slow-acting poison can be cured ($s\bar{a}dhya$) immediately. It is treatable ($y\bar{a}pya$) if it is of a year's standing. Other than this, it should be avoided for the person who eats unwholesome things.

³⁶³ I.e., turmeric and Indian barberry.

³⁶⁴ I.e., poison berry and yellow-berried nightshade.

³⁶⁵ 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 2002.³⁶⁶

Translation

- 1 And now we shall explain the rule (*kalpa*) that is the required know-ledge about mobile poisons.³⁶⁷
- The full explanation about the sixteen carriers (*adhiṣṭhāna*) of the mobile poisons, that have been mentioned by me in brief, will be stated.³⁶⁸
- 4 In that context, they are:³⁶⁹
 - 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.

³⁶⁶ HIML: IA, 291–292.

³⁶⁷ In contrast to stationary, plant poisons. No reference is made to Dhanvantari (see Birch, Wujastyk, Klebanov, Parameswaran, et al. 2021).

^{368 &}quot;Carrier" for base, foundation (*adhiṣṭhāna*) aims to capture the idea that the author will describe the creatures in which poisons inhere.

³⁶⁹ 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.

³⁷⁰ This interpretation comes from Dalhana on 5.3.4 (Su 1938: 567), but he reads विशिधित.

(mukhasaṃdaṃśā),

- fart (avaśardhita),³⁷⁰
- anus, 371
- bones,
- 5 In that context,

- bile,
- bristles (śūka), and
 - corpses.

location of the poison	creatures ³⁷²
in their breath and gaze	divine snakes
in their fangs	the ones on earth ³⁷³
in their nails, mouths and fangs	cats, dogs, monkeys, men $(nara)$, 374 crocodiles, frogs, 'cook-fish' $(p\bar{a}kamatsya)$, 375 monitor lizards, cone snails $(\acute{s}amb\bar{u}ka)$, 'poisonous snakes' $(pracal\bar{a}ka)$, 376 geckos $(grhagodik\bar{a})$, 377 four-footed insects and others
in their urine and faeces	lice (kiṭipa), 'flat insects' (picciṭā), 'orange-dwellers' (kaṣāyavāsika), 'pepper snakes' (sarṣapaka), 'angry beetles' (toṭaka), dung beetles (varcaḥkīṭa), and 'pot insects' (kauṇḍinya)
in their semen	mice

³⁷¹ Dalhaṇa on 5.3.4 (Su 1938:567) noted this reading.

³⁷² Many of these names are mere dubious placeholders.

³⁷³ Dalhaṇa on 5.3.5 (Su 1938: 567) cited the otherwise unknown authority Sāvitra on the topic of poisonous snakes (HIML: ???, ???).

³⁷⁴ 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.

³⁷⁵ MS KL 699 separates the words पाक and मत्स्य with a daṇḍa, indicating that the scribe thought they were separate terms. Dalhaṇa thought this was a kind of fiery insect (5.3.5 (Su 1938: 567)).

³⁷⁶ *Arthaśāstra* 14.1.14, 23 (Olivelle 2013: 448), where it might also be a chameleon, but the latter are not venomous.

³⁷⁷ 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 *Carakasaṃhitā* and elsewhere in literature. Hemacandra's *Abhidhānacintāmaṇi* (4.364) mentions that गृहगोधिका and गृहगोलिका are synonyms (Rādhākāntā Deva 1876: 691a, sub māṇikyā).

location of the poison	creatures
in their stings (śūla)	scorpions, 'earth scorpions' (viśvambhara), wasps (varaki), ³⁷⁸ fish, crabs (ucciṭiṅga), and 'wing-scorpions' (patravṛścika)
in their saliva, nails, urine, feces, blood, semen and fangs	spiders
in the bites of their mouths	flies, wasps (kaṇabha) 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.³⁷⁹ 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.³⁸⁰ He should try to purify that

³⁷⁸ वरटी is a wasp; वरिक in the Nepalese MSS may be an alternant of this word. Dalhana on 5.3.5 (Su 1938: 568) remarked that some interpreted वरिकमत्स्य as two items, "wasp and fish," others as a single one, "wasp-fish."

³⁷⁹ अस normally means "tears," but rarely means "blood."

³⁸⁰ On the polysemy of elephant/snake ($n\bar{a}ga$), see Semeka-Pankratov 1979.

- polluted water, after curing their ailments.
- 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 cutch tree. Then he should sprinkle that ash, cold, on the waters.
- 10–11 And in the same way, putting a handful of the ash in a pot, one may also purify water that one wants.

 If any one of the limbs of cows, horses, elephants, men or women, touch a place on the ground that enemies have spoiled with poison, or a ford or rock or a flat surface, then it swells up and burns and its hair and nails fall out on that place.³⁸¹
 - 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.³⁸²
 And if there exists another path, he should go by that.³⁸³
 - When grasses and foods are polluted, people collapse, fall unconscious. And others vomit. They get loose stool (*viḍbheda*) or they die. One should apply to them the therapy as described.
- 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 minerals³⁸⁴ together with gold and sarsaparilla, and a portion of of nutgrass equal to that,

^{381 &}quot;Swells up" translates an unclear reading that was probably शूयित, which may be an irregular form of $\sqrt{2}$, श्वा, श्वि (see Whitney 1885: 175–176).

³⁸² Our "alcoholic drinks" translates सुरा. For a discussion of this term at our period see mchu-2021a.

³⁸³ Dalhaṇa on 5.3.12 (Su 1938: 568) cited a similar reading for the fourth pāda, but with a negative particle, "and if there is no other way, one should go by that."

^{384 &}quot;Certain minerals" translates तारावितार, the unanimous reading of the Nepalese witnesses. But the meaning of this expression is not clear and may even refer to plants, like the other ingredients. The vulgate reads तारः सुतारः, which is also not very clear. However, Dalhaṇa on 5.3.14 (Su 1938: 568) identified these as "silver" and "mercury." This is highly unlikely to be a correct understanding of the passage. Historically, mercury is not naturally present in the South Asian peninsula (Watt_{Dict}: 5, 233) and the word पारद that Dalhaṇa used is probably a loan-word from Persian (sub *paranda*, *parranda* Steingass 1930: 244b). Mercurial compounds are not reliably attested in South Asia until two or three centuries after the composition of the *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".³⁸⁵ 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.³⁸⁶
- 17 The smoke and air can be purified by putting into the air: lac, turmeric, Himalayan monkshood, and myrobalan, with Himalayan mayapple, costus, cardamom,³⁸⁷ and peas, and beautyberry.

write footnote: don't repeat ativiṣā; vulgate similar to H.

The origin of poison

- 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.³⁸⁸
- Pitiless Fury took a body and burst out of the mouth of furious Brahmā's store of fiery energy.³⁸⁹
- 20 He burned that great, thundering, apocalyptic demon. Then, after bringing about the annihilation of that demon, his amazing fiery energy increased.
- And so, there was a sinking down $(vi \not= a\bar{d}a)$ of the Daityas. Observing that, it was named "poison $(vi \not= a)$ " because of it's ability to produce a "sinking down."
- After that, the Lord created beings and subsequently made that fury enter into creatures still and moving.
- 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,

³⁸⁵ सुरेन्द्रगोप and कुरुविन्द are both uncertain, see index. Dalhana's opinion has been followed here, but it seems fair to say that all commentators were guessing.

³⁸⁶ The syntax of this verse is somewhat loose; the vulgate has regularized it, smoothing out the difficulties.

³⁸⁷

³⁸⁸ 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.

^{389 &}quot;Fury" is here anthropomorphised.

- whatever substance a poison reaches, it establishes itself there and by its nature it takes on that substance's savour.³⁹⁰
- 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.³⁹¹
- 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.
- 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.³⁹²
- 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.
- thaving come upon a body,³⁹³ in the case of corpses that 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 admissable after three quarters of an hour, but without the poisoned arrow and the snakebite.
 - 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.] ³⁹⁴

³⁹⁰ The scribal emendation in MS Kathmandu NAK 5-333 of नियच्छित to निगच्छित suggests that the scribe had more than one manuscript before him, one of them representing the reading of the vulgate recension.

³⁹¹ Probably a reference to the five breaths. Dalhana referred to winds (বান), but this does not seem correct since it is a reference to humours rather than breaths.

³⁹² The verb पठ् "is declared, read aloud" here could possibly suggest that the author is working within a written, not oral, tradition.

^{393 &}quot;Having come upon" translates प्रख्याप्य, which is hard to interpret unless it is a rare form connected with the sense "to see."

³⁹⁴ $M\bar{a}dhavanid\bar{a}na$, 69.20–21 (MN $_1$: 480) has verses that are directly parallel to this section:

darvīkarāṇāṃ viṣam āsughāti sarvāṇi coṣṇe dviguṇībhavanti ajīrṇapittātapapīḍiteṣu bāleṣu

35.3 tWhen, in a wound, the poison that is connected with these qualities runs, ...Therefore, not everything that is damaged by poison and eaten causes death.

395

- 35.1 [ślokas in the MSS that aren't in the vulgate. The first line doesn't scan. Witness K adds a part of the start of this in the bottom margin. This material is repeated at 3.39.2 in MS H.]
- 35cd & 36cd One designates a person who has diarrhoea of feces looking like soot $(grhadh\bar{u}ma)$ with wind, 396 and who vomits foam, as "someone who has drunk poison."
 - Therefore, fire burns a heart that is pervaded by poison. For, having pervaded of its own accord the location of consciousness, it abides.³⁹⁷

Patients beyond help

- 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,³⁹⁸ under the Great Bear and people who have been bitten in lethal spots.
- 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

vrddhesu bubhuksitesu 20

kṣīṇakṣate mohini kuṣṭhayukte rūkṣe 'bale garbhavatīṣu cāpi

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

- 395 At this point, witness H inserts a marginal Indravajrā verse about diseases that afflict immoral women.
- 396 गृहधूम is not a plant in this context *pace* MW: 362. See the discussion in note 302, p. 97. 397 Dalhaṇa said that someone who has died from drinking poison has a heart that cannot
 - pp palhaṇa 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.
- 398 याम्ये means "southerly" but Dalhana 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.

- 3.4ocd–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,³⁹⁹ 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,⁴⁰⁰
 - 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.⁴⁰¹

³⁹⁹ Dalhaṇa, on 5.3.40 (Su 1938: 570), glossed लताभिस् "by means of whips," as "when the body is struck by whips."

⁴⁰⁰ nāsāvasāda & plural sakanthabhangāh

⁴⁰¹ The grammatical verb-form परिवर्जियीत "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 देष्ट्रा does not mean human teeth (दन्त). We therefore prefer to interpret this as a patient where the fangs of a venemous creature remain in the bitewound. This requires construing the expression as a *bahuvrīhi* compound: देष्ट्रा or देष्ट्र + 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 2.⁴⁰²

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.⁴⁰³ 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.⁴⁰⁴ Fayrer provided a biological taxonomy

⁴⁰² On the idea of notational variants in scientific translation, see Elshakry 2008; Sarukkai 2016; Wujastyk 2021*a*: 81–83.

⁴⁰³ 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.

⁴⁰⁴ 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. Wall (1913:75–124) provided a useful analysis of the medical effects of snake envenomation in India arranged by the varied symptomology 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 *Suśrutasaṃhitā* too recognized the emotional and somatic effects of fright (see note 417 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 (2016: 31–33 *et passim*) discussed the *Suśrutasaṃhitā*'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 *Suśrutasaṃhitā* does.⁴⁰⁶ But unlike the *Suśrutasaṃhitā*, in the *Kriyākālaguṇottara* the chief taxonomic principle for both groups is the four *varṇas*.

A discussion of this chapter specifically in the light of the Nepalese manuscripts was published by Harimoto. ⁴⁰⁷ 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. ⁴⁰⁸

⁴⁰⁵ Calling his work a supplement to Fayrer (1874), but also being cited by Fayrer, Ewart 1878 evidently also collected local indigenous knowledge from his "snakeman" (p. 22).

⁴⁰⁶ Slouber 2016: 144-145.

⁴⁰⁷ Harimoto 2011: 101–104.

⁴⁰⁸ The two editions that Harimoto noted, Su 1938 and Su 1889, present identical texts.

Translation

1 Now we shall explain the procedure (*kalpa*) about what should be known concerning the venom in those who have been bitten by snakes.⁴⁰⁹

- 3 Suśruta, grasping his feet, questions the wise Dhanvantari, the expert in all the sciences.
- 4 "My Lord, please speak about the number of snakes, and their divisions, the symptoms of someone who has been bitten, and the knowledge about the successive shocks (*vega*) of poisoning".⁴¹⁰
- 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.⁴¹¹
- 9cd–10 "There are eighty kinds of snakes and they are divided in five ways: Darvīkaras, Maṇḍalins, Rājīmats, and Nirviṣas. And Vaikarañjas that are traditionally of three kinds.⁴¹²
 - "Of those, there are twenty and six hooded snakes, and the same number of Mandalins are known. There are thirteen Rājīmats.⁴¹³

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

Or "There are 20 phanins and 6 mandalins. The same number are known. There are 13 Rājīmats." Or even, "there are 20 Phanins and six of them are Mandalins." Are phanins really the same as darvīkaras:

⁴¹⁰ The expression "successive shocks" translates वेग, which is 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).

⁴¹¹ 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.

⁴¹² 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*.

⁴¹³ The phrasing of this śloka is awkward.

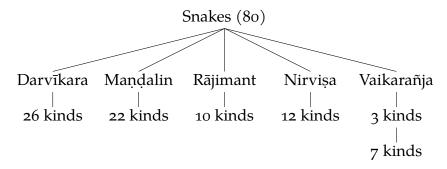


Figure 1: The taxonomy of snakes in the vulgate, 5.4.9–13ab (Su 1938: 571).

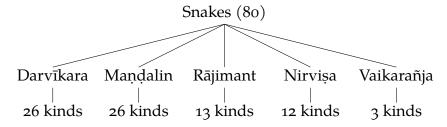


Figure 2: The taxonomy of snakes in the Nepalese version.

- "There are said to be twelve Niriviṣas and, according to tradition, three Vaikarañjas.
- "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".⁴¹⁴
 - 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,⁴¹⁵ accompanied

⁴¹⁴ This might refer to constriction. The phrase reads like a commentarial addition rather than the main text of the *Suśrutasaṃhitā*.

⁴¹⁵ The word उद्भृत "aroused" was glossed by Dalhana at 5.4.15 (Su 1938: 571) as उन्मोट्य, a word not found as such in standard dictionaries (MW; KEWA; AyMahā; Apte). Semantic considerations suggest that the word is not related to √muṭ "break" or mūta/mūṭa "woven basket." Perhaps it is related to the Tamil Gωπμ (mōṭi,) whose meanings include "arrogance, grandeur, display" (DED₂: #5133) or to faintly-documented forms like moṭyate "is twisted" (CDIAL: #10186). Dalhaṇa's उन्मोट्य may thus mean "twisting up" or "making an arrogant display."

by a little ring of spots (cuñcumālaka), 416 lead to degeneration, and are close together and swollen.

17 Where there are streaks with blood, whether it be blue or white, the grammar 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.
- The wind of a timid person who has been touched by a snake can get irritated by fear. It causes swelling.⁴¹⁷ 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, ⁴¹⁸ gods, holy sages, spirits, and saints, or in places full of herbs that destroy poison.⁴¹⁹

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 48.

- 416 The usual dictionary lexeme is অস্থ্য , not चुञ्च as in the Nepalese witnesses. We translate "spots" following Dalhana and Gayadasa 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.
- 417 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.

418 Dalhana on 5.4.21 (Su 1938: 571) identified the सुपर्ण as a गरुड. On the bird called सु-पर्ण, Dave (1985: 72 ff, 514) too noted that it may be a synonym for Garuda, and in some contexts may refer to the Golden Eagle, Golden Oriole, Lammergeyer, etc. Dave (1985: 199 ff, 492) noted again that the Garuda 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*.

419 For "spirits" the Nepalese version has भूत while the vulgate reads यक्ष.

[Types of snake]

- 22 Darvīkara snakes are know to have hoods, to move rapidly, and to have rings, ploughs, umbrellas, crosses, and hooks on them.
- 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.
- Rājimant snakes are smooth and traditionally said to be, as it were, mottled with multicoloured streaks across and above.

[Classes of snake]

- Snakes that are shine like pearls and silver, and that are amber and that shine like gold, and smell sweet are traditionally thought of as being of the Brāhmana caste.
- Warrior snakes, however, are those that look glossy and get very angry. The 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.
- Any snakes that are coloured like a buffalo and a tiger, with rough skin and different colours are known as servants.⁴²⁰
- 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.⁴²¹
- 29 Wind is irritated by all hooded snakes; bile by Maṇḍalins and phlegm by those with many stripes.
- 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
 - And he will explain the opposing view that is to be known as a result of the non-union of a male and female.⁴²²

⁴²⁰ 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)).

⁴²¹ 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.

⁴²² 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, her	e are the Darvīkaras	3.
34.1	in that context, ner	e are the Darvikara	Ľ

The Black snake (kṛṣṇasarpa); (mahāpadma); The Big Black (mahākṛṣṇa); The Grass Flower (apuspa); 16. 2. The Black Belly (krsnodara); The Curd Mouth 17. 3. The All Black (sarvakṛṣṇa);⁴²³ (dadhimukha); 4. The White Pigeon 18. The Lotus Mouth 5. (śvetakapota);424 (pundarīkamukha); The Rain Cloud (valāhako); The Brown Hut Mouth 19. The Great Snake (babhrūkutīmukha); (mahāsarpa); The Variegated (*vicitra*); 20. The Conch Keeper The Flower Sprinkle Beauty (puspābhikīrnnābha); (śamkhapāla); The Red Eye (lohitākṣa); The Mountain Snake 9. 22. The Gavedhuka (gavedhuka); (girisarpa); 10. The Snake Around The Straight Snake 11. 23. (parisarpa); (rjusarpa); The Break Hood The White Rip (*śvetadara*); 24.

25.

26.

- 12. The Break Hood (khaṇḍaphaṇa);
- 13. The Kūkuṭa (kūkuṭa);
- 14. The Lotus (padma);
- 15. The Great Lotus
- 34.2 Here are the Mandalins
 - 1. The Mirror Ring (ādarśamaṇḍala);
 - 2. The White Ring (śvetamaṇḍala);
 - 3. The Red Ring (raktamandala);
 - 4. The Speckled (*pṛṣata*);
 - 5. The Gift of God (devadinna);
 - 6. The Pilindaka (*pilindaka*);
 - 7. The Big Cow Snout (vrddhagonasa);
 - 8. The Jackfruit (panasaka);

- 9. The Big Jackfruit (mahāpanasaka);
- 10. The Bamboo Leaf (*venupatraka*);
- 11. The Kid (*śiśuka*);
- 12. The Intoxicator (*madanaka*);

The Big Head (mahāśīrṣa);

The Hungry Sting (alagarda);

- 13. The Morning Glory (pālindaka);
- 14. The Stretch (tantuka);
- 15. The Pale as a Flower $(puspap\bar{a}ndu);$

⁴²³ Not in vulgate.

⁴²⁴ The vulgate adds The Big Pigeon (*mahākapota*).

- The Six Part (sadanga); 16. The Hand Decoration 22. The Flame (agnika); (hastābharaṇaka); 17. The Brown (babhru); The Tatra (tatra);⁴²⁵ 18. 23. The Ochre (kaṣāya); The Mark (citraka); 19. 24. The Khalusa (*khalusa*); The Deer Foot (enīpada).⁴²⁶ 20. 25. The Pigeon (pārāvata); 21. Here are the Rājīmats.⁴²⁷ 34.3 The Lotus (pundarīka); The Grass Drier (*tṛṇaśoṣaka*); The Stripe Speckle (*rājicitra*); 8. The White Jaw (svetahanu); The Finger Stripe (angulirāji); The Grass Flower 3. The Two Finger Stripe (darbhapuspa);428 (dvyangulirāji); The Red Eye (lohitāksa);⁴²⁹ 10. The Drop Stripe (bindurāji); The Ringed (cakraka); The Mud (*kardama*); The Worm Eater (kikkisāda); 12. Here are the Nirvisas. The Rain Cloud The Year-Snake (varsāhīka); (valāhako);430 The Two-day (dvyāhika); Thei Snake Flag (ahipatāka); The Milk Flower 9. The White Leaf (*śukapatra*); (ksīrikāpuspa); The Goat Swallower The Flower All (puṣpasakalī); 10. The Chariot of Light (ajagara); The Stimulator (*dīpyaka*); (jyotīratha); The Ilikinī (*ilikinī*); The Little Tree (vṛkṣaka); 12.
- 74.5 The Vaikarañjas originate out of contrary unions amongst the three colours. All Thus:
 - . The Mākuli (*mākuli*);



⁴²⁵ This seems implausible, but otherwise the list of Mandalins would be short.

⁴²⁶ The list is short by one item. Perhaps the one of the snakes named in the vulgate, *citramanḍala, gonasa* or *pingala*, should be considered here.

⁴²⁷ 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.

⁴²⁸ Also in the Darvīkara list.

⁴²⁹ Also in the Darvīkara list.

⁴³⁰ Also in the Darvīkara list.

⁴³¹ 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.

- 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.

- Amongst them, males have large eyes, tongues and heads. 432 Females have small eyes, tongues and heads. Neuters have both characteristics, and are slow to exert themselves or be angry. 433
- 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.⁴³⁴ And ignored for even a period of time, it can drag the patient away. There is not even an opportunity to follow the literature.⁴³⁵ And when the symptom of being bitten is stated, there will be three ways of treating it because there are three kinds of snake. Therefore we shall explain it in three ways. "For this is good for people who are ill, and it removes confusion and in this very case it prevents all symptoms".⁴³⁶

⁴³² The vulgate includes the snake's mouth in this and the next list.

⁴³³ The reading मन्दचेष्टाक्रोधा is an awkward compound; possibly the original reading was मन्दचेष्टाः + अक्रोधा and sandhi was applied twice.

⁴³⁴ 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.

⁴³⁵ The idea seems to be that there is no time to consult the verbose āyurvedic teachings. The "extensive meaning of the literature (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.

⁴³⁶ In the next passage, the symptoms of snake poisoning are indeed explained under three headings.

[Symptoms of snakebite]

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 are blocked and there is every kind of pain due to wind.

The poison of a Maṇḍali, on the other hand, causes the skin, nails, eyes, teeth, mouth, urine, feces, bitemark to be yellow; there is a desire for cold, a temperature, giving off fumes, 437 a burning feeling, thirst, intoxication, fainting, fever, the appearance of blood, and the sagging down of flesh and fat above and below. There is swelling, suppuration of the bite, confused vision, the patient is angry and every kind of pain due to bile.

The poison of a Rājimat, on the other hand, 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 in the limbs and swelling at the site of the bite. There is a discharge of viscous phlegm, vomiting, itchy eyes, and a rattling sound. The breath is stifled and there is every kind of pain due to phlegm.

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, urinates with blood. One bitten by a hungry snake craves food. Those bitten by an old snake have delayed and slow reactions. And those bitten by a young snake are fast and sharp. One bitten by a non-venomous snake has the characteristic marks of non-poisoning. Some say that one bitten by a

⁴³⁷ The term "giving of fumes (परिधूपायन)" is not in MW: 596 as such, although परिधूपन, परिधूमन अन्द् 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). Dalhaṇa on 2.6.13 (Su 1938: 292) glossed the term as "hot all over (समन्ततस् तापः)" and in our current passage as "hot over the whole body (सर्वाङ्गसन्तापः)" (Su 1938: 573). See also AyMahā: 1, 429: धूमायन "अङ्गानां धूमोदूमनमिव" citing the *Suśrutasamhitā*.

blind snake becomes blind. A constrictor (*ajagara*) is deadly because it swallows, not because of poison.

In that context, amongst all snake toxins there are seven toxic impulses (viṣavega). Thus, the first toxic impulse amongst Darvīkaras corrupts the blood. That corrupted blood turns black. Because of that, there is blackness and a feeling of ants crawling about on the body develops. In the second pulse, it corrupts the flesh. That causes extreme blackness and lumps.



Uttaratantra 17: Preventing Diseases of the Pupil

Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.⁴³⁸

The history of couching in India has been discussed since the nineteenth century, 439

Translation

- 1 Now I shall explain the counteraction (*pratiṣedha*) of diseases located in the pupil (*dṛṣṭi*).
- There are three curable $(s\bar{a}dhya)$, three incurable $(as\bar{a}dhya)$, and six mitigatible $(y\bar{a}pya)$ diseases located in peoples eyes. Among these, three are curable $(s\bar{a}dhya)$. Amongst these three, the remedy $(prat\bar{\imath}k\bar{a}ra)$ has been stated for the one called "seeing smoke $(dh\bar{\imath}madarsin)$ ".⁴⁴⁰
- 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 ($a\tilde{n}jana$), liniment ($\bar{a}lepa$), and medicines cooked in a

⁴³⁸ HIML: IA, 305-306.

⁴³⁹ Scott 1817; Breton 1826; Jack 1884; Hendley 1895; Elliot 1918; Śāstrī 1940; V. Deshpande 1999; 2000; Wujastyk 2003*b*; Fan 2005; Leffler et al. 2020.

⁴⁴⁰ This disease and its cure are described earlier (SS.6.7.39 and SS.6.10.16 (Su 1938: 609 and 614) respectively). The latter part of this verse is hard to construe and the text here may have been altered at an early period.

where is cutting with a knife related to removing bile or phlegm. crucible (puṭapāka), together with an eyewash (tarpaṇa),⁴⁴¹ but not cutting with a blade (śastrakṣata).⁴⁴²

One should drink ghee (sarpis) prepared with the three fruits ($triphal\bar{a}$) and in the first [case where the problem is bile], and prepared with turpeth (traivrta) 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, 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 (*marica*), siris (*śirīṣa*) and red arsenic (*manahśilā*);
- stalk (*vṛnta*) from a wood apple (*kapittha*) with honey (*madhu*);⁴⁴³
- or the the fruits of the velvet bean (*svayaṃgupta*).
- 8 The physician should make a collyrium with ground up metal (kupyaka),444 Asoka tree (aśoka), Sal tree (śālā), mango (amra), beautyberry (priyaṃgu), Indian lotus (nalina), blue lotus (utpala), together with hareṇu (hareṇu), emblic (āmalaka), myrobalan (pathyā), long pepper (pippali). It should be combined with ghee and honey (kṣaudra).
- 9–10 Also, when bile and phlegm have developed, the physician should apply harenu (*harenu*) with the expressed juice (*svarasa*) of the flowers from mango (*amra*) and Jambu (*jambū*) trees.

Then this collyrium, matured (*vipakva*) with ghee and honey (*kṣaudra*), should then be applied.

- Filaments ($ki\tilde{n}jalka$) of Indian lotus (nalina) and blue lotus (utpala), with ochre (gairika), and the juice of cow-dung ($go\acute{s}akr\acute{t}$) are a collyrium in the form of a pill ($gu\acute{q}ik\bar{a}$). This is good for both day and night blindness.
- 11cd–12ab Elixir-salve ($ras\bar{a}\tilde{n}jana$), honey (kṣaudra), ghee, scramberry ($t\bar{a}l\bar{i}\acute{s}a$), together with gold and ochre, with the juice of cow-dung ($go\acute{s}akrt$) are for

maṣī burned charcoal. Find refs.

⁴⁴¹ These therapies are described in SS.6.18 (Su 1938: 633–640).

⁴⁴² Dalhaṇa interpreted this as blood-letting (*sirāvedha*), which is discussed in SS.1.14 (Su 1938).

⁴⁴³ Wood apple (कपित्थ) in this verse is ablative singular or accusative plural, neither of which construe obviously.

⁴⁴⁴ A metal other than gold or silver, according to V. Jośī and N. H. Jośī (AyMahā: 1.217). Perhaps lead, which is used in making contemporary collyrium.

- an eye afflicted with bile.
- Alternatively, wise physician should first grind together elixir-salve $(s\bar{\imath}ta)$ and stibnite $(sauv\bar{\imath}raka)$, infused $(bh\bar{a}vita)$ with the blood of birds and animals (rasa). 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 to quell the bile.
 - Thus, a collyrium of white teak $(k\bar{a}r\acute{s}mar\bar{\iota})$ flowers, liquorice (madhuka), tree turmeric $(d\bar{a}rv\bar{\iota})$, lodh tree (lodhra) and elixir salve $(ras\bar{a}\tilde{n}jana)$ is always good as a collyrium in this case.
 - Alternatively, for those who cannot see during the day, this pill $(gudik\bar{a})$, with sandalwood, is recommended: salt $(nad\bar{\imath}ja)$, conch shell and the three spices, collyrium, realgar $(mana\dot{n}\dot{s}il\bar{a})$, the two turmerics $(rajana)^{446}$ and liver extract $(yakrdrasa)^{.447}$
 - One should grind up kohl (*srotoja*),⁴⁴⁸ and Sind salt (*saindhava*) and long pepper and also hareṇu (*hareṇu*). Such wicks with goats urine are good in a collyrium for night blindness (*kṣaṇadāndhya*).
- Alternatively, in such a case, grind together Indian sarsaparilla $(k\bar{a}l\bar{a}nus\bar{a}riva)^{449}$ long pepper, dried ginger $(n\bar{a}gara)$ and honey, the leaf of the scramberry $(t\bar{a}l\bar{i}sapatra)$, the two turmerics (rajana), a conch shell and liver extract (yakrdrasa). Then shade-dried wicks take away illness (ruj).
- 18cd–19ab Wicks made of red arsenic ($mana h sil \bar{a}$), chebulic myrobalan ($abhay \bar{a}$), the three spices (vyo sa). Indian sarsaparilla ($s\bar{a}riva$), cuttlefish bone (samudraphena), combined with goat's milk are good.
- One should cook a honey collyrium ($k = audr \bar{a} \bar{n} = audr \bar{a} = audr \bar{a$

⁴⁴⁵ This was Palhaṇa's preferred interpretation of rasa "juice" in this context. He also noted that some take elixir-salve (\hat{sita}) to be camphor.

⁴⁴⁶ 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.

⁴⁴⁷ This verse appears as no. 27 in the vulgate.

⁴⁴⁸ Glossed by Palhaṇa as a kind of collyrium. Cf. **nadk-1954** and P. V. Sharma 1982: 197–198

⁴⁴⁹ 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.

- should be mixed with cow urine, ghee and cuttle fish $(arṇavamala)^{450}$ with long pepper, honey and box myrtle (kaṭphala). It is placed in sea salt and stored in a bamboo tube.
- 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 is good.
 - Alternatively, a collyrium that is harenu (harenu) mixed with long pepper ($m\bar{a}gadh\bar{\iota}$), the bone and the marrow of a goat, cardamom ($el\bar{a}$) and liver, together with liver extract, is good for eyes afflicted by phlegm.⁴⁵¹
 - 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 certainly destroys night blindness.
 - After preparing both a spleen ($pl\bar{l}han$) and a liver on a spit, one should eat them both with ghee and oil.⁴⁵²
- As is well known, there are six diseases that can be alleviated (*yāpya*); in those cases (*tatra*) one should release the blood by bloodletting. And for the sake of wellbeing one should also purge using aged ghee combined (*upahita*) with purgative aids (*aṅga*).
 - When an eye-disease is caused by wind (*pavanodbhava*) they say that castor oil (*pañcāṅgulataila*) mixed with milk is good.⁴⁵³ In the case of diseases of blood (*śonita*) and bile (*pitta*), one should drink ghee with the three fruits; it is particularly cleansing.⁴⁵⁴ In the case of phlegm,

⁴⁵⁰ At SS 6.12.31, Dalhaṇa glossed *arṇavamala* as cuttlefish bone (*samudraphena*). It may be worth considering whether the unusual term *arṇavamala* "ocean-filth" might refer to ambergris.

⁴⁵¹ On the identities of <code>elā</code> and <code>hareṇu</code>, Watt (Watt_Comm: 511 ff) described the former as "true" or "lesser" or "Malabar" cardamom, <code>Elettaria</code> cardamomum, Maton & White. In contrast, the "greater" cardamom is <code>Amomum</code> subulatum (that Watt discussed on p. 65) that is commonly used as an inferior substitute for <code>E. cardamomum</code>. T. B. Singh and Chunekar (GVDB: 467 f) provided an interesting discussion of <code>hareṇu</code>, noting that the term refers to two substances, first the <code>satīna</code> pulse (<code>Pisum sativum</code>, Linn.), and second an unknown fruit such as perhaps a <code>Vitex</code>. They noted, "None of the text commentators have attempted to disclose the nature of its source plant," although <code>Dalhaṇa</code> described it as aromatic and identical to <code>reṇukā</code> (SS.ci.2.75).

⁴⁵² 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.

⁴⁵³ Palhana said that the unexpressed topic of this recipe is partial blindness (*timira*).

⁴⁵⁴ Blood-bile (śonita-pitta, rakta-pitta) is a widely-recognized disease in ayurveda, but

- 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).⁴⁵⁵
- In cases of partial blindness (*timira*), aged ghee is recommended. It is good if it is kept in an iron vessel.
- 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 blindess should lick the finely-ground three fruits mixed with ghee off his hand (sapāṇa). 456
 - 29cd Alternatively, someone afflicted by phlegm should apply them (the three fruits) mixed with oil and steeped (*pragāḍha*) in honey.
 - 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 (trivrt) based on strong mallow $(atibal\bar{a})$, and country mallow $(bal\bar{a})$ in an errhine (nasya).⁴⁵⁷
 - Ghee which has been extracted from milk cooked with the meat of aquatic creatures and those from marshlands should be prescribed.
 - tAn enclosed roasting (puṭākhya) with Sindh salt and the product of the meat of a carnivore (kravyabhuj) and a deer (eṇa), is combined with honey and ghee.⁴⁵⁸

the compound here is definitely dual, which rules out that interpretation. One would expect blood-bile because the previous verse

The term 'enclosed roasting' (puṭapāka) does occur in the Suśrutasaṃhitā in the

⁴⁵⁵ 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.

^{456 &}quot;Off his hand" translates the adverbial *sapāṇam*, an unusual word. Dalhaṇa reproduced a reading close to the Nepalese recension but says that Jejjaṭa rejects it and so he also does (Su 1938: 627).

^{457 &}quot;Based on" translates -āśrita "depending on" which does not construe easily here. The vulgate has śṛṭa "cooked" which makes easier sense but is not supported by the Nepalese MSS.

⁴⁵⁸ Palhaṇa noted (Su 1938: 628a) that puṭāhvaya (see verse 35 below) is a synonym for puṭapāka, and that the process is described in the Kriyākalpa chapter, i.e., SS.6.18.33–38 (Su 1938: 635). On the puṭa process in the Suśrutasaṃhitā, which is earlier and different than that of rasaśāstra literature, see the discussion by Wujastyk (2019: 83):

- Fat $(vas\bar{a})$ from a horse, a vulture, a snake, and a cock $(t\bar{a}mrac\bar{u}da)$, combined with mahua $(madh\bar{u}ka)$ is always good in a collyrium.^{†459}
- Having prepared (*niṣevita*) a collyrium made of kohl (*srotas*) and gradually combine it with juices (*rasa*), milk and ghee.⁴⁶⁰
 For thirty days, this collyrium is put in the mouth of a black snake that is covered with kuśa grass (*kuśa*).
- Next, a collyrium that is milk containing long pepper $(m\bar{a}gadh\bar{\iota})$, lye $(k \bar{s}araka)$ and Sindh salt (saindhava) that has been repeatedly prepared with the mouth of a black snake, is good in the case of bloodshot blindness $(r\bar{a}gin\ timira)$.
- 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*).⁴⁶²
- 36 And realgar ($mana h sil \bar{a}$) mixed with elixir salve ($ras \bar{a} \tilde{n} jana$) and honey is a liquid collyrium ($drav \bar{a} \tilde{n} jana$) which is, in this case, combined with mahua ($madh \bar{u} ka$). 463
 - Alternatively, experts on this say that finely ground blue vitriol (*tuttha*) extracted from a gold mine is the "same collyrium (*samāñjana*)".⁴⁶⁴

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.

- 459 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.
- 460 Dalhana specified that the juices are meat soups of various animals (Su 1938: 628).
- 461 Dalhana 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.
- 462 The expression taken hot (puṭāhvaya) is a guess.
- 463 The expression liquid collyrium (*dravāñjana*) is only known from Palhaṇa's comments on 6.17.11ab (Su 1938: 626). The recipe in the present collyrium is different from that discussed by Dalhana.
- 464 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 Dalhaṇa as "a collyrium with an equal amount of fermented barley" (*tulyasauvīrāñjana*) (Su 1938: 628).

Conch mixed with equal parts of sheep's horn and stibnite (añjana) removes the impurity of the glassy opacity ($k\bar{a}ca$) because of the application of collyrium (añjana).465

- The extracts (rasa) produced from aflame of the forest (palāśa), Rohīta tree (rohīta),466 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 (priyangu) to pacify eye diseases caused by phlegm.⁴⁶⁷ One should apply smoke of the bark of embelia (vidanga), velvet leaf
 - $(p\bar{a}th\bar{a})$, white siris $(kinih\bar{\iota})$, and desert date $(ingud\bar{\iota})$; and cuscus grass (*uśīra*) alone.
- 39 A ghee that is cooked (bhāvita) from a decoction of a non-flowering tree (vanaspati)⁴⁶⁸ as well as turmeric (haridrā) and spikenard (nalada) is good in a eyewash (tarpana).
 - Alternatively, one may have an enclosed roasting (puṭapāka) done with arid-land animals (jāngala)⁴⁶⁹ and a plentiful amount of long pepper (*māgadha*), Sindh salt and honey.
- 40 A treatment (*kriyā*) with realgar (*manahśilā*), the three spices, conch, honey, along with Sindh salt, green vitriol (kāsīsa) and elixir salve (rasāñjana).⁴⁷⁰
 - They say that an elixir salve (rasānjana) combined with myrobalans, treacle and dried ginger is good.⁴⁷¹
- 41 Alternatively, a collyrium that has been prepared many times in the eight types of urine⁴⁷² is put into water with the three fruits. Having find ref.

⁴⁶⁵ The ablative "from collyrium" is hard to construe, but Dalhana used this term and phrase in his commentary on 6.17.41ab (Su 1938: 629).

⁴⁶⁶ Probably Soymida febrifuga A. Juss.

⁴⁶⁷ Palhana invoked a general rule (paribhāṣā) to indicate that this mixture should be cooked with sesame oil.

⁴⁶⁸ These are fig trees. The Sauśrutanighantu (252) specifies the Udumbara. Cf. the classification in CS.1.1.71–72, 1.8, *et passim*.

⁴⁶⁹ On this term, see SS.1.35.42 (Su 1938:157) and the discussion by Zimmermann (1999: 25-31).

⁴⁷⁰ Dalhana glossed treatment (kriyā) specifically as inspissation (rasakriyā) (Su 1938: 629).

⁴⁷¹ We emend हिते to हितम्, against the MSS.

⁴⁷² See Suśrutasamhitā mūtravarga

- stored it in the mouth of a nocturnal creature $(nis\bar{a}cara)^{473}$ one should place it in a conch (salilotthita) for two months.⁴⁷⁴
- One should apply that collyrium together with the flowers of mahua $(madh\bar{u}ka)$ and horseradish tree $(\acute{s}igru)$ 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 $(ml\bar{a}yin)$.⁴⁷⁵
- For one who has a humour, the physician should consider the rule in all humoral cases and then smear the ointment on the face. The treatment that is good for removing watery eye (*syanda*) should be properly applied in all these humoral cases, according to the individual. The sydual of the individual.
- 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.⁴⁷⁸
- Someone who uses matured ghee, the three fruits, wild asparagus, as well as mung beans, emblic and barley has nothing to fear from cases of severe blindness (*timira*).
- 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.
- 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 treat-

Check out these refs.

meaning of kalpa

⁴⁷³ Dalhaṇa glossed nocturnal creature (niśācara) as "vulture," although elsewhere in the Suśrutasaṇḥitā it is more commonly interpreted as a spirit or demon. In the present context, following verses 33 and 34, it is probably a snake.

⁴⁷⁴ We interpret "water-born (salilotthita)" as "conch" in line with jalodbhava, but the term is uncertain.

⁴⁷⁵ The vulgate follows Dalhaṇa in glossing *mlāyin* as *parimlāya*. The description of this condition at SS.6.7.27−28 appears to refer to "blue dot" or "cerulean" cataract. √*mlai* derivatives can mean "dark" or "black."), which is normally a different ailment.

⁴⁷⁶ The vulgate edition omits part of this verse (ab) combining earlier and later passages.

⁴⁷⁷ The term watery eye (*syanda*) refers to the specific disease *abhiṣyanda*. See SS.6.6.5, 1.46.51, etc.

⁴⁷⁸ Dalhana noted that *Kalpa* means the Uttaratantra adhyāya 18 (Su 1938: 633 ff).

able. And bloodshot blindness ($r\bar{a}ginitimire$) in the second layer, with difficulty. And in the third layer it can be mitigated ($y\bar{a}pya$).⁴⁷⁹

- 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.⁴⁸⁰
- 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 $(muktv\bar{a})$ two white sections from the black part (krsna) and from the outer corner of the eye $(ap\bar{a}nga)$. Then he should press $(p\bar{i}d-)$ properly into the eye, 481 at the naturally-occurring (daivakre) opening (chidra) with a probe $(sal\bar{a}k\bar{a})$ 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. 482
 - The expert should moisten the exact place of piercing with a woman's breast-milk. Then he should scratch the circuit of the pupil (dṛṣṭimaṇḍala) with the tip of the probe (śalākā).⁴⁸³
 - Without injuring, gently pushing the phlegm in the circuit of the pupil against the nose, he should remove it by means of sniffing

⁴⁷⁹ Although the text says with difficulty (kpcchra), the implication is that it is untreatable ($as\bar{a}dhya$) (cf. 6.17.2 (Su 1938: 625) above). The three categories, treatable, untreatable and possibly mitigated are standard categories of triage.

⁴⁸⁰ 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.

⁴⁸¹ 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.

⁴⁸² Dalhana remarked on 6.17.61ab (Su 1938: 630) that when the piercing is not correctly done, blood issues and there is no sound.

⁴⁸³ 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.

- (ucchingana).484
- Whether the humour is solid ($sty\bar{a}na$) or liquid (cala), one should apply sweating to the eye externally, with leaves ($bha\dot{n}ga$) that remove wind, after fixing the needle ($s\bar{u}c\bar{\iota}$) properly.⁴⁸⁵
- 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.
- Now the pupil (drsti) shines like the sun (hari) in a cloudless sky; then, when objects become visible, one may slowly remove the probe $(sal\bar{a}k\bar{a}).486$
- 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.⁴⁸⁷
- At that time, he should not belch, cough, sneeze, spit or shiver. Afterwards there should be restrictions ($yantran\bar{a}$) as in the case of someone who has drunk oil.⁴⁸⁸
- 62 Every three days one should wash it with decoctions (*kaṣāya*) that remove wind. After three days, one should sweat the eye externally because of the danger of wind.
- Having restrained himself in this way for ten days he should thereafter take a beneficial regimen (*karma*) that clears the pupil (*dṛṣṭi*) and also he should take light food in measure.

⁴⁸⁴ Palhaṇa described sniffing (*ucchingana*) at 6.19.8 (Su 1938: 641), clearly intending inward sniffing.

⁴⁸⁵ 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.

⁴⁸⁶ 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.

⁴⁸⁷ Dalhana explained disturbances specifically as dust, smoke, drafts and sunlight 6.17.67 (Su 1938: 631a).

⁴⁸⁸ Þalhaṇa 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).

[Complications]

When there is a misshapen eyeball (*vilocana*), the eye may fill because of the release of blood from a vein.⁴⁸⁹

- A hard probe leads to shooting pain $(s\bar{u}la)$, a thin to unsteadiness of the humours (dosapariplava),⁴⁹⁰
- 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*).⁴⁹¹
- 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 (\dot{satak} - $umbh\bar{\iota}$).⁴⁹²

[Complications]

Redness, swelling, lumps, driness (coṣa), bubbling (budbuda),⁴⁹³ pigs' eye ($s\bar{u}kar\bar{a}kṣit\bar{a}$),⁴⁹⁴, 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.

⁴⁸⁹ The condition of "misshapen eye" is referred to briefly in 6.61.9 (Su 1938: 800), where Dalhana glossed it as "bent brow and eye (vakrabhrūnetra)." The vulgate's reading of "with blood (śonitena)" is easier to construe.

⁴⁹⁰ There is a medically significant difference here from the vulgate, which reads "a rough (*khara*) probe" not a "thin" probe.

⁴⁹¹ This translation of loss of function (*kriyāsaṅga*) is given on the basis of Dalhaṇa's gloss of *kriyāsaṅgakarin* at 3.8.19 (Su 1938: 382) as "causing the destruction of actions such as moving (*gamanādikriyāvināśakarī*)."

⁴⁹² The vulgate reads "copper (tāmra)" in place of "silver."

⁴⁹³ Dalhaṇa glossed "bubbling (budbuda)" as "prolapse (māṇṣsanirgama) that looks like bubbles."

⁴⁹⁴ The expression "pigs' eye" appears to be a *hapax*. It was glossed as "downward vision (*adhodṛṣṭitva*)" by Dalhaṇa.

- Red chalk (gairikah), Indian sarsaparilla (śariva), panic grass ($d\bar{u}rva$), 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*).⁴⁹⁵ This is immediately beneficial when someone is looking for relief.
- 72 A paste with Holostemma (payasyā),⁴⁹⁶ Indian sarsaparilla (śārivā), cassia cinnamon (patra), Indian madder (mañjiṣṭhā), and liquorice (madhukair) stirred with goat's milk, pleasantly warmed, is said to be healthy.⁴⁹⁷
- 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.
- 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.
- Having cooked it with liquorice, water-lily, and costus, mixed with grapes $(dr\bar{a}ks\bar{a})$, lac $(l\bar{a}ks\bar{a})$, white sugar $(sit\bar{a})$, with wild asparagus, Hare Foot Uraria $(prthakparn\bar{i})$, 498 nutgrass $(must\bar{a})$, liquorice, Himalayan cherry (padmaka), and Sindh salts, one should apply it [irrigation] gently warm.
- 76cd–77ab Ghee that has been cooked in four times the amount of milk that has itself been cooked with drugs that destroy wind. This has an admixture of cottony jujube $(k\bar{a}kol\bar{\iota})$ etc., should be prescribed in all treatments. The solution of the sol

⁴⁹⁵ On the adverbial use of gently (*mṛdu*), see Gombrich 1979.

⁴⁹⁶ The identity of *payasyā* is debated (GVDB: 538), and was already in doubt at the time of Dalhaṇa but likely candidates may be those suggested by Dalhaṇa, who suggests either *arkapuṣpī* or *kṣīrakākolī*, that may be *Holostemma adakodien* Schult. and *Leptadenia reticulata* (Retz.) Wight & Arn. (ADPS: 195-196). The *Sauśrutanighaṇṭu* glosses it as *kṣīrikā* or *arkapuṣpikā* (Suvedī and Tīvārī 2000: v. 307).

⁴⁹⁷ The expression "stirred with goat's milk $(aj\bar{a}k\bar{s}\bar{i}r\bar{a}rdita)$ " is difficult. It may be connected with the rare root ard documented by Whitney (1885: 15). Cf. \sqrt{ard} gatau ($Dh\bar{a}tup\bar{a}tha$ 1.56).

⁴⁹⁸ Suvedī and Tīvārī 2000: 18.

⁴⁹⁹ Palhaṇa mentioned that these drugs include Deodar (*bhadradāru*) and other wind-destroying drugs. The *vātasaṃśamana* group is listed in *Suśrutasaṃhitā sūtrasthāna* 1.39.7.

⁵⁰⁰ Dalhana noted that this would include errhines, ointments, etc.

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.⁵⁰¹

- 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.
 - 8ocd—81 Having made it into wicks (*vartti*), the physician should apply it as a collyrium. Alternatively, one should make kohl (*srotoja*), coral (*vidruma*), cuttlefish bone (*phena*), and realgar (*manaḥśilā*) and peppers into wicks as before. One should apply these wicks, which are good in a collyrium, to steady the pupil.
 - 82 I shall again discuss the foremost collyriums at length in the *Kriyākalpa* section. Those various methods may be applied here too.

or a dual?

⁵⁰¹ The vulgate reads $v\bar{a}pi$ for $c\bar{a}pi$, so Dalhana saw blood-letting and cautery as alternatives, not a sequence of treatments. Dalhana 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 ($nid\bar{a}na$), on the one hand, and medical treatment ($cikits\bar{a}$), on the other. In chapters of the Uttaratantra, these two aspects are sometime dealt with in two different chapters $X-vij\bar{n}\bar{a}n\bar{i}ya$ 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. (Tiv \bar{a} r \bar{i} 1990) dedicated a monograph to this topic, and Selby (2005a,b) has explored gyencological narratives in ayurveda.

Placement of the Chapter

In the vulgate text (Su 1938) the current chapter, 6.38, is found after the Uttaratantra's subsection on paediatrics, the *Kumāratantra*, see Table 3.5^{02} 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*.

502 Or Kumārabhṛtya as this section is named in MS Kathmandu KL 699.

Section	Chapters	Internal count
Śālakyatantra	1–26	1–26
Kumāratantra	27-38	1–12
Kāyacikitsātantra	39-59	1-21
Bhūtavidyātantra	60-62	1-3
Tantrabhūṣaṇādhyāya	63–66	1-4

Table 3: Subdivisions of the Uttaratantra, in the vulgate.

Several things are noteworthy in this regard:

• In the placement of the vulgate, this chapter follows upon 6.37 *Grahotpatti* (6.35 in the Nepalese version), a chapter that talks about the origination of nine demons (*graha*) that are responsible for all children's diseases described in previous chapters of the *Kumāratantra*. In this way, the current chapter retains the general focus on the child bearing (*kaumārabhṛtya*), but, at the same time, marks a change to a distinct, less mystical approach to the topic at hand (that could originate in a cultural milieu different from that of the preceding eleven chapters). Dalhaṇa explained how the chapter fits its context in the following way:

It is appropriate that, for the sake of treating the disorders of the female reproductive system, the chapter called "Countermeasures Against Disorders of the Female Reproductive System" is taught immediately after the chapter called "The Origination of Demons (*graha*)." It is because (1) there is an explicit mention of the word "*yoni*" in the statement "born in the womb (*yoni*) of animal and human" [in 6.37.13bc (Su 1938: 667)] and because (2) the disorders of the female reproductive system are the causes for the inborn disorders of children.⁵⁰³

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

⁵⁰³ Dalhaṇa on 6.38.1 (Su 1938: 668): ग्रहोत्पत्त्यध्यायानन्तरं 'तिर्यग्योनिं मानुषं च' इति वचनेन योने-र्नामसंकीर्तनात् कुमारजन्मविकारकारणत्वाञ्च योनेर्व्यापञ्चिकित्सितार्थं योनिव्यापत्प्रतिषेधाध्यायारम्भो यु-ज्यत [...]।

Parallels 153

- 6.56 Mūtrāghātapratiṣedha (6.58 in Su 1938) and
- 6.57 Mūtrakṛcchrapratiṣedha (6.59 in Su 1938), two chapters dealing with the diseases of the urinary tract.

The current chapter carries on with the topic of diseases that affect genitalia. In its Nepalese version, the chapter opens with two verses that explain the reasons for treating the particular set of diseases. These lack any reference to the inborn disorders of children, mentioned by Dalhaṇa, and instead highlight the importance of curing female diseases for the satisfaction of male partner.

- SS.1.3 in both Su 1938 and the Nepalese version lists the chapter at the place where it is found in the vulgate.⁵⁰⁴
- Parallel chapters in the Aṣṭāṅgasaṃgraha and the Aṣṭāṅgahṛdayasaṃhitā form a part of the Śalyatantra section of each text.

Parallels

The current chapter is parallel in its content to *Aṣṭāṅgasaṃgraha* 6.38 and 6.39 as well as *Aṣṭāṅgahṛdayasaṃhitā* 6.33 and 6.34 (*Guhyarogavijñāna* and *Guhyarogapratiṣedha* respectively).

A close literary parallel to the first part of the chapter is found in $M\bar{a}dhavanid\bar{a}na$ (MN₃) 62, or at least its version printed in Y. T. $\bar{A}c\bar{a}rya$ (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.⁵⁰⁵

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

⁵⁰⁴ See 1.3.37ab (Su 1938: 15): नैगमेषचिकित्सा च ग्रहोत्पत्तिः सयोनिजा ॥. 505 Meulenbeld 1974b: 22–26.

Philological notes

Metrical alterations

The original opening verses

From verse *Suśrutasaṃhitā* 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).⁵⁰⁷ By contrast, the vulgate contains two complete verses (four hemistichs) in the *anuṣṭubh* metre, again with only loosely-related content.⁵⁰⁸ The three final hemistichs of this group are borrowed verbatim from the *Carakasaṃhitā*.⁵⁰⁹ We can be sure of the direction of borrowing because one of these shared verses says that the twenty kinds of diseases of the female reproductive system "have already been indicated in the *Compendium of Diseases* (rogasaṃgraha)".⁵¹⁰ This statement does not make any sense in the context of the *Suśrutasaṃhitā*, where no such Compendium exists.⁵¹¹ By contrast, in the *Carakasaṃhitā* this reference points back to chapter 1.19 (Ca 1941: 109–112), which calls itself "The Compendium of Diseases".⁵¹² This Compendium lists all the diseases dealt with in later sections of the text, and specifically mentions the twenty diseases of female reproductive system.⁵¹³ Even the vocabulary and wording of this

```
506 Suśrutasaṃhitā 6.38.3–4ab (Su 1938: 668).
507 The metre of these verses is not perfect.
508 Suśrutasaṃhitā 6.38.4cd–6ab (Su 1938: 668).
509 Carakasaṃhitā 6.30.7cd–8 (Ca 1941: 634).
510 Suśrutasaṃhitā 6.38.5ab (Su 1938: 668): विंशतिर्व्यापदो योनेर्निर्दिष्टा रोगसंग्रहे ॥ ← Carakasaṃhitā 6.30.7cd (Ca 1941: 634).
511 The remark was not commented on by Ḍalhaṇa.
512 Carakasaṃhitā 1.19.9cd (Ca 1941: 112): रोगाध्याये प्रकाशिताः.
513 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 *Carakasaṃhitā* and was borrowed by the editors of the vulgate text of the *Suśrutasaṃhitā*. 514

⁵¹⁴ 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 *Suśrutasaṃhitā*, it is likely that MN_3 62.1–2ab too was borrowed from from the *Suśrutasaṃhitā* and not from its original location in the *Carakasaṃhitā*).

- 1 And now I shall explain the countermeasures against disorders of the female reproductive system (*yonivyāpat*).⁵¹⁵
- *3 Since for good men, a woman is the most pleasurable thing, therefore a physician should diligently attend to the diseases located in the female reproductive system (*yoni*), because he is entirely devoted to it (that is, to curing these diseases) for the sake of (people's) happiness.⁵¹⁶
- *4 A corrupted female reproductive system (yoni) cannot consume semen $(b\bar{\imath}ja)$, and therefore, the woman cannot take a fetus (that is, become pregnant). She gets severe prolapses $(ar\acute{s}as)$, abdominal lump (gulma) and similarly many other diseases (roga).
- *5 Humours (doṣa), wind $(v\bar{a}ta)$, etc., corrupted due to faulty medical treatment $(mithyopac\bar{a}ra)$, 517 sexual activity, fate, and also defects (doṣa) of menstrual blood $(\bar{a}rtava)$ and semen $(b\bar{\imath}ja)$, produce various diseases in the female reproductive organ (yoni). These 20 diseases are taught here distinctly and one by one along with their treatment (bheṣaja),

⁵¹⁵ On this broad understanding of the term *yoni* as "female reproductive system" see Das 2003: pp. 572–5.

⁵¹⁶ 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.'

⁵¹⁷ 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- $\sqrt{$ चर् is attested several times in medical literature. At least once, at Carakasaṃhitā 3.3.38 (Ca 1941: 245), it is given an explicit gloss by Cakrapāṇidatta: मिथ्योपचरितानिति असम्यक् चिकित्सितान् "... given improper therapy". In the Suśrutasamhitā (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 मिथ्योपचा-राद्धि व्रणस्य व्रणजं स्मृतम् ॥ "... arises from wrong treatment of the wound." In contrast to this, the parallel verse in $Su\acute{s}rutasamhit\bar{a}$ 6.38.5ab (Su 1938: 668) = $Carakasamhit\bar{a}$ 6.30.8 (Ca 1941: 634) = MN₃ 62.1 reads मिथ्याचार "wrong conduct." All commentators (Cakrapāṇidatta on the Carakasaṃhitā, Śrīkaṇṭhadatta on the MN₃, and Dalhaṇa on the Suśrutasaṃhitā) explain that the wrong conduct stands here specifically for unwholesome diet. The parallel in *Aṣṭāṅgaḥṛdayasaṃhitā* 6.33.27 (Ah 1939: 895) = *Aṣṭāṅ*gasaṅgraha 6.38.34a (As 1980: 829) plainly reads दुष्तभोजन "corrupted food" instead.

- causes (hetu) and signs (cihna).
- *6.1 Because of wind (*vāta*), female reproductive organ (*yoni*) becomes:
 - 1. udāvartā (udāvartā),
 - 2. called Infertile (vandhyā), and
 - 3. Sprung (plutā),
 - 4. Flooded (pariplutā), and
 - 5. Windy (vātalā).
- *6.2 And because of choler (*pitta*), occur:
 - 1. With bloodloss (raktakṣayā),
 - 2. Vomiting (vāminī), and
 - 3. Causing a Fall (*sramsanī*),
 - 4. Child-murderess ($putraghn\bar{t}$), and also
 - 5. Bilious / Choleric (*pittalā*).
- *7.1 And because of phlegm (*kapha*) occur:
 - 1. Extremely Excited (atyānandā),
 - 2. Protuberant (karninī), 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 $(and\bar{i}n\bar{i})$,
 - 3. two Huge (mahatī),
 - 4. With a needle-like opening (sūcīvaktrā),
 - 5. Sarvātmikā (sarvātmikā).

Uttaratantra 65: Rules of Interpretation

Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.⁴⁵¹ Earlier explorations of this topic include Nārāyaṇa 1949; Dasgupta 1952; Oberhammer 1967–68; Muthuswami 1976; Lele 1981; Scharfe 1993; Mejor 2000; A. Singh 2003.

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.

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 *Suśruta Saṃhitā* 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 *Caraka Saṃhitā* 8.12 (Ca 1941) which introduce four additional *tantrayuktis*. However, the *tantrayuktis* remain undefined in the *Caraka Saṃhitā*.

The enumeration and definitions of the *tantrayuktis* in the *Suśruta Saṃhitā* closely parallel their treatment in the *Arthaśāstra*. For a sideby-side comparison of the *tantrayuktis* in the Suśruta Saṃhitā and the Arthaśāstra, please refer to Table 4.

Table 4: Tantrayuktis in $Su\acute{s}ruta~Saṃhit\bar{a}~(S)$ and $Artha\acute{s}\bar{a}stra~(A)$

Sequence	Terms	Definitions
(S) 1.	adhikaraṇa	तत्र यमर्थमधिकृत्योच्यते तदधिकरणम्।
(A) 1.	adhikaraṇa	यमर्थमधिकृत्योच्यते तदधिकरण।
(S) 2.	yoga	येन वाक्यं युज्यते स योगः।
(A) 3.	yoga	वाक्ययोजना योग।
(S) 3.	padārtha	योऽर्थोऽभिहितः सूत्रे पदे वा स पदार्थः। पदस्य पदयोः पदानां वा योऽर्थः स पदार्थः। अपरिमि- ताश्च पदार्थाः।
(A) 4.	padārtha	पदावधिकः पदार्थः।
(S) 4.	hetvartha	यदुक्तं साधनं भवति स हेत्वर्थः।
(A) 5.	hetvartha	हेतुरर्थसाधको हेत्वर्थः।
(S) 5.	uddeśa / samuddeśa	समासवचनं समुद्देशः।
(A) 6.	uddeśa	समासवाक्यमुद्देशः।
(S) 6.	nirdeśa	विस्तरवचनं निर्देशः।
(A) 7.	nirdeśa	व्यासवाक्यं निर्देशः।
(S) 7.	upadeśa	एवमित्युपदेशः।
(A) 8.	upadeśa	एवं वर्तितव्यमित्युपदेशः।
(S) 8.	apadeśa	अनेन कारणेनेत्यपदेशः।
(A) 9.	apadeśa	एवमसावाहेत्यपदेशः।
(S) 9.	pradeśa	प्रकृतस्यातिक्रान्तेन साधनं प्रदेशः।
(A) 11.	predeśa	वक्तव्येन साधनं प्रदेशः।
(S) 10.	atideśa	l
(A) 10.	atideśa	उक्तेन साधनमतिदेशः।
(S) 11.	apavarga	अभिप्रमृज्यापकर्षणमपवर्गः ।
(Aa 22.	apavarga	अभिप्लुतव्यपकर्षणमपवर्गः ।
(S) 12.	vākyaśeṣa	येन पदेनानुक्तेन वाक्यं समाप्यते स वाक्य- शेषः।
(A) 17.	vākyaśeṣa	येन वाक्यं समाप्यते स वाक्यशेषः।
(S) (A) 12.	иратāпа	दृष्टेनादृष्टस्य साधनमुपमानम्।

Early Sources 159

Sequence	Terms	Definitions
(S) 13.	arthāpatti	यदकीर्तितमर्थादापद्यते सार्थापत्तिः।
(A) 13.	arthāpatti	यदनुक्तमर्थादापद्यते सार्थापत्तिः।
(S) 14.	viparyaya	यद्यस्य प्रातिलोम्यं तद्विपर्ययः।
(A) 16.	viparyaya	प्रतिलोमेन साधनं विपर्ययः।
(S) 15.	prasaṅga	प्रकरणान्तरेण समानः प्रसङ्गः।
(A) 15.	prasaṅga	प्रकरणान्तरेण समानोऽर्थः प्रसङ्गः।
(S) 16.	ekānta	यदवधारणेनोच्यते स एकान्तः।
(A) 26.	ekānta	सर्वत्रायत्तमेकान्तः।
(S) 17.	anekānta	क्वचित्तथा क्वचिदन्यथा सोऽनेकान्तः।
(A)		
(S) 18.	pūrvapakṣa	यस्तु निःसंशयमभिधीयते स पूर्वपक्षः। ⁴⁵²
(A) 24.	pūrvapakṣa	प्रतिषेद्धव्यं वाक्यं पूर्वपक्षः।
(S) 19.	nirṇaya	तस्योत्तरं निर्णयः।
(A) 25.	uttarapakṣa	निर्णयवाक्यमुत्तरपक्षः।
(S) 20.	anumata	परमतमप्रतिषिद्धमनुमतम् ।
(A)18.	anumata	परवाक्यमप्रतिषिद्धमनुमतम् ।
(S) 21.	vidhāna	प्रकरणानुपूर्व्यादभिहितं विधानम्।
(A) 2.	vidhāna	शास्त्रस्य प्रकरणानुपूर्वी विधानम्।
(S) 22.	anāgatāpekṣaṇa	एवं वक्ष्यतीत्यनागतापेक्षणम्।
(A) 27.	anāgatāvekṣaṇa	पश्चादेवं विहितमित्यनागतावेक्षणम्।
(S) 23.	atikrāntāpekṣaṇa	इत्युक्तमित्यतिक्रान्तापेक्षणम् ।
(A) 28.	atikrāntāvekṣaṇa	1
(S) 24.	saṃśaya	उभयहेतुनिदर्शनं संशयः।
(A) 14.	saṃśaya	उभयतो हेतुमानर्थः संशयः।
(S) 25.	vyākhyāna	तत्रातिशयोपवर्णनं व्याख्यानम् ।
(A) 19.	vyākhyāna	अतिशयवर्णना व्याख्यानम् ।
(S) 26.	svasaṃjñā	अन्यशास्त्रासामान्या स्वसंज्ञा।
(A) 23.	svasaṃjñā	परैरसमितः शब्दः स्वसंज्ञा।
(S) 27.	nirvacana	लोकप्रथितमुदाहरणं निर्वचनम्।

 $[\]overline{\text{452 This definition of } p\bar{u}rvapakṣa \text{ in the Nepalese version is problematic.}}$

Sequence	Terms	Definitions
(A) 20.	nirvacana	गुणतः शब्दनिष्पत्तिर्निर्वचनम्।
(S) 28.	nidarśana	दृष्टान्तव्यक्तिर्निदर्शनम् ।
(A) 21.	nidarśana	दृष्टान्तो दृष्टान्तयुक्तो निदर्शनम् ।
(S) 29.	niyoga	इदमेवेति नियोगः।
(A) 29.	niyoga	एवं नान्यथेति नियोगः।
(S) 30.	vikalpa	l
(A) 30.	vikalpa	अनेन वानेन वेति विकल्पः।
(S) 31.	samuccaya	l
(A) 31.	samuccaya	अनेन चानेन चेति समुच्चयः।
(S) 32.	ūhya	यदनिर्दिष्टं बुद्धिगम्यं तदूह्यम्।
(A)	ūhya	अनुक्तकरणमूह्यम् ।

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. In the Yuktidīpikā, these terms are referred to as tantraguṇa or tantrasampat. They are: (1) sūtropapatti (2) pramāṇopapatti (3) avayavopapatti (4) anyūnatā (5) saṃśayokti (6) nirṇayokti (7) uddeśa (8) nirdeśa (9) anukrama (10) saṃjñā and (11) upadeśa.

Terminology

Characteristics of the Manuscript Transmission

Translation

1 Now we shall explain the chapter called, "the enunciation of the logical methods of the system (*tantrayukti*)."

⁴⁵³ See Oberhammer 1967–68: 605–614 for a detailed discussion of the use of the tantray-uktis in the $Yuktid\bar{\imath}pik\bar{a}$.

⁴⁵⁴ सूत्रप्रमाणावयवोपपत्तिरन्यूनता संशयनिर्णयोक्तिः। उद्देशनिर्देशमनुक्रमश्च संज्ञोपदेशाविह तन्त्रसम्पत्॥ bibid

3 There are thirty-two logical methods of the system. They are as follows:

1.	topic (adhikaraṇa)	18.	objection (pūrvapakṣa)
2.	construing (yoga)	19.	determination (nirṇaya)
3.	word meaning (padārtha)	20.	consent (anumata)
4.	premise (hetvartha)	21.	itemization (vidhāna)
5.	mention (samuddeśa)	22.	future reference
6.	description (nirdeśa)		(anāgatāpekṣaṇa)
7.	prescription (upadeśa)	23.	past reference
8.	statement of reason (apadeśa)		(atikrāntāpekṣaṇa)
9.	indication (<i>pradeśa</i>)	24.	doubt (saṃśaya)
10.	prediction (atideśa)	25.	explication (<i>vyākhyāna</i>)
11.	exception (apavarga)	26.	field-specific term
12.	ellipis (<i>vākyaśeṣa</i>)		(svasaṃjñā)
13.	implication (arthāpatti)	27.	interpretation (nirvacana)
14.	contraposition (viparyaya)	28.	illustration (<i>nidarśana</i>)
15.	recontextualization	29.	compulsion (niyoga)
	(prasaṅga)	30.	option (vikalpa)
16.	invariable statement (<i>ekānta</i>)	31.	aggregation (samuccaya)
17.	variable statement (anekānta)	32.	deducible ($\bar{u}hya$)

- 4 It is said about this, "what is the purpose of these methods?" The answer is, "construing sentences and construing meanings". 455
- 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.

8 Among them, "topic (*adhikaraṇa*)" refers to the object, with reference to which statements are made, such as flavour (*rasa*) or humour (*dosa*).⁴⁵⁶

⁴⁵⁵ Dalhaṇa on 6.65.4 (Su 1938: 815) explained "construing a sentence" as "connecting up a sentence that is not connected," and "construing a meaning" as "clarifying or making appropriate a meaning that is implied or inppropriate."

⁴⁵⁶ 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

9 "Construing (*yoga*)" is that by which a sentence is construed, 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, 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.⁴⁵⁷ Unifying the meanings of words in this way, even though they are far apart, is construing.

- The meaning that is conveyed in an aphorism $(s\bar{u}tra)$ or a word is called word-meaning $(pad\bar{a}rtha)$. 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. 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.
- The sense of the cause (hetvartha) is a statement that is a premiss ($s\bar{a}d-hana$). For example, just as a lump of earth is moistened by water, so a

⁴⁵⁷ 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.

⁴⁵⁸ 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.

⁴⁵⁹ The Nepalese text here is hard to follow, and the vulgate has a significantly different reading. But the problem situation seems to be as follows. The *Suśrutasaṃhitā* opens with a statement saying that it will describe the "origin of the *veda*" (*vedotpatti*). The problem is, what does this word "*veda*" refer to? Is it the Veda, as in Sāmaveda? Or something derived from the roots $\sqrt{\text{vind}}$ or $\sqrt{\text{vid}}$? Context ("prior and subsequent elements") can help us to know that "*veda*" means only "āyurveda" and that the *Suśrutasaṃhitā* is talking about the origin of ayurveda, specifically. This same issue is also addressed by Palhaṇa at 1.1.1 (Su 1938:1).

wound is moistened by substances like milk with green gram. 460°

- 12 A mention (samuddeśa) is a brief statement such as "spike (śalya)".461
- 13 A description (*nirdeśa*) is a detailed statement. For example, "in the body or exogenous".⁴⁶²
- "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.
- "Statement of reason (*apadeśa*)" refers to statements like "this happens because of this." For example, in the sentence "Sweet substances increase phlegm," the reason is stated.⁴⁶³
- 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.
- 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." 464
- A deviation after generalization is exception (*apavarga*). For example, those afflicted by poison should not go through sudorific treatment other than the cases of poisoning by urinary worms.
- 19 Ellipsis (*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.



⁴⁶⁰ 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, हेल्वर्थ 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 <code>Aṣṭādhyāyī</code> (Kaumudī on 2.3.23). The vulgate of the <code>Suśrutasaṃhitā</code> 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. <code>Arthaśāstra 5.1.13</code> (Olivelle 2013: 436), which is also unclear.

⁴⁶¹ Generally, शल्य refers to any painful foreign body embedded in the flesh that requires surgical removal.

⁴⁶² This is a reference to 1.26.4 (Su 1938: 121) where शल्य is described in more detail as being of two kinds.

⁴⁶³ A techical term also in Nyāyaśāstra (Jhalakīkar 1978: 54).

⁴⁶⁴ A techical term also in Nyāyaśāstra (Jhalakīkar 1978: 6–7).

- 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.
- 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."
- Recontextualization (*prasanga*) refers to a concept common to another section. For example, a concept belonging to another section is brought up by mentioning it repeatedly throughout.
- Invariable statement ($ek\bar{a}nta$) is one that is stated with certainty. For example, turpeth causes purgation; emetic nut induces vomiting.
- 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.
- A first point of view ($p\bar{u}rvapak$;a) is something stated with certainty. For example, how are the four types of diabetes caused by wind incurable?
- 26 Its answer is determination. For example, afflicting the body and trickling downwards, it creates urine mixed with fat, fatty tissues, and marrow. Thus, those caused by wind are incurable.
- 28 Consent (*anumata*) refers to others' opinion that is not rejected. For example, when the assertor says that there are six flavours and that somehow gets accepted with affirmation, it is termed consent.
- 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-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 (atikrāntāpekṣaṇa) such as when one says in the Cikitsāsthāna, "As mentioned in the Sūtrasthāna..."

See chapter 40 of Sūtrasthāna.

vasā / medas / maj-

⁴⁶⁵ 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 ससंशयम् अभिधीयते स पूर्वपक्षः, but our manuscripts are unanimous in their reading.

An indication pointing to causes on both sides is doubt (*saṃśaya*). For example, a blow to ⁴⁶⁶ is fatal, whereas cutting hands and feet is not fatal.

- 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.
- Field-specific term ($svasamj\tilde{n}\bar{a}$) 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.

Does bhūtādi a compound or it means ahaṅkāra or ego?

- A customary potrayal is interpretation (*nirvacana*). For example, one goes along the shade fearing heat.
- 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.
- 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. 467
- A summarized statement is aggregation (*samuccaya*).⁴⁶⁸ For example, let there be rice with meat broth, rice with milk, or burley with ghee.

A meaningful reading of these two rules would be

- 39 idam vedam veti vikalpah / yathā rasodanah kṣīrodanah saghṛtā vā yavāgūr bhavatv iti //
- 38 saṃkṣepavacanaṃ samuccayaḥ / yathā māṃsavarge eṇahariṇalāvatittirāḥ pradhānā iti
- What is not explicitly stated but can be understood through discernment is deducible ($\bar{u}hya$). For example, in the section on rules of foods and drinks, four types of foods and drinks are mentioned— masticable

⁴⁶⁶ तलहृदय is one of the muscle-group of lethal points mentioned in 3.6.7 (Su 1938: 370).

⁴⁶⁷ 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 Hārāṇacandra's commentary Bhaṭṭācārya 1910–17: 2, in the same way as in the Nepalese version.

⁴⁶⁸ As stated in the previous footnote, the example here is of विकल्प, not समुच्चय.

(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 Kuṃṭe, Aṇṇā Moreśvara, Navare, Kṛṣṇaśāstrī, and

Parādkar, Hariśāstrī (1939) (eds.), श्रीमद्वाग्भटविरचितम् अष्टाङ्गहृदयम्, श्रीमदरुणदत्तविरचितया सर्वाङ्गसुन्दराख्यया व्याख्यया, हेमाद्रिप्रणीतया आयुर्वेदरसायनाह्वया टीकया च समुल्लसितम् = The Astāngahṛidaya (6th edn., Muṃbayyām: Nirṇayasāgara

Press), ark:/13960/t3tt6967d.

Anup Anup Sanskrit Library.

Apte Apte, Vaman Shivaram (1992), The Practical Sanskrit-

English Dictionary (Kyoto: Rinsen Book Company), ISBN: 4-653-00038-7; Reprinted from Gode and Karve 1957–59.

AS Asiatic Society.

As 1980 Āṭhavale, Anaṃta Dāmodara (1980) (ed.), अष्टाङ्गसङ्गृहः

श्रीमद्भृद्धवाग्भटविरचितः इन्दुव्याख्यासिहतः [= Vāgbhaṭa's Āṣṭāṅ-gasaṅgraha with Indu's Commentary] (Puṇe: M. A. Āṭhavale, Śrīmad Ātreya Prakāśanam), ark:/13960/s25bwqsd0n7.

AyMahā Jośī, Veṇīmādhavaśāstrī, and Jośī, Nārāyaṇa Harī (1968),

आयुर्वेदीय महाकोशः अर्थात् आयुर्वेदीय शब्दकोशः संस्कृत–संस्कृत (Muṃbaī: Mahārāṣṭra Rājya Sāhityta āṇi Saṃskṛti

Mamdala), ark:/13960/t22c41g8t.

Bhela 1921 Mookerjee, Ashutosh, and Ananta Krishna Shastri, Ved-

antabisharad (1921) (eds.), *The Bhela Samhita. Sanskrit Text* (Calcutta: University of Calcutta), ark:/13960/t3sv3157j; Based on two copies made of the Thanjavur codex unicus (MS Thanjavur TMSSML 10773, Burnell 1880: 63–4, P. P. S.

Sastri 1933: #11085).

Bhela 2000 Krishnamurthy, K. H. (2000), Bhela-samhitā. Text with Eng-

> lish Translation, Commentary and Critical Notes (Haridas Ayurveda Series, 8; Varanasi: Chaukhambha Visvabharati).

BLBritish Library.

Ācārya, Yādavaśarma Trivikrama (1941) (ed.), महिषेणा पुन-Ca 1941

> र्वसुनोपदिष्टा, तच्छिष्येणाग्निवेशेन प्रणीता, चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता, श्रीचक्रपाणिदत्तविरचितया आयुर्वेददीपिकाव्याख्यया संव-लिता (3rd edn., Mumbayyām: Nirnaya Sagara Press), 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; 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).

 DED_2 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 Wör-

terbuch des Altindoarischen (Heidelberg: Carl Winter,

Universitätsverlag), ISBN: 3-533-03826-2.

Pāndeya, Rāmateja (1963) (ed.), श्रीकृष्णद्वैपायनव्यासप्रणीतं Garudapurāna

> गरुडपुराणम् (Vidyabhawan Prachyavidya Granthamala, ३; reprint, Caukhambā Vidyābhavana, Pandita-Pustakālaya:

 $K\bar{a}\dot{s}\bar{i}$), 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: Secret-

ary 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.

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.

 MN_1

Ācārya, Yādavaśarma Trivikrama (1920) (ed.), महामित-श्रीमाधवकरप्रणीतं माधविनदानम् श्रीविजयरक्षित-श्रीकण्थदत्ताभ्यां विरचितया मधुकोशाख्यव्याख्यया, श्रीवाचस्पतिवैद्यविरचितया आत-ङ्कदर्पणव्याख्याया विशिष्टांशेन च समुल्लसितम् = Mādhavanidāna by Mādhavakara with the Two Commentaries, Madhukosha by Vijayarakshita & Shrīkanthadatta and Ātankadarpaṇa by Vāchaspati Vaidya (1st edn., Bombay: Nirnaya Sagara Press), ark:/13960/t9z08jn5j.

 MN_3

Ācārya, Yādavaśarma Trivikrama (1932) (ed.), महामित-श्रीमाधवकरप्रणीतं माधवनिदानम् श्रीविजयरक्षित-श्रीकण्थदत्ताभ्यां विरचितया मधुकोशाख्यव्याख्यया, श्रीवाचस्पितवैद्यविरचितया आत-ङ्कदर्पणव्याख्याया विशिष्टांशेन च समुष्ठसितम् = Mādhavanidāna by Mādhavakara with the Two Commentaries, Madhukosha by Vijayarakshita & Shrīkanthadatta and Ātankadarpaṇa by Vāchaspati Vaidya (3rd edn., Bombay: Nirnaya Sagara Press), ark:/13960/t66452x0h; Reprinted Varanasi: Chowkhambha, 1986.

MW

Monier-Williams, Monier, Leumann, E., Cappeller, C., et al. (1899), *A Sanskrit–English Dictionary Etymologically and Philologically Arranged, New Edition* (Oxford: Clarendon Press); 1970 reprint.

NAK

National Archives of Kathmandu.

NCC

Raghavan, V., et al. (1949–), New Catalogus Catalogorum, an Alphabetical Register of Sanskrit and Allied Works and Authors,

39 vols. (Madras University Sanskrit Series; Madras: University of Madras); v.1: revised edition, 1968. Searchable at https://vmlt.in/ncc/.

NGMCP

NGMCP (2014), "Nepal-german Manuscript Cataloguing Project. Online Title List and Descriptive Catalogue," Universität Hamburg and Deutsche Forschungsgemeinschaft, URL.

PW

Böhtlingk, Otto, and Roth, Rudolph (1855–75), *Sanskrit-Wörterbuch* (St. Petersburg: Kaiserlichen Akademie der Wissenschaften), URL, accessed 18/05/2023.

PWK

Böhtlingk, Otto (1879), Sanskrit-wörterbuch in kürzerer fassung (St. Petersburg: Kaiserlichen Akademie der Wissenschaften), URL, accessed 18/05/2023.

RORI

Rajasthan Oriental Research Institute.

Su 1889

Bhaṭṭācāryya, Jīvānanda Vidyāsāgara (1889) (ed.), सुश्रुतः. सूत्र-निदान-शारीर-चिकित्सा-कल्पोत्तर-तन्त्र-कल्पित आयुर्वेद. भगवता धन्वन्तरिणोपदिष्टः सुश्रुतनामधेयेन तच्छिष्येण विरचितः (3rd edn., Calcutta: Saratī 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 Dalhaṇāchārya (Mumbayyāṃ: Nirṇayasāgaramudrāyantrālaye), ark:/13960/t3sv0mt50, accessed 29/07/2020; HIML: IB, 312 edition *v.

Su 1931

Ācārya, Yādavaśarma Trivikrama (1931) (ed.), सृश्रुत-संहिता, वैद्यवरश्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्यास्यया समुष्ठसिता, महर्षिणा सृश्रुतेन विरचिता, सूत्र-निदान-शारीर-चिकित्सा-कल्पस्थानोत्तरतन्त्रात्मकः. आचार्योपाह्वेन त्रिविक्रमात्मजेन यादवशर्मणा संशोधिता = The Sushrutasaṃhitā of Sushruta with the Nibandhasangraha Commentary of Shree Dalhaṇāchārya (2nd edn., Mumbayyāṃ: 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 निबन्धसंग्रहा-ख्यव्याख्यया निदानस्थानस्य श्रीगयदासाचार्यविरचितया न्यायचन्द्रि-काख्यपञ्जिकाव्याख्यया च समुल्लसिता महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता (3rd edn., Bombay: Nirṇayasāgara Press), 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, श्री-डल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया निदानस्थानस्य श्रीग-यदासाचार्यविरचितया न्यायचन्द्रिकाख्यपञ्जिकाव्याख्यया च समुल्लसिता (Vārāṇasī: Caukhambhā Kṛṣṇadāsa Akādamī); Reprint of the third, 1938 edition (Su 1938).

Su 1939

Ācārya, Yādavaśarma Trivikrama, and Śarman, Nandakiśora (1939) (eds.), सुश्रुतसंहितायाः सूत्रस्थानम्. श्रीचक्रपाणिदत्तविरचि-तया भानुमतीव्याख्याया समेतम् = Sushrut-sañhitā (sūtra Sthān) with Bhānumatī Commentary by Chakrapāṇi Datta with Introduction by Gaṇanāth Sen (Śrīsvāmi Lakṣmīrāma Nidhi Granthamālā = Shrī Swāmī Lakshmī Rām Trust Series, 1; [Jaipur]: Śyāmasundara Śarman), ark:/13960/t54g0d12m; Printed at the Nirṇayasāgara Press, Bombay.

Su 1945

Ācārya, Yādavaśarma Trivikramācārya, and Ācārya, Nārāyaṇa Rāma (1945) (eds.), महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता (मूलमात्रा). पाठान्तर-परिशिष्टादिभिः संवलिता = the Suśrutasaṃhitā of Suśruta with Various Readings, Notes and Appendix etc. (Mumbāi: Nirṇayasāgarākhyamudraṇālaye), ark:/13960/t8kd4jh7n.

TMSSML

Tanjore Maharaja Serfoji Saraswati Mahal Library.

Visnudh.

Śarman, Madhusūdana, and Śarman, Mādhavaprasāda (1912) (eds.), विष्णुधर्मोत्तरपुराणम् = [Viṣṇudharmottarapurāṇa] (Mumbai: Khemarāja Śrīkṛṣṇadāsa at the Śrīveṅkaṭeśvara Steam Press), ark:/13960/t6qz6fr23; Lithograph format. Edited on the basis of a manuscript belonging to the astrologer Śudhākaraśarman of the Varanasi Sanskrit Pāṭhaśālā.

Index of Manuscripts

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

```
Bikaner RORI 5157: 94
Cambridge Add. 1693: 90
Hyderabad Osmania 137-3(b): 43
Kathmandu KL 699: 38, 44, 93, 151
Kathmandu NAK 1-1079: 11, 21, 39, 44
Kathmandu NAK 1-1146: 21
Kathmandu NAK 5-333: 11, 39, 44, 90, 95, 120
NAK 5-333: 108
```

Thanjavur TMSSML 10773: 167

- Ācārya, Yādavaśarma Trivikrama (1941) (ed.), महर्षिणा पुनर्वसुनोपदिष्टा, तच्छि-ष्येणाग्निवेशेन प्रणीता, चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता, श्रीचक्रपाणिदत्तवि-रचितया आयुर्वेददीपिकाव्याख्यया संवलिता (3rd edn., Mumbayyāṃ: Nirnaya Sagara Press), 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.
- Acharya, Diwakar (2012), "Description of Microfilm A 45/5," NGMCP, URL, accessed 27/02/2023.
- 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.
- Āgāśe, Ve. Śā. Rā. Rā. Kāśīnātha Śāstrī, and Āpaṭe, Hari Nārāyaṇa (1904) (eds.), वाचस्पतिमिश्रविरचितटीकासंविष्ठतव्यासभाष्यसमेतानि पातञ्जल-योगसूत्राणि तथा भोजदेवविरचितराजमार्तण्डाभिधवृत्तिसमेतानि पातञ्जलयोगसूत्राणि (Ānandāśramasaṃskṛtagranthāvaliḥ, 47; Puṇyākhya-pattana: Ānandāśramamudraṇālaya), ark:/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.
- 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.
- 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.
- 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.
- 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.
- Bhaṭṭācārya, Candrakānta (1910–17) (ed.), सुश्रुतसंहिता प्रथमखण्डम् सूत्रस्थानात्मकम् हाराणचन्द्रचक्रवर्तिकविराजविरचितसुश्रुतार्थसन्दीपनभाष्य-समेतम्...चन्द्रकान्त भट्टाचार्थ्य-प्रमुखैः संशोधितम् = [The Suśrutasaṃhitā with the Commentary Suśrutārthasandīpanabhāṣya by Hārāṇacandra Cakravarti] (Kalikātā: Satya Press); Edition "t" in HIML: 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.
- 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.
- Birch, Jason, Wujastyk, Dominik, Klebanov, Andrey, Rimal, Madhusudan, et al. (2021), "Dalhaṇa and the Early 'Nepalese' Version of the Suśrutas-aṃhitā." doi: 10.20935/al3733.
- Böhtlingk, Otto (1879), Sanskrit-wörterbuch in kürzerer fassung (St. Petersburg: Kaiserlichen Akademie der Wissenschaften), URL, accessed 18/05/2023.
- Böhtlingk, Otto, and Roth, Rudolph (1855–75), Sanskrit-Wörterbuch (St. Petersburg: Kaiserlichen Akademie der Wissenschaften), URL, 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, 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, URL, accessed 02/06/2021.
- Bronkhorst, Johannes (2016), *How the Brahmins Won: From Alexander to the Guptas* (Leiden: Brill). DOI: 10.1163/9789004315518.
- —— (2021), "Patañjali's Āryāvarta = Śuṅga realm?," *Academia Letters*. DOI: 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.

Brooks, Lisa Allette (2020*a*), "A Surgeon's Hand: Reflections on Surgical Tactility in Early Ayurveda," *Asian Medicine*, 15/1: 30–62. DOI: 10.1163/15734218-12341460.

- ——(2020*b*), "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.
- ——(2021*a*), "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.
- ——(2021*b*), "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.
- 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.
- ——(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; Bhelasamhitā described on pp. 67 ff.
- Carpue, J. C. (1816), An Account of Two Successful Operations for Restoring a Lost Nose from the Integuements of the Forehead...Including Descriptions of the Indian and Italian Methods (London: Longman et al.), ark:/13960/t2q57fn42, accessed 20/03/2019.
- Chadha, Gita, and Thomas, Renny (2022) (eds.), *Mapping Scientific Method: Disciplinary Narrations* (Science and Technology Studies; Abingdon and New York: Routledge). DOI: 10.4324/9781003298908.
- 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, accessed 02/01/2020; Reprinted in Roşu 1989: 539–70.

- Coult, Ro. (1731), "An Account of the Diseases of Bengall," in *Indian Science* and *Technology in the Eighteenth Century* (Impex India), 141 f., 276.
- Crawford, D. G. (1930), *Roll of the Indian Medical Service*, 1615–1930 (London, Calcutta, Simla: Thacker).
- Das, Rahul Peter (2003), The Origin of the Life of a Human Being. Conception and the Female According to Ancient Indian Medical and Sexological Literature (Indian Medical Tradition; Delhi: Motilal Banarsidas), ISBN: 81-208-1998-5.
- Dasgupta, S.. N. (1952), "Speculations in the Medical Schools," in *A History of Indian Philosophy*, ii (Reprint of 1932 edition, Cambridge: Cambridge University Press), chap. 13, 273–436, URL, accessed 26/01/2018.
- Dave, K. N. (1985), *Birds in Sanskrit Literature* (Delhi: Motilal Banarsidass), ISBN: 0-89581-676-8, ark:/13960/t2c94cv80.
- Deshpande, Madhav (1988), "Pāṇini and the Northwestern Dialect: Some Suggestions on Sūtra 3.3.10," in Mohammad Ali Jazayery and Werner Winter (eds.), *Languages and Cultures: Studies in Honor of Edgar C. Polomé*, xxxvi (Trends in linguistics. Studies and monographs; Berlin, New York: Mouton de Gruyter), 111–23.
- Deshpande, Madhav M. (2010), "Pañca Gauḍa and Pañca Drāviḍa: Contested Borders of a Traditonal Classification," in Klaus Karttunen (ed.), Anantaṃ Śāstram. Indological and Linguistic Studies in Honour of Bertil Tikkanen (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.

Dimitrov, Dragomir, and Tamot, Kashinath (2007), "Kaiser Shamsher, His Library and His Manuscript Collection," *Kaiser Shamsher, 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.
- 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.
- Eaton, Richard M. (1993), *The Rise of Islam and the Bengal Frontier*, 1204–1760 (Berkeley: University of California Press), ark:/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.
- ——(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/s2kbk5zcrg9.
- 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, url, accessed 24/02/2019.
- Emeneau, M. B. (1969), "Sanskrit Syntactic Particles "kila, khalu, nū-nam"," *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; 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.

- 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; 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; 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.
- Froese, R., and Pauly, D. (2022) (eds.), "Fishbase: The Global Encyclopedia about Fish," URL.
- Gaṇapatiśāstrī, T. (1920–25), Āryamañjuśrīmūlakalpaḥ (Trivandrum Sanskrit Series, 70; Anantaśayane: Rājakīyamudraṇayantrālaye), ark:/13960/t4pk5sj0j.
- 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.
- 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, 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.
- 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.

Gupta, Parmanand (1973), Geography In Ancient Indian Inscriptions (Up to 650 A.D.) (Delhi: D. K. Publishing House), ark:/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.
- Haas, E. (1876), "Über die Ursprünge der Indischen Medizin, mit besonderem Bezug auf Suṣruta," Zeitschrift der Deutschen Morgenländischen Gesellschaft, 30/4: 617–70, URL.
- Harimoto, Kengo (2010), "[Preliminary Edition of the Nepalese MSS of the Suśrutasaṃhitā, adhyāyas 1.1–3, 6.4]" (prepublished).
- ——(2011), "In Search of the Oldest Nepalese Manuscript," *Rivista degli Studi Orientali*, 84/1–4: 85–106, ISSN: 0392-4866, URL, accessed 08/09/2019.
- ——(2013), "Description of microfilm C 80/7," NGMCP, url, accessed 27/02/2023.
- ——(2014), "Nepalese Manuscripts of the Suśrutasaṃhitā," *Journal of Indian and Buddhist Studies* (*Indogaku Bukkyogaku Kenkyu*), 62/3: 23–29 (1087-1093). DOI: 10.4259/ibk.62.3_1087, 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 उपोद्धातेन सहिता ... स-त्यपाल भिषगा कृतया विद्योतिनी हिन्दीव्याख्यया ... समुल्लसिता (1st edn., Mumba: 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 Ayurvédas: id est Medicinae Systema a Venerabili D'hanvantare Demonstratum a Susruta Discipulo Compositum; Nunc Primum Ex Sanskrita in Latinum Sermonem Vertit, Introductionem, Annotationes Et Rerum Indice Franciscus Hessler (Erlangen: Ferdinandum Enke), ark:/13960/t17m45r97.

- 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 Suçruta-Saṃhitā or the Hindū System of Medicine According to Suçruta 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.
- —— (1907*a*), "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.

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 (सकलशास्त्रोपकारकन्यायादिशास्त्रीयप-दार्थप्रकाशकः) = Nyāyakośa or Dictionary of Technical Terms of Indian Philosophy (Poona: Bhandarkar Oriental Research Institute), ark:/13960/ t4cp7242f.
- Kangle, R. P. (1969), *The Kauṭilīya* Arthaśāstra (2nd edn., Delhi: Motilal Banarsidass), ISBN: 81-208-0042-7, ark:/13960/t3gz6qh1s, accessed 23/09/2021.
- Karttunen, Klaus (2015), *Yonas and Yavanas in Indian Literature* (Studia Orientalia, 116; Helsinki: Finnish Oriental Society), 454, ISBN: 978-951-9380-88-9, URL; 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, accessed 25/06/2019, in *Zeitschrift Der Deutschen Morgenländischen Gesellschaft*, 1/62: 134–9, URL, accessed 17/04/2021.
- Kieffer-Pülz, Petra (1996), "The Meaning of Māḷa(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, 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, accessed 08/09/2019.
- ——(2012), "Description of microfilm B 29/19," NGMCP, URL, accessed 27/02/2023.

—— (2021*a*), "On the Textual History of the Suśrutasaṃhitā (1): A Study of Three Nepalese Manuscripts," *eJIM*: *Electronic Journal of Indian Medicine*, 12/1: 1–64. DOI: 10.21827/ejim.12.1.37385.

- ——(2021*b*), "On the Textual History of the Suśrutasaṃhitā, (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/wzksls27, url.
- Lariviere, Richard W. (2003), *The Nāradasmṛti. 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.
- 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.

Li, Charles (2018), "Limits of the Real: A Hypertext Critical Edition of Bhartrhari'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.
- ——(2022*b*), "Reconstructing a Sanskrit Text" (19 Nov.), URL, accessed 20/01/2023.
- Lienhard, Siegfried (1978), "On the Meaning and Use of the Word Indragopa," *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.
- 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: Archæology, Language, and Identity in Greek Central Asia: Archæology, Language, and Identity in Greek Central Asia (Berkeley: University of California Press), 250, ISBN: 9780520292468. DOI: 10.1525/9780520959545.
- Majno, Guido (1975), *The Healing Hand. Man and Wound in the Ancient World* (Cambridge, MA: Harvard University Press), ark:/13960/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, 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, accessed 04/10/2021.
- Masai, François (1950), "Principes et conventions de l'édition diplomatique," *Scriptorium*, 4: 177–93. DOI: 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 (July): 247–9. DOI: 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.
- —— (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.

Meulenbeld, Gerrit Jan (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 Dosa," *Journal of the European Āyurvedic Society*, 2/1: 1–5, ark:/13960/t8hf69z8j.
- ——(2008), 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-/mūrch," *eJournal of Indian Medicine*, 4/2: 35–135, URL, accessed 13/10/2017.
- Miles, M. (1999), "Personal Communication," Mar.; Letter of 4 March.
- 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 Eouropean (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.
- Muthuswami, Nurani Easwara (1976) (ed.), *Tantrayuktivicāraḥ* [by Nīlameghabhiṣaj] (Kerala Praśāsanāyurveda Granthāvaliḥ, 1; 2nd edn., Trivandrum: Publications Division, Govt. Ayurveda College), url., accessed 09/03/2018; Etext transcribed from edition by Manoj Sankaranarayana and Pavana J.
- 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; Koṭṭayanagaryāṃ: Vaidyasarathi Press), url, accessed 09/03/2018.

- NGMCP (2014), "Nepal-german Manuscript Cataloguing Project. Online Title List and Descriptive Catalogue," Universität Hamburg and Deutsche Forschungsgemeinschaft, URL.
- Oberhammer, Gerhard (1967–68), "Notes on the Tantrayukti-s," *The Adyar Library Bulletin*, 31–2: 600–16, URL.
- 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 (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.
- 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.
- 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.
- 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 altinidischen Dialektik, Erkenntnislehre und Metholologie, ed. Gerhard Oberhammer (Österreichische Akademie der Wissenschaften, Philosoophisch-Historische Klasse, Denkschriften, 223, 248, 343; Wien: Verlag der Österreicheischen Akademie der Wissenschaften); Beitraäge 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, URL, accessed 04/07/2021.
- Rādhākāntā Deva, Rājā (1876), शब्दकल्पड्रमः = 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.

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; 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.), पातञ्जलयोगसू-त्रभाष्यिववरणम्। (राङ्करभगवत्पादप्रणीतम्) = 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, Priyadaranjan, Gupta, Hirendra Nath, and Roy, Mira (1980), *Suśruta Saṃhita* (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 anomolies 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 Stemmatologicum. A Brief Lexicon of Stemmatology." 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).

Ruben, Walter (1926), "Zur Frühgeschichte der indischen Philosophie," in W. Kirfel (ed.), Beiträge zur Literaturwissenschaft und Geistesgeschichte Indiens – Festgabe Hermann Jacobi zum 75. Geburtstag <11. Februar 1925> dargebracht von Freunden, Kollegen und Schülern (Bonn: Kommissionsverlag Fritz Klopp), 346–57.

- ——(1954*a*), Geschichte der indischen Philosophie [collected articles] (Berlin: Deutscher Verlag), ark:/13960/t9v18cc78.
- —— (1954*b*), "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.
- 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.
- 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.
- Śāstrī, Vardhamāna Pārśvanātha (1940) (ed.), उग्रादित्याचार्यकृत कल्याणकारक (राष्ट्रभाषानुवादसिहत) = The Kalyāṇa-kārakam of Ugrādityacharya, Edited with Introduction, Translation, Notes, Indexes and Dictionary (Sakhārāma Nemacaṃda Graṃthamālā, 129; Solāpura: Seṭha Goviṃdajī Rāvajī Dośī), ark:/13960/t2q617g4d.
- Scharfe, Hartmut (1993), *Investigations in Kauṭalya's Manual of Political Science* (2nd edn., Oxford: Harrassowitz), ISBN: 3447033304, URL; 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.

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; Breton 1826: 358–363 cites Scott's description of cataract couching.

- Selby, Martha Ann (2005*a*), "Narratives of Conception, Gestation, and Labour in Sanskrit Ayurvedic Texts," *Asian Medicine*, 1/2: 254–75, ISSN: 1573-420X. DOI: 10.1163/157342105777996638.
- (2005*b*), "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, 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.
- Sena, Gaṅgāprasād, et al. (1886–93) (eds.), सुश्रुतसंहिता...दल्लनाचार्य्य-कृत-निवन्ध-संग्रह, चक्रपाणिदत्त-कृत-भानुमती-टीका...वङ्गानुवाद...इरेजि प्रतिशब्द (Calcutta: Maṇirāma Press); Edition "g" in HIML: IB, 311.
- 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, 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), Dalhaṇa and his Comments on Drugs (Delhi: Munshiram Manoharlal).

Sharma, Priya Vrat (1999–2001), Suśruta-Saṃhitā, with English Translation of Text and Dalhaṇa's Commentary Alongwith (sic) Critical Notes, 3 vols. (Haridas Ayurveda Series, 9; Varanasi: Chaukhambha Visvabharati).

- Shastri, R. Shama (1920) (ed.), बोधायनगृह्यसूत्रम् The Bodhāyana Grihyasutra (Mysore: University of Mysore), ark:/13960/t2t492622.
- 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.
- Siddiqi, Muhammad Zubayr (1959), Studies in Arabic and Persian Medical Literature, 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 Suśrutasamhitā in 10v.
- Sircar, Dinesh Chandra (1971), Studies in the Geography of Ancient and Medieval India (2nd edn., Delhi: Motilal Banarsidass), ark:/13960/t72w2zd8w.
- —— (1987), "6. Rākshaskhāli (Sundarban) Plate; Śaka 1118," *Epigraphia Indica* (1953–54), 30: 42–3, ark: /13960/t80m25q3w.
- Siromaṇi, Bharatacandra (1873) (ed.), चतुर्वर्गचिन्तामणि-दानखण्डम् (Calcutta: Asiatic Society of Bengal), ark:/13960/t1rf9jd94.
- Sleeman, W. H. (1893), Rambles and Recollections of an Indian Official (London: Constable), ark:/13960/t22c4bx7w; v. 2 at http://n2t.net/ark:/13960/t2s52bq7w.
- Slouber, Michael (2016), Early Tantric Medicine: Snakebite, Mantras, and Healing in the Garuda Tantras (New York: OUP), 392 pp., ISBN: 9780190461812.
- Smith, Brian K. (1994), Classifying the Universe: The Ancient Indian Varṇa System and the Origins of Caste (New York, Oxford: Oxford University Press), ISBN: 0-19-508498-5.

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, 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.
- 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.
- 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; 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.
- Strauss, Bettina (1934), "Das Giftbuch des Śānāq: eine Literaturgeschichtliche Untersuchung," Quellen und Studien zur Geschichte der Naturwissenschaften und der Medizin, 4/2: [89]–[152] followed by Arabic text, ark:/13960/s2hb5j66s95.
- Suvedī, K. S., and Tīvārī, N. (2000) (eds.), सौश्रुतनिघण्टुः: ग्रन्थादौ विस्तृतेन ग्रन्थ-वैशिष्ट्यप्रकाशकेनोपोद्घातेन अवसाने च द्रव्याणामनेकभाषानामावली-पर्यायसङ्ग्रहाभ्यां समलङ्कृतः सुश्रुतसंहितायां प्रयुक्तानामौषधद्रव्याणां पर्याय-गुणकर्मवर्णात्मको ऽपूर्वग्रन्थः (Belajhuṇḍī, Ḍāṅ: Mahendrasaṃskṛtaviśvavidyālayaḥ).
- Talwar, P. K., and Kacker, R. K. (1984), *Commercial Sea Fishes of India* (Calcutt: Zoological Survey of India), ark:/13960/t5s841v5m.
- Tavernier, Jean-Baptiste (1684), *Collections of Travels through Turky* (sic), *into Persia, and the East-Indies* (London: M. Pitt), ark:/13960/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.

- Thorburn, S. S. (1876), *Bannu; or Our Afghan Frontier* (London: Trübner & Co.), ark:/13960/t39z96g7m; Reprinted Lahore: Niaz Ahmad, 1978.
- Tivārī, Premvatī (1990), Āyurvedīya prasūti-tantra evaņ strī-rog; pratham bhāg: Prasūti-tantra, dvitīya bhāg: Strī-rog (Jayakṛṣṇadāsa Āyurvedīya Granthamālā, 41; Varanas: Caukhamba Orientaliai).
- UNESCO (2013), "International Memory of the World Register Susruta Samhita (Nepal)," UNESCO, URL, accessed 11/09/2019.
- Unicode Consortium (1991), "The Unicode Standard 15.0, Newa Range," url: https://unicode.org/charts/PDF/U11400.pdf.
- Unschuld, Paul Ulrich (1984), *Medicine in China: A History of Ideas* (Berkeley: University of California Press), ISBN: 0520050231.
- Valiathan, M. S. (2007), *The Legacy of Suśruta* (Hyderabad, Chennai, etc.: Orient Longman).
- Velankar, H. D (1925–30), Descriptive Catalogue of the Sanskṛta and Prākṛta Manuscripts in the Library of the Bombay Branch of the Royal Asiatic Society (Bombay: Royal Asiatic Society, Bombay), 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.
- —— (1921), *Ophidia Taprobanica or the Snakes of Ceylon* (Colombo: Cottle, Government Printer), ark:/13960/t39z9q93n.
- 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.
- 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.

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:0s0/9780199856268.001.0001.
- ——(2013*a*), "Perfect Medicine. Mercury in Sanskrit Medical Literature," *Asian Medicine: Tradition & Modernity*, 8/1 (Sept.): 15–40, ISSN: 1573-4218. DOI: 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.
- 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.
- ——(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.
- ——(2013*b*), "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.

Wujastyk, Dominik, et al. (2020), "Suśrutasaṃhitā," PanditProject (6 Oct.), URL, accessed 14/09/2022.

- Wujastyk, Dominik (2021*a*), "A New Translation of Carakasaṃhitā, Vimānasthāna, Chapter 1, Based on the Vienna Critical Edition," in Toke Lindegaard Knudsen, Jacob Schmidt-Madsen, and Sara Speyer (eds.), *Body and Cosmos. Studies in Early Indian Medical and Astral Sciences in Honor of Kenneth G. Zysk* (Leiden, Boston: Brill), chap. 6, 77–109. DOI: 10.1163/9789004438224_007.
- ——(2021*b*), "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 Suśrutasaṃhitā: 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 Suśrutas-aṃhitā* (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 Suśrutasaṃhitā 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 Warrier, P. K., Nambiar, V. P. K., and Ramankutty, C. (1994–96) (eds.), *Indian Medicinal Plants: A Compendium of 500 Species. Vaidyaratnam P. S. Varier's Arya Vaidya Sala, Kottakal* (Madras: Orient Longman).

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, 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, 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; Reprinted Varanasi: Chowkhamba Saraswatibhavan, 1980.

Dymock

Dymock, William, Warden, C. J. H., and Hooper, David (1890), *Pharmacographia Indica: A History of the Principal Drugs of Vegetable Origin Met with in British India* (London, Bombay, Calcutta: Kegan Paul), URL, accessed 16/03/2023.

GJM₁

Meulenbeld, Gerrit Jan (1974*a*), "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.

GJM₂

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

GVDB

Singh, Thakur Balwant, and Chunekar, K. C. (1972), *Glossary of Vegetable Drugs in Brhattrayī* (Varanasi: Chowkhamba Sanskrit Series Office), ark:/13960/s2cvp72x58j.

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.

K&B Kirtikar, K. R., Basu, B. D., and an I.C.S (1987), Indian Medi-

cinal Plants, ed. E. Blatter, J. F. Caius, and K. S. Mhaskar, 8 vols. (2nd edn., Dehradun: International Book Distribut-

ors); First published in Allahabad, 1918.

NK Nadkarni, K. M. (1982), Dr. K. M. Nadkarni's Indian Ma-

teria 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; First published in 1954.

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.

Wren, R. C., Williamson, Elizabeth M., and Evans, Fred J. Potter_{rev}

> (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.

 $Watt_{Dict}$ Watt, George (1889–96), A Dictionary of the Economic

Products of India (Calcutta: Dept. Revenue and Agricul-

ture, Government of India), URL, accessed 28/04/2021.

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

```
aconite leaf (?) (visapatrikā) Unknown. Cf.
                                                 #1192; ADPS: 382, 414 and AVS: 2, 319,
   perhaps, vatsanābha (wolfsbane). Cf.
                                                  4.366 are confusing: 43, 77
   GVDB: 373: 103
                                              Bengal quince (bilva) Aegle marmelos (L.)
amaranth (tandulīyaka) Amaranthus
                                                 Corr. See AVS: 1, 62, Chevallier 159,
   hypochondriacus, L. See King 321,
                                                 NK: 1, #62, (MW: 732a): 68, 70, 74
   NK: 1, #144, Potter<sub>rev</sub>: 15. Cf.
                                              bitumen (adrija) \rightarrow śilājit. A tar-like, black,
   AVS: 1, 121: 96
                                                 resinous rock exudate. See
arjun (arjuna) Terminalia arjuna, Bedd.
                                                  AyMahā: 1, 21:128
   See HK: 34
                                              black creeper (pālindī) Ichnocarpus
axlewood (dhava) Anogeissus latifolia
                                                 frutescens, (L.) R.Br. or Cryptolepis
                                                 buchanani, Roemer & Schultes. See
   (Roxb. ex DC.) Wall. ex Guill & Perr.
   See AVS: 1, 163 f, Chopra: 20: 34, 118
                                                 AVS: 3, 141, 145, 203, NK: 1, #1283,
bamboo leaves (venupatrikā) Bambusa
                                                 1210, ADPS: 434. Dalhana on SS 5.1.82
                                                 identified pālindī with trivṛt (turpeth)
   bambos, Druce. See NK: 1, #307:96
                                                 and T. B. Singh and Chunekar
barley (yava) Hordeum vulgare, L. See
                                                  (GVDB: 246) supported this as a usual
   HK: 77
                                                 identification: 96, 99, 113, 114
beautyberry (priyangu) \rightarrow śyāmā.
                                              black pepper (marica) Piper nigrum, L. See
   Callicarpa macrophylla, Vahl. See
                                                  ADPS: 294, NK: 1, #1929: 77
   AVS: 1, 334, NK: 1, #420. Some say also
   Setaria italica Beauv. GVDB: 263–264.
                                              blackboard tree (saptachada) Alstonia
                                                 scholaris R. Br. GVDB: 420: 95
   See also GVDB: 413: 34, 114, 119
                                              blackbuck (harina) Antilope cervicapra, L.
beautyberry (śyāmā) Callicarpa
   macrophylla, Vahl. See AVS: 1, 334,
                                                 See BIA: 270 IW: 95, 165, et passim: 99
   NK: 1, #420: 72, 94, 96
                                              blue water-lily (utpala) Nymphaea stellata,
                                                 Willd. See GJM1: 528, IGP 790;
beggarweed (amśumatī) Desmodium
                                                  Dutt: 110, NK: 1, #1726: 25, 94, 113, 114
   gangeticum (L.) DC (Dymock: 1, 428,
                                              bulrush (kaśeru) "Two species, Scirpus
   GJM1: 602, NK: 1, #1192; ADPS: 382,
   414 and AVS: 2, 319, 4.366 are
                                                 kysoor Roxb., and S. grossus Linn. f.
   confusing): 114
                                                 are used" GVDB: 85. Also kaśeruka
beggarweed (vid\bar{a}rigandh\bar{a}) \rightarrow s\bar{a}laparn\bar{\imath}.
                                                 and kaseru: 72, 73, 76
   Desmodium gangeticum (L.) DC. See
                                              cardamom (elā) Elettaria cardamomum,
                                                 Maton. See AVS: 2, 360, NK: 1, #924,
   Dymock: 1, 428, GJM1: 602, cf. NK: 1,
```

Potter_{rev}: 66: 68, 114, 119 cassia cinnamon (patra) Cinnamomum tamala, (Buch.-Ham.) Nees. See AVS: 2, 84, NK: 1, #589: 68, 74, 96, 114 castor oil tree (gandharvahasta) $\rightarrow eranda$. GVDB: 135, K&B: 3, 2277: 39, 70 castor-oil (eranda) Ricinus communis, L. See NK: 1, #2145, Chopra: 214: 44 certain minerals (tārāvitāra) Unknown. It is not even certain that these are minerals. The variant reading in the vulgate, tārah sutārah was glossed by Dalhana on 5.3.14 (Su 1938: 568) as follows *tāro* rūpyam, sutārah pāradah, "tāra means silver; sutāra means mercury.": 118 chaff (kāndana) The word kāndana is not found in dictionaries; kandana is threshing, separating the chaff from the grain in a mortar. Cf. Hemādri's Caturvargacintāmaņi (PWK: 2,8) (Siromani 1873: 1, 138: 21, citing the Vāyupurāna): 26 chebulic myrobalan (*harītakī*) Terminalia chebula Retz. GVDB: 466: 75, 95 cherry (elavālu) Prunus cerasus, L.?. See BVDB 58, NK: 1, #2037, GVDB: 58: 114 chital deer (*pṛṣata*) Axis axis, Erxleben. See BIA: 292, IW: 93: 99 citron (mātulunga) Citrus medica, Linn. GVDB: 276, 306. Also spelled mātulinga, mātulanga, mātulānga: 74, cobra's saffron $(n\bar{a}gapuspa) \rightarrow n\bar{a}gakeśara$. Mesua ferrea, L. See NK: 1, #1595, GVDB: 220: 114 corky coral tree (pāribhadra) Erythrina suberosa Roxb. See GVDB 245: 118 costus (kustha) Saussurea costus, Clarke. See NK: 1, #2239: 68, 74, 96, 114, 119 cottony jujube (kākolī) Ziziphus mauritanica, Lam. See IGP: 1233, NK: 1, #2663; IGP 1233. Cf. NK: 1, #1170:67,73,74 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: 43, 73, 76, 162 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 fruitescens R. Rr. (GVDB: 429-431): 43, 103, 113, 114, 118 crape jasmine (nata) \rightarrow crape jasmine GVDB: 215: 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: 68, 74, 96, 114 crimson trumpet-flower tree (pātalā) Stereospermum chelonides, (L. f.) A. DC. See GJM1: 573, AVS: 5, 192 ff, ADPS: 362 f, AVS: 3, 1848 f, IGP 1120, Dymock: 3, 20 ff: 118 cuscus grass (uśīra) Andropogon murcatus, Retz. Also "vetiver grass." See NK: 1, #180:96 datura (dhattūra) Datura metel, L. See AVS: 2, 305 (cf. Abhidhānamañjarī), NK: 1, #796 ff. Potter_{rev}: 292 f, ADPS: 132: 40 deodar (bhadradāru) Cedrus deodara, (Roxb.ex D.Don) G. Don. See AVS 41, NK: 1, #516: 34, 72, 77, 114 deodar (devadāru) Cedrus deodara (Roxb.)

Loud. GVDB: 206-207: 74, 162

dried ginger (śunthī) Zingiber officinale,

Roscoe. See ADPS: 50, NK: 1, #2658, flax (atasī) Linum usitatissimum, L. See AVS: 5, 435, IGP: 1232: 72 NK#1495: 73 dried meat (vallūra) MW: 929, fragrant lotus (saugandhika) A type of AyMahā: 1, 730. The term is used, *kumuda* or *utpala* (GVDB: 457) : 25 rarely, in both the CS (1.5.10) and SS garjan oil tree (aśvakarna) Dipterocarpus (1.13. 16, 6.42.75–76). It is a Dravidian turbinatus Gaertn. f. See GVDB: 28, loanword and occurs in the Arthaśāstra Chopra: 100: 118 etc. (KEWA: 3, 167): 25 giant potato ($k \bar{s} \bar{\imath} r a v i d \bar{a} r \bar{\imath}$) possibly \rightarrow drum-giver (?) (lambaradā) Unknown; cf. kṣīraśukla. Ipmoea mauritiana, Jacq. See GVDB: 348: 103 ADPS: 510, AVS: 3, 222, AVS: 3, 1717 ff: elixir salve ($ras\bar{a}\tilde{n}jana$) $\rightarrow a\tilde{n}jana$. See Indian barberry: 34, 45 ginger (mahausadha) Zingiber officinale, Roscoe. See ADPS: 50, NK: 1, #2658, embelia (vidanga) Embelia ribes, Burm. f. See ADPS: 507, AVS: 2, 368, NK: 1, IGP: 1232: 99 #929, Potter_{rev}: 113: 34, 68, 114 gold (hema) gold: 114 emblic (āmalaka) Phyllanthus emblica, L. gold and sarsaparilla (*surendragopa*) See AVS: 4, 256: 75, 76 Unknown. Dalhana on 5.3.15 emetic nut (karaghāta) Probably a synonym (Su 1938: 568) glossed *surendra* as for karahāṭa (emetic nut), q.v., "gold" and *gopā* as "Indian sarsaparilla." He also noted other GVDB: 74: opinions that *surendra* was "Tellicherry emetic nut (karahāṭa) Randia dumetorum, bark": 118 Lamk. See GVDB: 291–292 and NK: 1, #2091. T. B. Singh and Chunekar golden shower tree (*rājadruma*) rājadruma (GVDB: 74, 77–78) noted that it may be = āragvadha. Cassia fistula L. See GVDB 37: 118 a synonym for *karaghāṭa*, emetic nut, and pointed rather to Gardenia turgida golden shower tree (āragvadha) Cassia fistula L. See GVDB 37:75 Roxb. on the basis of local knowledge in U.P.: gourd (alābu) Lagenaria siceraria Standl. emetic nut (madana) Randia dumetorum, GVDB: 25. Some say Lagenaria Lamk. See NK: 1, #2091: 94, 164 vulgaris, Seringe (NK: 1, #1419) but false daisy (subhangura) (su) bhangura = this is not appropriate for bhrnga? Eclipta prostrata (L.) L. See blood-letting: 21, 22, 95 GVDB: 288: 102 green gram (māṣa) Vigna radiata (L.) R. Wilcz. See ADPS: 296, IGP 1204: 34, fermented rice-water ($dh\bar{a}ny\bar{a}mla$) $\rightarrow k\bar{a}\tilde{n}j\bar{i}$, kāñjikā, sauvīra. GVDB: 458, NK: 2, 73, 163 appendix VI, #18: 41, 42 hare foot uraria ($pr\acute{s}niparn\bar{i}$) \rightarrow sahā? fern (ajaruhā) Nephrodium species Uraria lagopoides, DC. See GJM1: 577, Dymock: 1, 426, AVS: 1, 750 ff, NK: 1, GVDB: 7, uncertain. Perhbaps #2542; ADPS: 382, AVS: 2, 319 and Christella dentata(Forssk.) Brownsey & Jermy, which is reported to have folk AVS: 4, 366 are confusing: 72, 73 heart-leaf sida (balā) Sida cordifolia, Linn. applications against skin diseases in India: 98 See ADPS: 71, NK: 1, #2297: 43, 73, 76, fire-flame bush (dhātakī) Woodfordia 78, 114, 162 fruticosa (L.) Kurz. See AVS: 5, 412, heart-leaved moonseed (amrtavalli) See

heart-leaved moonseed (amrtā): 162

NK: 1, #2626: 95

Tinospora cordifolia, (Willd.) Hook.f. & Thoms.? See ADPS: 38, NK: 1, #2472, 624, Dastur #229: 96, 112 heart-leaved moonseed (guḍūcī) Tinospora cordifolia (Willd.) Miers. GVDB: 141–142, NK: 1, #624, #2472: 74 heart-leaved moonseed (somavallī) Tinospora cordifolia (Thunb.) Miers. GVDB: 456. Likely, but uncertain: 96 henna (madayantikā) Lawsonia inermis, L. See AVS: 3, 303, NK: 1, #1448, Potter_{rev}: 151: 97 Himalayan mayapple (vakra) Podophyllum emodi, Wall. (NK: #1971). But perhaps a synonm of crape jasmine and crape jasmine (GVDB: 354): 119 Himalayan monkshood ($ativis\bar{a}$) $\rightarrow vis\bar{a}$ Aconitum heterophyllum Wall. GVDB: 12, NK: 1, #39. Also "atis roots": 65, 97, 99, 119 Himalayan monkshood ($vis\bar{a}$) $\rightarrow ativis\bar{a}$ GVDB: 12, 373: hogweed (punarnavā) Boerhaavia diffusa, L. See ADPS: 387, AVS: 1, 281, NK: 1, #363: 75, 97, 113 Holostemma creeper $(j\bar{\imath}vant\bar{\imath}) \rightarrow$ sūryavallī? Holostemma ada-kodien, Schultes. See ADPS: 195, AVS: 3, 167, 169, NK: 1, #1242: 76 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

ksudra: 81, 99

74

horned pondweed (śaivāla) also śaivāla,

śevāra. Zannichellia palustris L. The

uncertainties of this identification are

discussed by T. B. Singh and Chunekar (GVDB: 409). Sometimes identified

with scutch grass ($d\bar{u}rv\bar{a}$) (GVDB: 409).

Identified as Ceratophyllum demersum

Linn. ("hornwort") by AVS: 2, 56–57x:

hornwort (jalaśūka) $\rightarrow jalanīlikā$.

heart-leaved moonseed $(amrt\bar{a}) \rightarrow gud\bar{u}c\bar{\iota}$.

Ceratophyllum demersum, L. See AVS: 2, 56, IGP: 232. T. B. Singh and Chunekar (GVDB: 166) suggest horned pondweed. Dalhana noted on 1.16.19 (Su 1938: 79) that some people interpret it as a poisonous, hairy, air-breathing, underwater creature: 43 horseradish tree (śigru) Moringa oleifera Lam. See IGP 759, GJM1: 603, Dymock: 1, 396: 74, 75 Indian barberry $(a\tilde{n}jana) \rightarrow ras\bar{a}\tilde{n}jana$, dāruharidrā. Berberis aristata, DC. Dymock: 1, 65, NK: 1, #335, GJM1: 562, IGP: 141: 45, 98 Indian barberry (dāruharidrā) Berberis aristata, DC. See Dymock: 1, 65, NK: 1, #685, GJM1: 562, IGP 141: 113, 114 Indian barberry $(k\bar{a}l\bar{\imath}yaka) \rightarrow d\bar{a}ruharidr\bar{a}$, añjana. Berberis aristata, DC. See Dymock: 1, 65, NK: 1, #685, GJM1: 562, IGP: 141: 96 Indian beech (naktamāla) Pongamia pinnata, (L.) Pierre. See AVS: 4, 339, NK: 1, #2003: 34, 70 Indian ipecac (payasyā) Uncertain. Possibly Tylophora indica (Burm.f.) Merr. Perhaps a synonym of panacea twiner, giant potato, purple roscoea, and plants like asthma plant and Gulf sandmat (GVDB: 237–238). Also "curds" when not a plant: 43, 74 Indian kudzu ($vid\bar{a}r\bar{i}$) $\rightarrow payasy\bar{a}$. 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 = Ipmoea mauritiana, Jacq: 43 Indian madder (mañjiṣṭhā) Rubia cordifolia, L. See IGP, Chopra: 215,

GVDB: 289: 39, 114

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): 23

- Indian mustard (*sarṣapa*) Brassica juncea, Czern. & Coss. See AVS: 1, 301, NK: 1, #378: 26
- Indian sarsaparilla (*sārivā*) → *anantā*.

 Hemidesmus indicus, (L.) R. Br.

 ADPS: 434, AVS: 3, 141–5, NK: 1, #1210; and black creeper, pālindī. Ichnocarpus frutescens, (L.) R.Br. or Cryptolepis buchanani, Roemer & Schultes

 AVS: 3, 141, 3.145, 3.203, NK: 1, #1283, 1210, ADPS: 434: 113, 114
- Indian snakeroot (*sarpagandhā*) Rauvolfia serpentina, (L.) Benth. ex Kurz. See NK: 1, #2099, ADPS: 439, GVDB: 425; cf. SS 5.5.76–78:
- Indrajao (*vṛkṣaka*) → *indrayava*, *indrabīja*, *kaliṅga*, and *kuṭaja*. Holarrhena antidysenterica Wall. GVDB: 376, 45 and 84: 162
- jambul (*jambū*) Syzygium cumini, (L.) Skeels. See ADPS: 188, NK: 1, #967, Potter_{rev}: 168, Wujastyk 2003*a*: 95
- jasmine (*mālatī*) Jasminium grandiflorum, L. See NK: 1, #1364:96
- jequirity $(gu\tilde{n}j\bar{a})$ Abrus precatorius, L. See AVS: 1, 10, NK: 1, #6, Potter_{rev}: 168: 102, 103
- (?) (karaṭā) Not in GVDB. Cf. perhaps karahāṭa (emetic nut): 103
- lac (*lākṣā*) Kerria lacca (Kerr.). See GJM1: 445, NK: 2, #32. Watt (Watt_{Comm}: 1053–1066) is characteristically informative, and is definite about the antiquity of lac in India: 119
- leadwort (*citraka*) Plumbago zeylanica (or indica?), L. See RĀ. 6.124, ADPS: 119,

- NK: 1, #1966, 1967: 34, 65, 70, 80 liquorice (?) (*klītaka*) Glycyrrhiza glabra, L.? GVDB: 123–124 discuss the many difficulties in identifying this plant: 102 liquorice (*madhuka*) see *yaṣṭīmadhuka*: 43, 72–77, 79, 99, 112, 114
- liquorice (yaṣṭīmadhuka) Glycyrrhiza glabra, L. AVS: 3, 84, NK: 1, #1136, GVDB: 329 f.: 45
- lodh tree (*lodhra*) Symplocos racemosa, Roxb. See GJM1: 597, ADPS: 279 f, NK: 1, #2420. T. B. Singh and Chunekar (GVDB: 351–352) notes that there are two varieties, S. racemosa, qualified as śāvara, and S. crataegoides Buch.-Ham. for *paṭṭikā lodhra*: 34, 114
- long pepper (*māgadha*) Piper longum, L. See NK: 1, #1928; but cf. AVS: 3, 245: 98 long pepper (*pippalī*) Piper longum, L. See ADPS: 374, NK: 1, #1928: 70, 75, 79–81, 99, 114, 162
- lotus stalk (*mṛṇāla*) "Leaf stalk of sacred lotus" GVDB: 318: 74
- luffa (koṣītakī) = kośātakī. Luffa cylindrica, (L.) M. J. Roem. or L. acutangula, (L.) Roxb. ADPS: 252–253, NK: 1, #1514 etc. GVDB: 121: 95, 112
- luffa gourd (kośavatī) = koṣītakī, luffa : 112 maidenhair fern (haṃsāhvayā) Adiantum lunaluatum Burm f. GVDB: 463 : 162
- mango (*āmra*) Mangifera indica Linn. GVDB: 37: 95
- marking-nut tree (*aruṣkara*) Semecarpus anacardium L. See *bhallātaka* (marking-nut tree): 103
- marking-nut tree (*bhallātaka*) Semecarpus anacarium, L. See NK: 1, #2269, AVS: 5, 98: 70, 98
- medhshingi (vijayā2) Dolichandrone falcata (DC.) The Sauśrutanighaṇṭu gives a number of synonyms for vijayā (Suvedī and Tīvārī 2000: 5.77, 10.143). But one of them, viṣāṇī (also meṣāśṛṅgī), is sometimes equated with Dolichandrone falcata (DC.) Seemann

- (ADPS: 518; GVDB: 373 f, a plant used as an abortifacient and fish poison (NK: #862): 103
- migraine tree (agnimantha) Premna corymbosa, Rottl. See AVS 1927, ADPS: 21, NK: 1, #2025, AVS: 4, 348; GJM1: 523: = P. integrifolia/serratifolia, L: 112
- milk-white (*kṣīraśuklā*) An unidentified plant. GVDB: 126: see purple roscoea and giant potato: 43
- mongoose (nakula) nakula. Urva edwardsii or the often sympatric U. auropunctatus (small Indian mongoose, usually an eater of smaller creatures than snakes) (BIA: ch. 5), On mongooses and snakes, see BIA: 98–99; IW: 112: 99
- monitor lizard (*godhā*) Varanus bengalensis, Schneider. See Reptiles: 58: 43, 99
- mung beans (*mudga*) Phaseolus radiatus L. GVDB: 310–311: 73, 76, 142
- mung beans (*māṣaka*) Phaseolus mungo Linn. GVDB: 308: 96
- myrobalan ($abhay\bar{a}$) Terminalia chebula, Retz. See ADPS: 172, NK: 1, #2451, Potter $_{rev}$: 214: 65, 112, 119
- natron (*suvarcikā*) Sodium carbonate. NK: 2, #45. Dalhaṇa identifies *suvarcikā* with svarjikṣāra 4.8.50 (Su 1938: 441): 80, 114
- neem tree (*nimba*) Azadirachta indica A. Juss. GVDB: 226: 40, 162
- nutgrass (*kuruvinda*) Unknown. Dalhaṇa on 5.3.15 (Su 1938: 568) glossed the term as nutgrass, but noted other opinions that it was a whetstone or a very special metallic gem. T. B. Singh and Chunekar (GVDB: 108) added that it could be a variety of rice, ṣaṣṭika dhānya: 118
- nutgrass ($must\bar{a}$) Cyperus rotundus, L. See ADPS: 316, AVS: 2, 296, NK: 1, #782: panacea twiner ($arkapusp\bar{\imath}$) $\rightarrow arkaparn\bar{\imath}$,

- Tylophora indica (Burm. f.) Merr. GVDB: 23–24. Maybe identical to Indian ipecac, giant potato and similar sweet, milky plants. See GVDB: 24, 127, 238, 441, 443 for discussion. For discussion in the context of Holostemma creeper, see ADPS: 195 and AVS: 3, 171. The etymology of the name suggests Helianthus annus Linn., but this plant is native to the Americas: 113
- peas (hareṇu) hareṇu = satīna. Pisum sativum, L. T. B. Singh and Chunekar (GVDB: 419–420, 467–468) notes that two plants are usually meant under this name, but there is no agreement on the identity of the second: 74, 113, 114, 119
- peepul tree (*aśvattha*) Ficus religiosa, L. See ADPS: 63: 121
- periploca of the woods (*meṣaśṛṅga*) Gymnema sylvestre (Retz.) R. Br. See AVS: 3, 107, NK: 1, #1173: 98
- plants like asthma plant and Gulf sandmat (kṣīriṇī) various milky plants, perhaps including Euphorbia hirta Linn. (asthma plant) and E. microphylla Heyne (Gulf sandmat) (GVDB: 127):
- 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.:
- pointed gourd (*paṭola*) Trichosanthes dioica, Roxb. GVDB: 232–233: 74, 112
- poison berry (*bṛhatī*) Solanum violaceum, Ortega. See ADPS: 100, NK: 1, #2329, AVS: 5, 151: 70, 75, 113, 114
- poison-altar (?) (viṣavedikā) Unknown. Possibly, at a guess, viṣamuṣṭika (strychnine tree)? GVDB: 373 Or viṣā (Himalayan monkshood): 103
- pondweed (*paripelavā*) Normally a neuter noun. T. B. Singh and Chunekar (GVDB: 238, 264–265, 409) argued that *plava* and *śaivāla* are the same thing, and

may be either Zannichellia palustris, L., or Potamogeton pectinatus, L: 114 pondweed (śevāla) Zannichellia palustris L. See horned pondweed: 25 prickly chaff-flower (apāmārga) Achyranthes aspera, L. See GJM1: 524 f, AVS: 1, 39, ADPS: 44 f, AVS: 3, 2066 f, Dymock: 3, 135: 40, 43, 73 purging nut (*mūsikā*) Jatropha curcas, L. See AVS: 3, 261, NK: 1, #1374: 98 purple calotropis (arka) Calotropis gigantea, (L.) R. Br. See ADPS: 52, AVS: 1, 341, NK: 1, #427, Potter_{rev}: 57, Chopra IDG: 305-308: 34, 43, 70 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: 73 radish (mūlaka) Raphanus sativus, L. See NK: 1, #2098: 77, 78 rajmahal hemp $(morața) \rightarrow m\bar{u}rv\bar{\iota}$, Marsdenia tenacissima (Roxb.) Wight et Arn. Good discussion at GVDB: 314-316, 324: 112 red chalk (gairika) gairika: 114 red gourd (bimbī) Coccinia indica, W. & A. See PVS 1994.4.715; NK: 1, #534: 95 rice grains (taṇḍula) Oriza sativa, Linn. Same as unhusked rice (*śāli*) GVDB: 174; or just "grains": 26 rice-grain chaff (śālitandulakāndana) See chaff: 26 rock salt (saindhava) See NK: 2, M#48, Watt_{Comm}: 963–971: 26, 80 rosha grass (dhyāmaka) Cymbopogon martinii (Roxb.) Wats. See AVS: 2, 285, NK: 1, #177:114 sacred grass (kuśa) Desmostachya bipinnata, Stapf. See AVS: 2, 326, Kew: 73 sacred lotus (kamala) Nelumbo nucifera Gaertn. GVDB: 73-74: nux vomica Linn. GVDB: 373: sacred lotus (padma) Nelumbo nucifera, sugar (sitā) Dalhana makes this equation

Gaertn. See NK: 1, #1698: 25, 74, 96 sage-leaved alangium (ańkolla) Alangium salvifolium (Linn. f.) Wang. GVDB: 5-6:95 sandalwood (candana) Santalum album, L. See ADPS: 111, NK: 1, #2217: 74, 76, 114 sappanwood (pattānga) Also pattanga. Caesalpinia sappan, L. AVS: 1, 323, K&B: 2,847 f, GVDB: 234: 45 scarlet mallow (bandhujīva) Pentapetes phoenicea, L. NK: #1836, GVDB: 268: scented pavonia (bālaka) Pavonia odorata, Willd. See ADPS: 498, NK: 1, #1822: scutch grass (*dūrvā*) Cynodon dactylon (Linn.) Pers. (GVDB: 205): selu plum (*śelu*) Cordia myxa, L. non Forssk. See GJM1: 529 (2), IGP: 291b, cf. AVS: 3, 1677 f; cf. AVS: 2, 180 (C. dichotoma, Forst.f.), NK: 1, #672 (C. latifolia, Roxb.): 75, 112 sesame oil (taila) Sesamum indicum L. GVDB: 183: 43 siris (śirīsa) Albizia lebbeck, Benth. See AVS: 1, 81, NK: 1, #91: 112 siris seeds (śirīṣamāṣaka) Albizia lebbeck, Benth. See AVS: 1, 81, NK: 1, #91: 95 small-flowered crape myrtle (*sidhraka*) Lagerstroemia parviflora Roxb. See GVDB: 432: 118 snakeroot (sugandh \bar{a}) \rightarrow sarpagandh \bar{a} Rauvolfia serpentina Benth. ex. Kurz. See Indian snakeroot. But may be Aristolochia indica Linn. Has been identified with ??, or ??. See (GVDB: 219, 436): 102 spikenard (*māṃsī*) Nardostachys grandiflora, DC. See NK: 1, #1691: 114 spikenard (nalada) \rightarrow māmsī. Nardostachys grandiflora, DC. See NK: 1, #1691: 93 strychnine tree (viṣamuṣṭika) Strychnos

at 1.37.25 (Su 1938: 162): 114 sugar (śarkara) Saccharum officinarum, Linn. NK: #2182: 99 sugar cane (iksu) Saccharum officinarum, Linn. NK: #2182: 99 sunflower $(s\bar{u}ryavall\bar{\iota}) \rightarrow \bar{a}dityavall\bar{\iota}$, sūryamukhī, Helianthus annūs Linn. GVDB: 35, 443: 112 sweet flag (vacā) Acorus calamus Linn. See GVDB: 352-355: 73, 80 sweet plants (madhuravarga) The sweet plants are enumerated at Suśrutasaṃhitā 1.42.11. See also GVDB: 127: 43 sweet-scented oleander (aśvamāraka) Nerium oleander, L. See ADPS: 223, NK: 1, #1709: 102 Tellicherry bark (kutaja) Holarrhena pubescens Wall. ex G.Don, with Wrightia tinctoria and W. arborea considered GVDB: 101-102, ADPS: 267-270: 70 thorn apple (karambha) Datura metel, L. See GVDB: 76 for useful discussion. Also, AVS: 2, 305 (cf. Abhidhānamañjarī), NK: 1, #796 ff. Potter_{rev}: 292 f, ADPS: 132. Possibly the same plant as plumed cockscomb (indīvara) (GVDB: 76, 44-45): 103 three heating spices (tryūsana) śunthī (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: 113 three-leaved caper (varuna) Crataeva magna (Lour.) DC. See AVS: 2, 202; cf. NK: 1, #696:98 top layer of fermented liquor (surāmaṇḍa) K&B: 2, 502, NK: 2, appendix VI, #49, McHugh 2021: 39: 41, 42 tree cotton (kārpāsa) G. arboreum L.

ADPS: 231. Pace the identifications of

T. B. Singh and Chunekar (GVDB: 92, 247), since G. barbadense L. is native to South America and G. herbaceum L. which is native to Africa: 40 tree cotton (picu) See tree cotton ($k\bar{a}rp\bar{a}sa$): 42, 45 turmeric (gaurī) Curcuma longa, L. See ADPS: 169, AVS: 2, 259, NK: 1, #750: 74 turmeric (haridrā) Curcuma longa Linn. GVDB: 465: 75, 113, 119 turmeric (rajanī) Curcuma longa, L. ADPS: 169, AVS: 2, 259, NK: 1, #750: 26, 114 turpeth $(trivrt) \rightarrow trvrt\bar{a}$. Operculina turpethum (Linn.) Silva Manso = Ipmoea turpethum R. Br. GVDB: 197.: 68, 99, 164 unhusked rice (śāli) Oriza sativa, Linn. GVDB: 395-396: 26 velvet-leaf (pāṭhā) Cissampelos pariera, L. See ADPS: 366, NK: 1, #592, GJM1: 573, AVS: 1, 95; cf. AVS: 2, 277: 34, 65, 80, 112 velvet-mite (indragopa) Kerria lacca (Kerr.). Lienhard 1978: 94 verbena (phañjī) Clerodendrum serratum, L. See AVS: 2, 121, ADPS: 87: 97 watered buttermilk (udaśvit) MW: 183: 95 weaver's beam tree (muṣkaka) Schrebera swietenioides, Roxb. See AVS: 5, 88, Lord, NK: 1, #2246: 70, 118 white babool (arimeda) Acacia leucophloea, (Roxb.) Willd. See AVS: 1, 23: 34 white calotropis (alarka) Calotropis procera, (Ait.) R. Br. See NK: 1, #428, Chopra: 46b, Chopra IDG: 305–308: 43 white clitoria ($\acute{s}vet\bar{a}$) $\rightarrow giry\bar{a}hv\bar{a}$. Clitoria ternatea, L. See AVS: 2, 129, NK: 1, #621:96 white cutch tree (somavalka) Acacia

polyacantha, Willd. See AVS: 1, 30, IGP

7, GJM1: 602, AVS: 2, 935; pace NK: 1,

white dammer tree (sarja) Vateria indica,

#1038:97,118

```
L. See NK: 1, #2571, AVS: 5, 349 f,
   AVS: 1, 292 f, Chopra: 253a: 34
white siris (kiṇihī) Albizia procera, (Roxb.)
    Benth. See GVDB 98, NK: 1, #93: 113
white teak (k\bar{a}\acute{s}mar\bar{\iota}) \rightarrow madhuparn\bar{\iota}.
   Gmelina arborea, Roxb. See GJM1: 543,
   Trees: 51, ADPS: 240: 74, 76
white water-lily (kumuda) Nymphaea alba,
   Linn. GVDB: 105: 25
wild asparagus (bahuputr\bar{a}) \rightarrow nandana?
    Asparagus racemosus, Willd. See
    further wild asparagus (śatāvarī): 97
wild asparagus (śatāvarī) Asparagus
   racemosus, Willd. See ADPS: 441,
   AVS: 1, 218, NK: 1, #264, IGP: 103,
   AVS: 4, 249 ff, Dymock: 3, 482 ff:
    72-74, 76, 142
wild celery (agnika) \rightarrow may be bhal\bar{a}taka,
    lāṅgalī, ajamodā, moraṭa, or agnimantha,
   GVDB: 4. Uncertain: 112
wild celery (ajamodā) Apium graveolens,
```

```
L.: 112
```

- Withania (*aśvagandhā*) Withania somnifera (L.) Dunal. See AVS: 5, 409 f, Dymock: 2, 566 f., Chevallier 150: 43, 69, 75
- wolfsbane (*vatsanābha*) Aconitum napellus, L. See AVS: 1, 47, NK: 1, #42, Potter_{rev}: 4 f. Or Aconitum chasmanthum Stapf ex Holmes, GVDB: 357:
- wood apple (*kapittha*) Limonia acidissima, L. See AVS: 3, 327, NK: 1, #1021: 75, 96, 98
- woodrose (*mūṣikakarṇī*) Jatopha curcas, L. AVS: 3, 261, NK: 1, #1374. GVDB: 317; ADPS: 23–25 discuss this issue well: 96, 97
- yellow-berried nightshade (*kṣudrā*) Solanum virginianum, L. See ADPS: 100, NK: 1, #2329, AVS: 5, 164: 113, 114

214 Glossary

Glossary 215

Glossary

'angry beetles' (toṭaka): 116	āhāra (diet): 13
'bellied' (kukṣita): 117	āhārya (take away): 40
'cook-fish' (pākamatsya): 116	ahipatāka (thei snake flag): 130
'darts' (śārikā): 117	ahorātra (day and night): 14
'earth scorpions' (viśvambhara): 117	aids (aṅga): 140
'flat insects' (picciṭā): 116	ajagara (the goat swallower): 130
'lids' (śārava): 117	ajagara (constrictor): 133
'liquors' (medaka): 117	ajākṣīrārdita (stirred with goat's milk):
'orange-dwellers' (kaṣāyavāsika): 116	148
'pepper snakes' (sarṣapaka): 116	ajeya (invincible): 99
'poisonous snakes' (pracalāka): 116	ajeya ("invincible"): 114
'pot insects' (kauṇḍinya): 116	akhiladehavyāptirūpam (takes the form of
'speckle-heads' (citraśīrṣa): 117	pervading the whole body): 109
'wing-scorpions' (patravṛścika): 117	alagarda (the hungry sting): 129
'wood-enemies' (dārukāri): 117	alagarddā (sting-gush): 23
	ālepa (liniment): 137
abdominal lump (gulma): 156	ālepana (liniments): 23, 98
abhayā (chebulic myrobalan): 139	alleviated (<i>yāpya</i>): 140
abhramukta (free from clouds): 146	alleviation (<i>pratīkāra</i>): 14
abhyanga (massage oil): 92, 98	along these lines (evam): 15
abhyanga (oil massage): 96	āmalaka (emblic): 138
ācāra (regimen): 13	āmāśaya (stomach): 110f
ācārika (medical advice): 42	amra (mango): 138
accumulation (samudāya): 39	amṛta (immortal): 99
accumulation (sañcaya): 14	anāgatāpekṣaṇa (future reference): 161,
aconite (hālāhala): 108	164
ādarśamaṇḍala (the mirror ring): 129	•
adhikaraṇa (topic): 161	ānāha (constipation): 107, 110, 114
adhimantha (irritation): 147	aṇḍaja (born from eggs): 14
adhiṣṭhāna (located): 13	aṇḍ̄ṇṇ̄ (with testicles): 157
adhiṣṭhāna (base, foundation): 115	anekānta (variable statement): 164
adhiṣṭhāna (carriers): 115	anekānta (variable statement): 161
ādhmāna (distension): 107	aṅga (parts): 15
ādhmāta (swollen): 132	anga (aids): 140
adhodṛṣṭitva (downward vision): 147	aṅgamarda (bruising of the limbs): 110
adhyāya (sections): 16	anger (krodha): 13
affliction (upasarga): 98	aṅgulirāji (the finger stripe): 130
afterbirth (aparā): 83	animals (paśu): 14
agada (antidote): 111	añjana (eye make-up): 92
āgantu (external factors): 15	añjana (eye ointment): 98
aggregation (samuccaya): 161, 165	añjana (stibnite): 143
agnika (the flame): 130	añjana (application of collyrium): 137
agra (supernatant layer): 143	añjana (eye salve): 112
agramukta (free from the point): 146	añjana (eye make-up): 98

añjana (application of collyrium): 143	atikrāntāpekṣaṇa (past reference): 161,
annamada (intoxication from food): 110	164
antidote (agada): 111	ātmaka (nature): 12
antra (entrails): 140	āṭopa (flatulence): 95
antra (gut): 111	atyānandā (extremely excited): 157
ants (pipīlika): 14	avadāraņa (fissuring): 98
anulepana (ointment): 96	avalekhana (combs): 92
anulepana (massage ointment): 92, 96	āvarta (spiral): 145
anumata (consent): 164	avaśardhita (fart): 116
anumata (consent): 161	axelwood (dhava): 149
apadeśa (statement of reason): 161	ayana (half-year): 14
apadeśa (statement of reason): 163	āyatta (depends on): 13
apāṅga (outer corner of the eye): 145	āyur (life, longevity): 9
aparā (afterbirth): 83	āyur (life): 22
apavarga (exception): 161, 163	āyurveda (the science of life): 10
apertures of the head (kha): 97	babhru (the brown): 130
aphorism (<i>sūtra</i>): 162	babhrūkuṭīmukha (the brown hut
application of collyrium (añjana): 137,	mouth): 129
143	baddham (bound, connected): 44
apuṣpa (the grass flower): 129	bala (strength): 13
araga timira (non-bloodshot blindness):	balā (country mallow): 141
144	bali (morsel): 92
ardhakapāṭasandhika (half door-hinge):	base, foundation (adhiṣṭhāna): 115
40	bāṣpa (vapour): 93f, 97
arid-land animals (jāṅgala): 143	be exhausted (sāda): 111
ariṣṭa (omens): 47	bearers (voḍhāra): 92
arṇavamala (cuttle fish): 140	beauty berry (<i>priyangu</i>): 143
arocaka (loss of appetite): 110	beautyberry (priyamgu): 138
arśas (prolapses): 156	bellyache (jaṭhara): 114
ārtava (menstrual blood): 156	bent brow and eye (vakrabhrūnetra): 147
arthāpatti (implication): 161	beryl (vaiḍūrya): 149
arthāpatti (implication): 164	bhadradāru (deodar): 148
asādhya (incurable): 137	bhakṣya (masticable): 166
asādhya (untreatable): 145	bhanga (leaves): 146
āsaṅgima (fastening): 40	bhavet (it may be): 145 bhāvita (cooked): 143
aśoka (asoka tree): 138	bhāvita (infused): 139
āśoka (grief): 13	bhesaja (treatment): 156
asoka tree (aśoka): 138	bhojya (edible): 166
āśrayin (substrate): 13	bhramaraka (drongo): 93
asthi (bones): 15	bhṛṅgarāja (racket-tailed drongo): 93
aṣṭhīlā (pebble): 94	<i>bīja</i> (semen): 156
asūyā (jealousy): 13	bile (pitta): 140
atibalā (strong mallow): 141	bilious / choleric (<i>pittalā</i>): 157
atideśa (prediction): 161, 163	bindurāji (the drop stripe): 130
1 //3) (II - /

black (kṛṣṇā): 23	cāsyāt (from his mouth): 94
black drongo (dhūmyāṭa): 93	cataract (liṅganāśa): 145
black part (kṛṣṇa): 145	caturvarga (fourfold grouping): 15
black pepper (marica): 138	catuștaya (four factors): 15
black soot (maṣī): 138	caused by wind (pavanodbhava): 140
blindness (timira): 144	causes (hetu): 157
blink of the eye (nimeṣa): 14	causing a fall (sraṃsanī): 157
blood (rudhira): 14	causing the destruction of actions such
blood (śonita): 140	as moving (gamanādikriyāvināśakarī):
blood-bile (<i>śonita-pitta, rakta-pitta</i>): 140	147
blood-letting (sirāvedha): 138	chebulic myrobalan (<i>abhayā</i>): 139
bloodshot blindness (<i>rāgiṇi timire</i>): 144f	chedya (excision): 15
bloodshot blindness (<i>rāgin timira</i>): 142	cheek-ear (gaṇḍakarṇa): 40
blue dot cataract (<i>mlāyin</i>): 144	chest (<i>hṛd</i>): 111
blue lotus (<i>utpala</i>): 138	chidra (opening): 145
blue vitriol (<i>tuttha</i>): 142	child bearing (kaumārabhṛtya): 152
bodily constiuents (dhātu): 109	child-murderess (putraghnī): 157
body language (ingita): 92	chinna (segmented): 23
body tissue (dhātu): 111	chital deer (pṛṣata): 93
bones (asthi): 15	choler (pitta): 157
born from eggs (aṇḍaja): 14	chyle (rasa): 29
born in in a caul (<i>jarāyuja</i>): 14	chyle (rasa): 110
born of sweat (svedaja): 14	cihna (signs): 157
bound, connected (baddham): 44	circuit of the pupil (<i>dṛṣṭimaṇḍala</i>): 145
box myrtle (kaṭphala): 140	citraka (the mark): 130
bristles ($ś\bar{u}ka$): 116	citraśīrṣa ('speckle-heads'): 117
bṛṇṇhaṇa (nourishment): 13	citron (mātuluṅga): 148
bruising of the limbs (aṅgamarda): 110	clean $(pra\sqrt{s\bar{a}dh})$: 98
bubbling (<i>budbuda</i>): 147	clusters (samplava): 14
budbuda (bubbling): 147	cock (tāmracūḍa): 142
bulbs (kanda): 14	collection (varga): 15
bull (vṛṣabha): 93	combined (upahita): 140
burning sensation in feet (□□□□□□): 58	combs (avalekhana): 92
calcuadhāvā (rim of a ruboal).	comfort (sukha): 15
cakradhārā (rim of a wheel): 41	compendium of diseases
cakraka (the ringed): 130	(rogasaṃgraha): 154
cala (liquid): 146 can be mitigated (<i>yāpya</i>): 145	complexion (varṇa): 13, 47
caraṇī (caraṇī): 157	compounds (yoga): 138
caraṇī (caraṇī): 157	compressed (saṃkṣipta): 40
cardamom (<i>elā</i>): 140	compressed (samkṣipta): 41
	compulsion (niyoga): 161, 165
carman (pelt): 14 carnivore (kravyabhuj): 141	conch (salilotthita): 144
carriers (adhisṭhāna): 115	cone snails (<i>śambūka</i>): 116
cassia cinnamon (patra): 148	congested humours (sannipāta): 15
castor oil (pañcāṅgulataila): 140	consent (anumata): 164
Castor on (puncungulululu). 140	CONSEIR (ununum). 104

consent (anumata): 161	dark colour (dhyāma): 108
constipation (<i>ānāha</i>): 107, 110, 114	dart-mouth (śaṅkumukhī): 24
constrictor (ajagara): 133	dārukāri ('wood-enemies'): 117
construing (yoga): 162	dārvī (tree turmeric): 139
construing (yoga): 161	datta (given): 93
contamination dropsy (dusyodara): 110	day and night (ahorātra): 14
contraposition (viparyaya): 161, 164	decoction (kvātha): 112
convulsion (DDDDDDD): 56	decoctions (kaṣāya): 92, 146
cooked (bhāvita): 143	deducible (<i>ūhya</i>): 161, 165
cooked barley (yavaudana): 144	deer (ena): 141
copper (tāmra): 147	defects (doṣa): 156
coral (vidruma): 149	delirium (<i>moha</i>): 106
coṣa (driness): 147	demons (graha): 152
cottony jujube $(k\bar{a}kol\bar{\iota})$: 148	demons (graha): 152
counteraction (pratiṣedha): 137	deodar (bhadradāru): 148
country mallow (balā): 141	depends on (āyatta): 13
cow snout (gonasa): 131	depression (viṣāda): 13
cow's flesh (gomāṃsa): 138	description (<i>nirdeśa</i>): 161, 163
cow's urine (gomūtra): 139	desert date (<i>iṅgudī</i>): 143
cow-dung (gośakṛt): 138	desire (<i>icchā</i>): 13
cow-praising (govandanā): 23	determination (<i>nirṇaya</i>): 161
crabs (ucciținga): 117	devadinna (the gift of god): 129
creeper-ear (vallīkarṇa): 40	dhātrī (emblic): 139
creepy-crawlies (sarīṣṛpa): 11, 14	dhātu (element): 105, 107
crow's foot (kākapada): 112	dhātu (bodily constiuents): 109
crow's lip (kākauṣṭha): 40	dhātu (body tissue): 111
cuñcumālaka (little ring of spots): 127	dhātu (element): 102
curable (sādhya): 137	dhava (axelwood): 149
curds (<i>dadhi</i>): 95, 99	dhūma (inhaled smoke): 92
cure (siddhi): 112	dhūmadarśin (seeing smoke): 137
cured (sādhya): 114	dhūmyāṭa (black drongo): 93
cuscus grass (uśīra): 143	dhyāma (grimy): 92
cutting with a blade (śastrakṣata): 138	dhyāma (dark colour): 108
cuttle fish (arṇavamala): 140	diet (<i>āhāra</i>): 13
cuttlefish bone (samudraphena): 139f	dilator (pravardhanaka): 39
cuttlefish bone (<i>phena</i>): 149	dīpyaka (the stimulator): 130
dadhi (curds): 95, 99	discharge (srāva): 98
dadhimukha (the curd mouth): 129	discharge (praseka): 108
dainya (misery): 13	discharge (srāva): 96
dais $(p\bar{i}tha)$: 40	disease (vyadhi): 15
daivakrte (naturally-occurring): 145	diseases (roga): 156
dantamāṇṣa (gum): 95	disjunction (<i>viśleṣa</i>): 110
dantaveṣṭa (tooth socket): 95	disorders of the female reproductive
darbhapuṣpa (the grass flower): 130	system (yonivyāpat): 156
darita (torn): 126f	distension (<i>ādhmāna</i>): 107
***** (tOIII) . 1201	310 C 1010 (

a a	
door-hinge (kapāṭasandhika): 40	ekānta (invariable statement): 161
doṣa (humours): 156	elā (cardamom): 140
doṣa (defects): 156	element (<i>dhātu</i>): 102, 105, 107
doṣa (humours): 14	elephant/snake (<i>nāga</i>): 117
doṣa (humour): 109, 145, 161	elixir salve (<i>rasāñjana</i>): 139, 142f
doṣapariplava (unsteadiness of the	elixir-salve (rasāñjana): 138
humours): 147	elixir-salve (<i>śīta</i>): 139
double (yamalā): 95	ellipis (<i>vākyaśeṣa</i>): 161
doubt (saṃśaya): 161, 165	ellipsis (<i>vākyaśeṣa</i>): 163
downward vision (adhodṛṣṭitva): 147	embelia (<i>vidaṅga</i>): 143
drākṣā (grapes): 148	emblic (<i>dhātrī</i>): 139
dravāñjana (liquid collyrium): 142	emblic (āmalaka): 138
dravya (substance): 47	emprosthotonos (מםמםמםםם): 56
dried flesh (vallūraka): 40	eṇa (deer): 141
dried ginger (nāgara): 139	enclosed roasting (puṭākhya): 141
driness (coṣa): 147	enclosed roasting (puṭapāka): 143
drinkable (peya): 166	ends (vaktra): 147
drongo (bhramaraka): 93	enemy of slow-acting poison
dṛṣṭi (pupil): 137, 146	(dūṣīviṣāri): 114
dṛṣṭimaṇḍala (circuit of the pupil): 145	energy (ojas): 47
dṛṣtivibhrama (faulty vision): 98	eṇīpada (the deer foot): 130
dry (<i>rūkṣa</i>): 109	entrails (antra): 140
dry rub (utsādana): 96	envy (<i>īrṣyā</i>): 13
dry rubs (utsādana): 92	errhine (nasya): 141
ducts (sirā): 15	errhines (nasya): 98
duḥkha (suffering): 13	essence (sāra): 14
dumb (000): 58	evam (along these lines): 15
dung beetles (varcaḥkīṭa): 116	exception (apavarga): 161, 163
dūrvā (panic grass): 148	excision (<i>chedya</i>): 15
dūṣī-viṣa (slow-acting poison): 111	expansive (vikāsin): 109
dūṣīviṣa (slow-acting poison): 114	explication (<i>vyākhyāna</i>): 161, 165
dūṣīviṣāri (slow-acting poison antidote):	expressed juice (svarasa): 138
95	extensive meaning of the literature
dūṣīviṣāri (enemy of slow-acting	(vāksamūhārthavistāra): 131
poison): 114	external factors (āgantu): 15
duṣyodara (contamination dropsy): 110	extract (niryāsa): 98
dveṣa (hatred): 13	extract of rohu carp (rauhita): 139
dvyāhika (the two-day): 130	extracted juice (svarasa): 97
dvyangulirāji (the two finger stripe): 130	extracts (rasa): 143
dwindling away (kṣaya): 110	extremely excited (atyānandā): 157
1 (eye make-up (<i>añjana</i>): 92, 98
ear-ache (000000): 58	eye ointment (añjana): 98
earth products (pārthiva): 14	eye salve (añjana): 112
earthen products (pārthiva): 15	eyewash (tarpaṇa): 98, 138, 142f
edible (bhojya): 166	
ekānta (invariable statement): 164	fart (avaśardhita): 116

fastening (āsaṅgima): 40	ghee (sarpiș): 99
fat (<i>vasā</i>): 142	ghee (sarpis): 138
faulty medical treatment (<i>mithyopacāra</i>):	girisarpa (the mountain snake): 129
156	given (datta): 93
faulty vision (<i>dṛṣṭivibhrama</i>): 98	giving of fumes (paridhūpāyana): 132
female reproductive organ (yoni): 156f	giving off fumes (paridhūpana): 132
female reproductive system (yoni): 156	glassy opacity (kāca): 143
field-specific term (svasamjñā): 165	godhā (monitor lizard): 140
field-specific term (svasamjñā): 161	gold (śātakumbhī): 147
filaments (kiñjalka): 138	gomāṃsa (cow's flesh): 138
first point of view (pūrvapakṣa): 164	gomūtra (cow's urine): 139
fissuring (avadāraṇa): 98	gonasa (cow snout): 131
flame of the forest (palāśa): 143	gośakṛt (cow-dung): 138
flatulence (āṭopa): 95	gośakṛt (juice of cow-dung): 138
flavour (rasa): 161	govandanā (cow-praising): 23
flavours (rasa): 13, 47	graha (demons): 152
flesh (<i>māṃsa</i>): 15	graha (demons): 152
flooded (pariplutā): 157	granthi (lumps): 107
flowering trees (vṛkṣa): 13	granthi (knots): 108
flowers (puṣpa): 14	granthi (lumps): 96
follicles (kha): 96	grapes (drākṣā): 148
fortnight (pakṣa): 14	great aconite (<i>mahāviṣa</i>): 108
four factors (catuṣtaya): 15	great antidote (mahāgada): 23
fourfold grouping (caturvarga): 15	great fragrance (mahāsugandha): 98
free from clouds (abhramukta): 146	great poison (<i>mahāviṣa</i>): 108
free from the point (agramukta): 146	greed (lobha): 13
frogs (maṇḍūka): 14	green vitriol (kāsīsa): 143
from his mouth (<i>cāsyāt</i>): 94	gṛhadhūma (soot): 121
fruit trees (vanaspati): 13	gṛhagoḍikā (geckos): 116
fruits (phala): 14	grief (āśoka): 13
future reference (anāgatāpekṣaṇa): 161,	grimy (dhyāma): 92
164	gruel (<i>yavāgū</i>): 112
	guḍikā (pill): 138f
gāḍha (pinched): 42	gulma (abdominal lump): 156
gairika (ochre): 138	gum (dantamāṃsa): 95
gairikaḥ (red chalk): 148	guṇa (qualities): 109
gamanādikriyāvināśakarī (causing the	gut (antra): 111
destruction of actions such as	8 ()
moving): 147	hālāhala (<i>aconite</i>): 108
gaṇḍakarṇa (cheek-ear): 40	half door-hinge (ardhakapāṭasandhika):
garlands (<i>sraj</i>): 92	40
gauze (plota): 42	half-year (<i>ayana</i>): 14
gavedhuka (the gavedhuka): 129	hare foot uraria (<i>pṛthakparṇī</i>): 148
geckos (gṛhagoḍikā): 116	hareņu (hareņu): 140
general rule (paribhāṣā): 143	harenu (harenu): 138ff
gently (mṛdu): 148	hareṇu (hareṇu): 138f

hari (sun): 146	indian sarsaparilla (kālānusāriva): 139
haridrā (turmeric): 143	indian sarsaparilla (śārivā): 148
harṣa (overexcitement): 13	indian sarsaparilla (sāriva): 139
harṣa (horripilation): 110	indian sarsaparilla (śārivā): 148
hastābharaṇaka (the hand decoration):	indication (<i>pradeśa</i>): 161, 163
130	indigo (<i>nīlī</i>): 95
hatred (dveṣa): 13	indragopa (red velvet mites): 14
herbs (oṣadhi): 13	indrāyudhā (rainbow): 23
hetu (causes): 157	infertile (vandhyā): 157
hetvartha (the sense of the cause): 162	inflamed (vidagdha): 137
hetvartha (premise): 161	inflamed (samrambha): 43
himalayan cherry (padmaka): 148	infused (bhāvita): 139
hīnakarṇa (reduced-ear): 40	iṅgita (body language): 92
hoarseness (pāruṣya): 107	iṅgudī (desert date): 143
holostemma (payasyā): 148	inhaled smoke (dhūma): 92
honey (madhu): 138	inherent (svābhāvika): 13
honey (madhus): 93	inherent factors (svabhāva): 15
honey (kṣaudra): 138	injured (<i>utpīḍita</i>): 144
honey collyrium (kṣaudrāñjana): 139	inspissation (<i>rasakriyā</i>): 143
horripilation (harṣa): 110	intended (vyākhyāta): 15
horseradish tree (<i>śigru</i>): 144	interpretation (<i>nirvacana</i>): 161, 165
hot all over (samantatas tāpaḥ): 132	intestines (pakvādhāna): 111
hot over the whole body	intestines (pakvāśaya): 95, 110
(sarvāṅgasantāpaḥ): 132	intoxication from food (annamada): 110
hṛd (chest): 111	invariable statement (ekānta): 161
huge (mahatī): 157	invariable statement (ekānta): 164
human being (puruṣa): 12f, 15	invincible (<i>ajeya</i>): 99
humour (doṣa): 109, 145, 161	irregularities (vaiṣamya): 13
humours (doṣa): 14	irrigated (<i>pratipūraņa</i>): 97
humours (doṣa): 156	irrigation (tarpaṇa): 156
(. ,)	irrigation (seka): 137
icchā (desire): 13	irritation (<i>prakopa</i>): 14
if, then not (na ced): 145	irritation (adhimantha): 147
ilikinī (the ilikinī): 130	īrṣyā (envy): 13
illness (ruj): 139	it may be (bhavet): 145
illustration (nidarśana): 161, 165	itemization (<i>vidhāna</i>): 164
immortal (amṛta): 99	itemization (<i>vidhāna</i>): 161
implication (arthāpatti): 161	items created by time (kālakṛta): 14f
implication (arthāpatti): 164	(
impotent (śaṇḍhī): 157	jala (water): 22
in those cases (tatra): 140	jalaukas (water-dwellers): 22
in yama's direction (yāmya): 121	jambu (<i>jambū</i>): 138
inactive (00000): 58	jambū (jambu): 138
incurable (asādhya): 137	jāngala (arid-land animals): 143
indian lotus (nalina): 138	jangama (moving): 13, 15
indian madder (mañjiṣṭhā): 148	jangama (mobile): 102

jarāyuja (born in in a caul): 14	kaṭphala (box myrtle): 140
jaṭhara (bellyache): 114	kaumārabhṛtya (child bearing): 152
jātī (royal jasmine): 149	kauṇḍinya ('pot insects'): 116
jealousy (<i>asūyā</i>): 13	kavala (mouthwash): 96
joints (sandhi): 15	kha (apertures of the head): 97
juice extract (svarasa): 14	kha (follicles): 96
juice of cow-dung (<i>gośakṛt</i>): 138	khaluşa (the khaluşa): 130
juices (rasa): 142	khaṇḍaphaṇa (the break hood): 129
<i>jyotīratha</i> (the chariot of light): 130	khara (rough): 147
1- / 1	kikkisāda (the worm eater): 130
kāca (glassy opacity): 143	kinihī (white siris): 143
kākapada (crow's foot): 112	kiñjalka (filaments): 138
kākauṣṭha (crow's lip): 40	kitchen (mahānasa): 92
kākolī (cottony jujube): 148	kiṭipa (lice): 116
kalā (minutes): 14	knots (granthi): 108
kālakṛta (items created by time): 14f	knowledge (veda): 9
kālānusāriva (indian sarsaparilla): 139	kohl (<i>srotas</i>): 142
kalka (mash): 114	kohl (<i>srotoja</i>): 139, 149
kalpa (rule): 115	koṭha (skin disease): 110
kalpa (procedure): 125	kravyabhuj (carnivore): 141
kāma (lust): 13	<i>kṛcchra</i> (with difficulty): 145
kanabha (wasps): 117	kriyā (treatment): 15
kanda (bulbs): 14	kriyā (procedures): 15
kantaka (spots): 97	kriyā (treatment): 143
kapālacūrṇa (powdered earthenware	kriyā (procedures): 12
crockery): 41	kriyākāla (the time for therapies): 15
kapāṭasandhika (door-hinge): 40	kriyāsaṅga (loss of function): 147
kapha (mucus): 97	kṛmi (worms): 14
kapha (phlegm): 107, 110f, 157	
kapilā (tawny): 23	krodha (anger): 13
kapittha (wood apple): 138	kṛṣṇa (black part): 145
kapittha (wood apple): 138	kṛṣṇā (long pepper): 138
karburā (mottled): 23	kṛṣṇā (black): 23
kardama (the mud): 130	kṛṣṇasarpa (the black snake): 129
karma (regimen): 146	kṛṣṇodara (the black belly): 129
karman (therapies): 15	kṣaṇadāndhya (night blindness): 139
kaṛnavyadha (piercing the ear): 37	kṣāraka (lye): 142
karninī (protuberant): 157	kṣaudra (honey): 138
kārśmarī (white teak): 139	kṣaudrāñjana (honey collyrium): 139
kaṣāya (decoctions): 146	kṣaya (dwindling away): 110
kaṣāya (the ochre): 130	kṣīṇa (wasted): 42
kaṣāya (decoctions): 92	kṣīra (milky sap): 105, 107
kaṣāyavāsika ('orange-dwellers'): 116	kṣīra (sap): 14
kāśipati (lord of kāśī): 91	kṣīra (milky sap): 102
kāsīsa (green vitriol): 143	kṣīrikāpuṣpa (the milk flower): 130
kāṣṭhā (trice): 14	kukṣita ('bellied'): 117

1.=1(- /(1 1.=1(-)	1
kūkuṭa (the kūkuṭa): 129	long pepper (pippali): 138
kunta (small insects): 14	loose stool (vidbheda): 107, 118
kupyaka (metal): 138	lord of kāśī (<i>kāśipati</i>): 91
kuśa (kuśa grass): 142	loss of appetite (arocaka): 110
kuśa grass (kuśa): 142	loss of function (kriyāsaṅga): 147
kuṣṭha (pallid skin disease): 111	lotus-mouth (puṇḍarīkamukhī): 24
kvātha (decoction): 112	lotus-splittable (<i>utpalabhedyaka</i>): 40
lac (<i>lākṣā</i>): 148	lotus-spots (padminīkaṇṭaka): 97
lākṣā (lac): 148	lumps (granthi): 96, 107
lame (0000): 57	lust (kāma): 13
lathyrism (0000000): 57	lūtā (spiders): 11
layer (paṭala): 144	lye (kṣāraka): 142
leaves (patra): 14	madanaka (the intoxicator): 129
leaves (bhanga): 146	madhu (honey): 138
lehya (suckable): 166	madhuka (liquorice): 139
lekhana (scarification): 13	madhūka (mahua): 142ff
lice (kiṭipa): 116	madhukair (liquorice): 148
· · · ·	madhus (honey): 93
life (āyur): 22	
life, longevity (āyur): 9	madirā (spirits): 139
limpid (viśada): 109	madira (spirits): 143
limpness (DDDD): 57	māgadha (long pepper): 143
linga (symptom): 97	māgadhī (long pepper): 140, 142
linga (symptoms): 110	māgadhi (long pepper): 140
linganāśa (cataract): 145	mahāgada (great antidote): 23
liniment (ālepa): 137	mahākapota (the big pigeon): 129
liniments (ālepana): 23, 98	mahākṛṣṇa (the big black): 129
liquid (cala): 146	mahānasa (kitchen): 92
liquid collyrium (dravāñjana): 142	mahāpadma (the great lotus): 129
liquorice (madhukair): 148	mahāpanasaka (the big jackfruit): 129
liquorice (madhuka): 139	mahāsarpa (the great snake): 129
little ring of spots (cuñcumālaka): 127	mahāśīrṣa (the big head): 129
liver (yakṛt): 139f	mahāsugandha (great fragrance): 98
liver extract (yakṛdrasa): 139	mahatī (huge): 157
lobha (greed): 13	mahāviṣa (great aconite): 108
located (adhiṣṭhāna): 13	mahāviṣa (great poison): 108
lodh tree (<i>lodhra</i>): 139, 143	mahua (<i>madhūka</i>): 142ff
lodhra (lodh tree): 139, 143	mākuli (mākuli): 131
logical methods of the system	mākuli (<i>mākuli</i>): 130f
(tantrayukti): 160	mākuli (mākuli): 130
lohitākṣa (the red eye): 129f	malice (<i>mātsarya</i>): 13
long pepper (kṛṣṇā): 138	māṃsa (flesh): 15
long pepper (māgadhī): 142	māṃsanirgama (prolapse): 147
long pepper (māgadha): 143	manaḥśilā (red arsenic): 138f
long pepper (<i>māgadhī</i>): 140	manaḥśilā (realgar): 139, 142f, 149
long pepper (māgadhi): 140	mānasa (mental): 13

maṇḍala (round blotches): 110	month (<i>māsa</i>): 14
maṇdūka (frogs): 14	morsel (bali): 92
mango (<i>amra</i>): 138	mottled (karburā): 23
mañjiṣṭhā (indian madder): 148	mouse (<i>mūṣikā</i>): 24
marica (black pepper): 138	mouthwash (kavala): 96
markaṭa (monkey): 108	moving (jaṅgama): 13, 15
marks with a knife (śastrapada): 26	mṛdu (gently): 148
māsa (month): 14	mucus (kapha): 97
mash (kalka): 114	muhūrta (three-quarters of an hour): 14
maṣī (black soot): 138	mukhasaṃdaṃśā (nipping with the
massage oil (abhyaṅga): 92, 98	mouth): 116
massage ointment (anulepana): 92, 96	muktā (pearl): 145
masticable (bhakṣya): 166	muktvā (separate): 145
mātsarya (malice): 13	mūla (roots): 14
mātuluṅga (citron): 148	mūla (root): 13
matured (vipakva): 138	mūlaka (mūlaka): 108
medaka ('liquors'): 117	mūlaka (<i>mūlaka</i>): 108
medical advice (<i>ācārika</i>): 42	multi-joins (<i>vyāyojima</i>): 40
medicines cooked in a crucible	mūrcchā (stupor): 94
(puṭapāka): 138	mūṣika (rodents): 11
men (<i>nara</i>): 116	mūṣikā (mouse): 24
menstrual blood (<i>ārtava</i>): 156	mustā (nutgrass): 148
mental (mānasa): 13	mustaka (<i>mustaka</i>): 108
mention (samuddeśa): 161, 163	mustaka (mustaka): 108
<i>meṣaśṛṅga</i> (perploca of the woods): 149	myrobalan (<i>pathyā</i>): 138
meṣaviṣāṇa (periploca of the woods): 141	na cad (if then not): 4.5
metal (kupyaka): 138	na ced (if, then not): 145
milk (payas): 99	nadīja (salt): 139
milky sap (<i>kṣīra</i>): 102, 105, 107	nāga (elephant/snake): 117 nāgara (dried ginger): 139
minutes (kalā): 14	nalada (spikenard): 143
misery (dainya): 13	nalina (indian lotus): 138
miśrakacikitsa (various treatments): 44	nara (men): 116
misshapen eyeball (vilocana): 147	nasal medicine (<i>nasya</i>): 112
mithuna (pair): 165	nasal medicines (<i>nasya</i>): 137
mithuna (triad): 165	nasya (snuff): 92
mithyopacāra (faulty medical treatment):	nasya (snuff): 97
156	nasya (nasal medicines): 137
mitigatible (yāpya): 137	nasya (errhine): 141
mlāyin (blue dot cataract): 144	nasya (nasal medicine): 112
mobile (jaṅgama): 102	nasya (errhines): 98
moha (delirium): 106	naturally-occurring (daivakṛte): 145
monitor lizard (godhā): 140	nature (ātmaka): 12
monkey (vānara): 116	needle (\bar{suci}) : 146
monkey (markaţa): 108	nemīsandhānaka (rim-join): 41
monoplegia (DDDDDDDDDD): 56	nemīsandhānaka (rim-join): 40
1110110P16914 (000000000), 30	

nidarśana (illustration): 161, 165	oṣadhi (remedies): 15
night blindness (kṣaṇadāndhya): 139	oṣadhi (herbs): 13
niḥkvātha (stewed juice): 112	oṣadhī- (remedies): 13
<i>nīlī</i> (indigo): 95	outer corner of the eye (apāṅga): 145
nimeṣa (blink of the eye): 14	overexcitement (harṣa): 13
nipping with the mouth	(. , 3
(mukhasaṃdaṃśā): 116	pacification (<i>upaśama</i>): 14
nirdeśa (description): 161, 163	pacification (saṃśamana): 13
nirṇaya (determination): 161	padārtha (word-meaning): 162
nirvacana (interpretation): 161, 165	padārtha (word meaning): 161
nirvedhima (ready-split): 40	padma (the lotus): 129
nirvișa (without venom): 126	padmaka (himalayan cherry): 148
niryāsa (resin): 14, 104	padminīkaṇṭaka (lotus-spots): 97
niryāsa (extract): 98	pain (śūla): 111
niryāsa (resin): 102, 107	pain and injury (<i>vedanābhighāta</i>): 10
niśācara (nocturnal creature): 144	pair (mithuna): 165
nișevita (prepared): 142	pāka (sepsis): 98
nișevita (used): 140	pākamatsya ('cook-fish'): 116
nivāta (no wind): 14	pakṣa (fortnight): 14
niyoga (compulsion): 161, 165	pakvādhāna (intestines): 111
no wind (nivāta): 14	pakvāśaya (intestines): 95, 110
nocturnal creature (niśācara): 144	palāśa (flame of the forest): 143
non-bloodshot blindness (araga timira):	pālindaka (the morning glory): 129
144	pallava (shoots): 146
non-flowering tree (vanaspati): 143	pallid skin disease (kuṣṭḥa): 111
nourishment (bṛṇṇhaṇa): 13	-
numbness (svāpa): 98	panasaka (the jackfruit): 129
nutgrass (<i>mustā</i>): 148	pañcāṅgulataila (castor oil): 140
	panic grass (dūrvā): 148
objection (pūrvapakṣa): 161	paralysis (0000000): 56
oceanic (sāmudrikā): 23	paralysis of arms and back (DDDDDDDDD):
ochre (gairika): 138	57
off his hand (sapāṇa): 141	pārāvata (the pigeon): 130
oil (sneha): 14	paribhāṣā (general rule): 143
oil massage (abhyanga): 96	paridhūpana (giving off fumes): 132
oil stripe (<i>snigdharāji</i>): 131	paridhūpāyana (giving of fumes): 132
oily stripe (<i>snigdharāji</i>): 131	pariplutā (flooded): 157
ointment (pralepa): 94, 97	parisarpa (the snake around): 129
ointment (anulepana): 96	parīṣeka (shower): 96
ojas (vital energy): 13	parśvabheda (ribs crack): 111
ojas (energy): 47	pārthiva (earthen products): 15
omens (ariṣṭa): 47	<i>pārthiva</i> (earth products): 14
opening (chidra): 145	partial blindness (timira): 140f
ophidian (sarpita): 126	particulars (vikalpa): 15
option (<i>vikalpa</i>): 161, 165	parts (aṅga): 15
or not distorted (<i>vāviķṛtā</i>): 95	pāruṣya (hoarseness): 107

past reference (atikrāntāpekṣaṇa): 161,	poṭagala (poṭa throat): 131 powdered earthenware crockery
paśu (animals): 14	(kapālacūrṇa): 41
paṭala (layer): 144	pra√sādh (clean): 98
pāthā (velvet leaf): 143	pra\kuth (rot): 95
pathyā (myrobalan): 138	prabha (shine): 145
patra (cassia cinnamon): 148	pracalāka ('poisonous snakes'): 116
patra (leaves): 14	practical purposes (<i>prayojanavat</i>): 14 <i>pradeśa</i> (indication): 161, 163
patravṛścika ('wing-scorpions'): 117	• • • • • • • • • • • • • • • • • • • •
pavanodbhava (caused by wind): 140	pragāḍha (steeped): 141
payas (milk): 99	prakopa (irritation): 14
payasyā (holostemma): 148	prakṛti (temperament): 13
pearl (<i>muktā</i>): 145	pralāpa (ranting): 106
pebble (aṣṭhīlā): 94	pralepa (ointment): 94, 97
pelt (carman): 14	prasanga (recontextualization): 164
periploca of the woods (meṣaviṣāṇa): 141	prasaṅga (recontextualization): 161
perploca of the woods (meṣaśṛṅga): 149	praseka (discharge): 108
person (puruṣa): 165	pratīkāra (alleviation): 14
pervasive (vyavāyin): 109	pratīkāra (remedy): 137
peya (drinkable): 166	pratipūraņa (irrigated): 97
phala (fruits): 14	pratisāraṇa (rubbing): 95
phena (cuttlefish bone): 149	pratisāraṇa (rub): 95
phlegm (kapha): 107, 110f, 157	pratiședha (counteraction): 137
phlegmatic (śleṣmalā): 157	pravardhanaka (dilator): 39
physical (śārīravad): 15	prayojanavat (practical purposes): 14
picciṭā ('flat insects'): 116	prediction (atideśa): 161, 163
pīḍ- (press): 145	premise (<i>hetvartha</i>): 161
piercing (vyadha): 146	premiss (sādhana): 162
piercing the ear (kaṛṇavyadha): 37	prepared (niṣevita): 142
pigs' eye (sūkarākṣitā): 147	prepared with tilvaka (tailvaka): 138
pilindaka (the pilindaka): 129	prepared with turpeth (traivṛta): 138
pill (guḍikā): 138f	prescription (<i>upadeśa</i>): 161
pinched (gāḍha): 42	prescription (<i>upadeśa</i>): 163
piṅgalā (ruddy): 23	press (<i>pīd</i> -): 145
pipīlika (ants): 14	priyangu (beautyberry): 138
pippali (long pepper): 138	priyangu (beauty berry): 143
pith (sāra): 102, 104, 107	probe (śalākā): 145f
pīṭha (dais): 40	procedure (kalpa): 125
pitta (bile): 140	procedures (<i>kriyā</i>): 12, 15
pitta (choler): 157	prolapse (māṃsanirgama): 147
pittalā (bilious / choleric): 157	prolapses (arśas): 156
plīhan (spleen): 140	protuberant (<i>karninī</i>): 157
plota (gauze): 42	pṛṣata (the speckled): 129
plutā (sprung): 157	pṛṣata (chital deer): 93
poṭa throat (poṭagala): 131	pṛṭhakparṇī (hare foot uraria): 148
	, ,

puṇḍarīka (the lotus): 130	rasa (chyle): 29
puṇḍarīka (puṇḍarīka): 108	rasakriyā (inspissation): 143
puṇḍarīka (puṇḍarīka): 108	rasāñjana (elixir salve): 139, 142f
puṇḍarīkamukha (the lotus mouth): 129	rasāñjana (elixir-salve): 138
puṇḍarīkamukhī (lotus-mouth): 24	rauhita (extract of rohu carp): 139
pupil (<i>dṛṣṭi</i>): 137, 146	ready-split (nirvedhima): 40
purification (saṃśodhana): 13	realgar (<i>manaḥśilā</i>): 139, 142f, 149
purusa (human being): 12f, 15	recontextualization (prasanga): 161
purușa (person): 165	recontextualization (prasanga): 164
pūrvapakṣa (first point of view): 164	red arsenic (manaḥśilā): 138f
pūrvapakṣa (objection): 161	red chalk (gairikaḥ): 148
puṣpa (flowers): 14	red velvet mites (indragopa): 14
puṣpābhikīrṇnābha (the flower sprinkle	reduced-ear (hīnakarṇa): 40
beauty): 129	regimen (karma): 146
puṣpapāṇḍu (the pale as a flower): 129	regimen ($\bar{a}c\bar{a}ra$): 13
puṣpasakalī (the flower all): 130	remedies (oṣadhi): 15
puṭāhvaya (taken hot): 142	remedies (oṣadhī-): 13
puṭākhya (enclosed roasting): 141	remedy (<i>pratīkāra</i>): 137
puṭapāka (roasting): 156	resin (<i>niryāsa</i>): 14, 102, 104, 107
puṭapāka (enclosed roasting): 143	restrictions (yantraṇā): 146
puṭapāka (medicines cooked in a	rheum (<i>upadeha</i>): 98
crucible): 138	ribs crack (parśvabheda): 111
putraghnī (child-murderess): 157	rigid (sthirā): 147
	rigidity of neck (000000000): 57
qualities (guṇa): 109	rim of a wheel (<i>cakradhārā</i>): 41
1 1 1 1 (///)	rim-join (nemīsandhānaka): 40
racket-tailed drongo (bhṛṅgarāja): 93	rim-join (<i>nemīsandhānaka</i>): 41
rāgin timira (bloodshot blindness): 142	rjusarpa (the straight snake): 129
rāgiṇi timire (bloodshot blindness): 144f	roasting (puṭapāka): 156
rainbow (indrāyudhā): 23	rodents (mūṣika): 11
rainy seasons (varṣā): 14	roga (diseases): 156
rajana (turmerics): 139	rogasangraha (compendium of
rājicitra (the stripe speckle): 130	diseases): 154
rājimat (striped snake): 112	rohīta (rohīta tree): 143
raktakṣayā (with bloodloss): 157	rohīta tree (<i>rohīta</i>): 143
raktamaṇḍala (the red ring): 129	root (mūla): 13
ranting (pralāpa): 106	
rarified (sūkṣma): 109	roots (mūla): 14
rasa (flavours): 47	rot (pra\/kuth): 95
rasa (extracts): 143	rough (khara): 147
rasa (the blood of birds and animals):	round blotches (maṇḍala): 110
139	royal jasmine (jātī): 149
rasa (flavours): 13	rtu (season): 14
rasa (juices): 142	rub (pratisāraņa): 95
rasa (flavour): 161	rubbing (pratisāraņa): 95
rasa (chyle): 110	ruddy (pingalā): 23

rudhira (blood): 14	śaṇḍhī (impotent): 157
ruj (illness): 139	śaṅkumukhī (dart-mouth): 24
rūkṣa (dry): 109	sannipāta (congested humours): 15
rule (kalpa): 115	sap (<i>kṣīra</i>): 14
. ,	sapāṇa (off his hand): 141
s (0000000): 58	sāra (pith): 104
sāda (be exhausted): 111	sāra (essence): 14
ṣaḍaṅga (the six part): 130	sāra (pith): 102, 107
sādhana (premiss): 162	śārava ('lids'): 117
sādhya (curable): 137	śārikā ('darts'): 117
sādhya (cured): 114	śārīravad (physical): 15
sādhya (curable): 137	sarīsṛpa (creepy-crawlies): 11, 14
saindhava (salt): 112	śārivā (indian sarsaparilla): 148
saindhava (sindh salt): 142	
saindhava (sind salt): 138f	sāriva (indian sarsaparilla): 139
sal tree (\hat{sala}) : 138	sarpis (ghee): 138
śālā (sal tree): 138	sarpiṣ (ghee): 99
śalākā (probe): 145f	sarpita (serpented): 126
salilotthita (water-born): 144	sarpita (ophidian): 126
salilotthita (conch): 144	sārṣapa (sārṣapa): 107
saliva (śleṣman): 94	sārṣapa (sārṣapa): 107
salt (saindhava): 112	sarṣapaka ('pepper snakes'): 116
salt (nadīja): 139	sarvakṛṣṇa (the all black): 129
śalya (spike): 163	sarvāngasantāpaḥ (hot over the whole
śalya (splinter): 163	body): 132
samāñjana (same collyrium): 142	sarvātmikā (sarvātmikā): 157
samantatas tāpaḥ (hot all over): 132	sarvātmikā (<i>sarvātmikā</i>): 157
śambūka (cone snails): 116	<i>śastrakṣata</i> (cutting with a blade): 138
same collyrium (samāñjana): 142	śastrapada (marks with a knife): 26
śaṃkhapāla (the conch keeper): 129	śātakumbhī (gold): 147
saṃkṣipta (compressed): 41	sauvīraka (stibnite): 139
saṃkṣipta (compressed): 40	sāvarikā (<i>sāvarikā</i>): 24
samplava (clusters): 14	sāvarikā (sāvarikā): 24
saṃrambha (inflamed): 43	scarification (lekhana): 13
saṃśamana (pacification): 13	sciatica (000000): 57
saṃśaya (doubt): 161, 165	scramberry (tālīśa): 138
saṃśodhana (purification): 13	scramberry (tālīśapatra): 139
samuccaya (aggregation): 161, 165	season (rtu): 14
samudāya (accumulation): 39	sections (adhyāya): 16
samuddeśa (mention): 161, 163	seeing smoke (dhūmadarśin): 137
samudraphena (cuttlefish bone): 139f	segmented (chinna): 23
sāmudrikā (oceanic): 23	seka (irrigation): 137
saṃvatsara (year): 14	semen $(b\bar{\imath}ja)$: 156
sañcaya (accumulation): 14	separate (<i>muktvā</i>): 145
sandal (sugandhi): 141	sepsis (pāka): 98
sandhi (joints): 15	serpented (sarpita): 126
Jones, 15	331 P 311634 (SWI P 1111). 120

shine (prabha): 145	śonitena (with blood): 147
shooting pain $(s\bar{u}la)$: 147	soot (gṛhadhūma): 121
shoots (pallava): 146	spasm of the jaw-bones (DDDDDDD): 57
shoots (udbhid): 14	spasm of the jaw-bones (DDDDDD): 57
shower (parīṣeka): 96	spasmodic contraction (DDDDDD): 55
shrubs (vīrudh): 13	spasmodic contradiction (DDDDDDDDD):
siddhārthaka (white mustard): 148	56
siddhi (cure): 112	sphoṭa (spots): 97f
side-effects (upadrava): 98, 114	spiders (<i>lūtā</i>): 11
signs (cihna): 157	spike (śalya): 163
śigru (horseradish tree): 144	spikenard (nalada): 143
sind salt (saindhava): 138f	spiral (<i>āvarta</i>): 145
sindh salt (saindhava): 142	spirits (madirā): 139
sinews (snāyu): 15	spirits (madira): 143
sirā (ducts): 15	spleen (plīhan): 140
sirāvedha (blood-letting): 138	splinter (śalya): 163
siris (<i>śirīṣa</i>): 138, 149	spots (kaṇṭaka): 97
śirīṣa (siris): 138, 149	spots (sphoṭa): 97f
śiśuka (the kid): 129	sprung (plutā): 157
sitā (white sugar): 148	sraj (garlands): 92
śīta (elixir-salve): 139	sraṃsanī (causing a fall): 157
skin (tvak): 14f	srāva (discharge): 96, 98
skin disease (kotha): 110	śreyas (welfare): 10
sleep (svāpa): 107	srotas (kohl): 142
śleṣmalā (phlegmatic): 157	srotoja (kohl): 139, 149
ślesman (saliva): 94	stalk (vṛnta): 138
slice of flesh (vadhra): 44f	stammers (00000): 58
slow-acting poison $(d\bar{u}s\bar{i}visa)$: 114	statement of reason (apadeśa): 163
slow-acting poison $(d\bar{u}s\bar{i}-visa)$: 111	statement of reason (apadeśa): 161
slow-acting poison antidote (dūṣīviṣāri):	stationary (<i>sthāvara</i>): 13, 15, 102
95	steeped (pragāḍha): 141
small insects (kunta): 14	stewed juice (niḥkvātha): 112
snāyu (sinews): 15	sthāvara (stationary): 13, 15, 102
sneha (oil): 14	sthirā (rigid): 147
sniffing (ucchingana): 146	stibnite (añjana): 143
snigdharāji (oil stripe): 131	stibnite (sauvīraka): 139
snigdharāji (oily stripe): 131	stick-ear (yaṣṭīkarṇa): 40
snuff (nasya): 97	sting-gush (alagarddā): 23
snuff (nasya): 92	stings (śūla): 117
sole-heart (talahṛdaya): 165	stirred with goat's milk (ajākṣīrārdita):
solid (styāna): 146	148
soma creeper (somalatā): 94	stomach (āmāśaya): 110f
somalatā (soma creeper): 94	strength (bala): 13
śonita (blood): 140	striped snake (<i>rājimat</i>): 112
śonita-pitta, rakta-pitta (blood-bile): 140	strong mallow (atibalā): 141

stupor (mūrcchā): 94	tailasugandhi (the fragrant one in oil):
styāna (solid): 146	141
substance (<i>dravya</i>): 47	tailvaka (prepared with tilvaka): 138
substrate (āśrayin): 13	take away (<i>āhārya</i>): 40
successive shocks (<i>vega</i>): 125	taken hot (<i>puṭāhvaya</i>): 142
sūcī (needle): 146	takes the form of pervading the whole
sūcīvaktrā (with a needle-like opening):	body (akhiladehavyāptirūpam): 109
157	talahṛdaya (sole-heart): 165
suckable (<i>lehya</i>): 166	tālīśa (scramberry): 138
suffering (duḥkha): 13	tālīśapatra (scramberry): 139
sugandhi (sandal): 141	tāmra (copper): 147
śūka (bristles): 116	tāmracūḍa (cock): 142
śukapatra (the white leaf): 130	tantrayukti (logical methods of the
sūkarākṣitā (pigs' eye): 147	system): 160
sukha (comfort): 15	tantuka (the stretch): 129
sūkṣma (rarified): 109	tarpaṇa (eyewash): 138, 142
śūla (stings): 117	tarpaṇa (irrigation): 156
śūla (shooting pain): 147	tarpaṇa (eyewash): 98, 143
śūla (pain): 111	tatra (in those cases): 140
sun (<i>hari</i>): 146	tatra (the tatra): 130
supernatant layer (agra): 143	tawny (<i>kapilā</i>): 23
sūtra (aphorism): 162	temperament (<i>prakṛti</i>): 13
svabhāva (inherent factors): 15	the all black (sarvakṛṣṇa): 129
svābhāvika (inherent): 13	the bamboo leaf (veṇupatraka): 129
svāpa (sleep): 107	the big black (mahākṛṣṇa): 129
svāpa (numbness): 98	the big cow snout (vṛddhagonasa): 129
svarasa (expressed juice): 138	the big head (<i>mahāśīrṣa</i>): 129
svarasa (extracted juice): 97	the big jackfruit (mahāpanasaka): 129
	the big pigeon (mahākapota): 129
svarasa (juice extract): 14	the black belly (kṛṣṇodara): 129
śvāsa (wheezing): 107	the black snake (kṛṣṇasarpa): 129
svasamjñā (field-specific term): 161	the blood of birds and animals (rasa):
svasamjñā (field-specific term): 165	139
svayaṃgupta (velvet bean): 138	the break hood (khandaphana): 129
svedaja (born of sweat): 14	the brown (babhru): 130
śvetadara (the white rip): 129	the brown hut mouth
svetahanu (the white jaw): 130	(babhrūkuṭīmukha): 129
śvetakapota (the white pigeon): 129	the chariot of light (jyotīratha): 130
śvetamaṇḍala (the white ring): 129	the conch keeper (śaṃkhapāla): 129
swollen (ādhmāta): 132	the curd mouth (dadhimukha): 129
syanda (watery eye): 144	the deer foot (eṇīpada): 130
symptom (linga): 97	the drop stripe (bindurāji): 130
symptoms (linga): 110	the finger stripe (aṅgulirāji): 130
synovitis of knee join (DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD	the flame (agnika): 130
57	the flower all (puṣpasakalī): 130

the time for therapies (<i>kriyākāla</i>): 15 the two finger stripe (<i>dvyaṅgulirāji</i>): 130		
14		
Ċ		
,		

tuttha (blue vitriol): 142	vapour (<i>bāṣpa</i>): 93f, 97		
tvak (skin): 14f	varaki (wasps): 117		
tympanites (DDDDDD): 58	varcaḥkīṭa (dung beetles): 116		
, , ,	varga (collection): 15		
ucchingana (sniffing): 146	variable statement (<i>anekānta</i>): 161		
ucciținga (crabs): 117	variable statement (<i>anekānta</i>): 164		
udāvartā (udāvartā): 157	various treatments (<i>miśrakacikitsa</i>): 44		
udāvartā (<i>udāvartā</i>): 157	varņa (complexion): 13, 47		
udbhid (shoots): 14	varṣā (rainy seasons): 14		
udvestana (writhing): 106	varṣāhīka (the year-snake): 130		
<i>ūhya</i> (deducible): 161, 165	vartti (wicks): 149		
unsteadiness of the humours	vartti (wick): 149		
(doṣapariplava): 147	, , , , , , , , , , , , , , , , , , , ,		
untreatable (asādhya): 145	vasā (fat): 142		
upadeha (rheum): 98	vāta (wind): 156f		
upadeśa (prescription): 161	vātalā (windy): 157		
upadeśa (prescription): 163	vāviķṛtā (or not distorted): 95		
upadrava (side-effects): 98, 114	veda (knowledge): 9		
upahita (combined): 140	vedanābhighāta (pain and injury): 10		
upaśama (pacification): 14	vega (successive shocks): 125		
upasarga (affliction): 98	velvet bean (svayaṃgupta): 138		
used (niṣevita): 140	velvet leaf (pāthā): 143		
uśīra (cuscus grass): 143	venupatraka (the bamboo leaf): 129		
utpala (blue lotus): 138	vicitra (the variegated): 129		
utpalabhedyaka (lotus-splittable): 40	vidagdha (inflamed): 137		
utpīḍita (injured): 144	vidanga (embelia): 143		
utsādana (dry rub): 96	vidbheda (loose stool): 107, 118		
utsādana (dry rubs): 92	vidhāna (itemization): 161		
(3)	vidhāna (itemization): 164		
vadhra (slice of flesh): 44f	vidruma (coral): 149		
vaidūrya (beryl): 149	vikalpa (option): 165		
vaiṣamya (irregularities): 13	vikalpa (particulars): 15		
vakrabhrūnetra (bent brow and eye): 147	vikalpa (option): 161		
vāksamūhārthavistāra (extensive meaning	vikāsin (expansive): 109		
of the literature): 131	vilocana (misshapen eyeball): 147		
vaktra (ends): 147	vipakva (matured): 138		
vākyaśeṣa (ellipis): 161	viparyaya (contraposition): 161, 164		
vākyaśeṣa (ellipsis): 163	vīrudh (shrubs): 13		
valāhako (the rain cloud): 129f	viṣāda (depression): 13		
vallīkarṇa (creeper-ear): 40	viśada (limpid): 109		
vallūraka (dried flesh): 40	viṣavega (toxic impulses): 133		
vāminī (vomiting): 157	viśleṣa (disjunction): 110		
vānara (monkey): 116	viśvambhara ('earth scorpions'): 117		
vanaspati (non-flowering tree): 143	vital energy (ojas): 13		
vanaspati (fruit trees): 13	voḍhāra (bearers): 92		
vandhyā (infertile): 157	vomiting (vāminī): 157		
· · · · · · · · · · · · · · · · · · ·	<i>y</i> • • • • • • • • • • • • • • • • • • •		

vṛddhagonasa (the big cow snout): 129	yakṛdrasa (liver extract): 139
vṛkṣa (flowering trees): 13	yakṛt (liver): 139f
vṛkṣaka (the little tree): 130	yamalā (double): 95
vṛnta (stalk): 138	yāmya (in yama's direction): 121
vṛṣabha (bull): 93	yantraṇā (restrictions): 146
vyadha (piercing): 146	yāpya (can be mitigated): 145
vyadhi (disease): 15	yāpya (treatable): 114
vyākhyāna (explication): 161, 165	yāpya (mitigatible): 137
vyākhyāta (intended): 15	yāpya (alleviated): 140
vyāla (wild animals): 14	yaṣṭīkarṇa (stick-ear): 40
vyavāyin (pervasive): 109	yavāgū (gruel): 112
vyāyojima (multi-joins): 40	yavaudana (cooked barley): 144
vyoṣa (the three spices): 139	year (saṃvatsara): 14
vyoọu (the three spices). 139	yoga (construing): 161
wasps (kaṇabha): 117	yoga (compounds): 138
wasps (varaki): 117	yoga (construing): 162
wasted (kṣīṇa): 42	yoni (female reproductive system): 156
water (jala): 22	yoni (female reproductive system): 157
water-born (salilotthita): 144	yoni (female reproductive organ): 157 yoni (female reproductive system): 156
water-dwellers (jalaukas): 22	yoni (female reproductive system): 156
watery eye (syanda): 144	
welfare (śreyas): 10	yoni (womb): 152
wheezing (śvāsa): 107	yonivyāpat (disorders of the female
white mustard (siddhārthaka): 148	reproductive system): 156
white siris ($kinih\bar{i}$): 143	yuga (yuga): 14
white sugar ($sit\bar{a}$): 148	yuga (yuga): 14
white teak ($k\bar{a}r\acute{s}mar\bar{\imath}$): 139	ппопопопопопопопопопопопопопопопопопоп
wick (vartti): 39	addadada (emprosthotonos): 56
wicks (vartti): 149	contradiction contradictio
wild animals (<i>vyāla</i>): 14	56
wind (<i>vāta</i>): 156f	□□□□□□ (spasmodic contraction): 55
windy (<i>vātalā</i>): 157	□□□□□□ (spasm of the jaw-bones): 57
with a needle-like opening (sūcīvaktrā):	□□□□□□□ (spasm of the jaw-bones): 57
157	
with blood (śonitena): 147	□□□□□□□ (convulsion): 56
with bloodloss (<i>raktakṣayā</i>): 157	$\Box\Box\Box\Box\Box\Box$ (tympanites): 58
with difficulty (<i>kṛcchra</i>): 145	ппппппппппппппппппппппппппппппппппппп
with testicles $(a\underline{n}d\bar{n}n\bar{i})$: 157	diddidddd (moriopiegia). 50
without venom (nirvișa): 126	000000 (ear-ache): 58
womb (<i>yoni</i>): 152	0000000 (lathyrism): 57
wood apple (<i>kapittha</i>): 138	aaaaaaaaaaaaa (synovitis of knee join):
wood apple (<i>kapittha</i>): 138	57
word meaning (padārtha): 161	
word-meaning (padārtha): 162	ппппппппппппппппппппппппппппппппппппп
worms (kṛmi): 14	□□□□ (stammers): 58
writhing (<i>udveṣṭana</i>): 106	000000 (sciatica): 57
wiitimig (uuoesiuiu). 100	UUUUUUU (SCIAIICA). 57

Todo list

Can't be "sedation"	2 -
This is a change we should make in the edition	35 6-
	65
You need not give all the grammatical details about śrotādi. As-	((
sume you are talking to knowledgeable Sanskrit scholars	66
Perhaps kalka here could also mean the Terminalia Bellerica (विभीतक).	
Euphorbia Antiquorum (Antique spurge)	7º
The webpage https://hindi.shabd.in/vairagya-shatakam-bhag-	
acharya-arjun-tiwari/post/117629 says that this verse belongs	
to the <i>Nītiratna</i> . I could not find this text	73
The provisional edition should be modified accordingly	75
There, Dalhana comments that deliberation on avapīḍa had been	
done earlier when it was mentioned. Find that description to	
know more details	77
Search for the section where the treatment of <i>ākṣepaka</i> is described.	78
Make the first letter of sentence capital	78
?	84
?	84
?	84
(?)	84
Cf. Arthaśāstra 1.21.8	92
I'm still unhappy about this verse	95
Mention this in the introduction as an example of the scribe know-	,,
ing the vulgate	95
fn about sadyas+	95
Bear's bile instead of deer's bile	96
punarṇṇavā in the N & K MSS	97
śrita for śrta	97 97
explain more	97 98
	90

Medical difference from Sharma	98
example where the vulgate clarifies that these should be used sep-	
arately; appears to be a gloss inserted into the vulgate text	98
The two uses of prāpta are hard to translate. prāptā $h \rightarrow k$ ṣipram is	
an example of the vulgate banalizing the Sanskrit text to make	
sense of a difficult passage	98
$\sqrt{\text{vyadh not }\sqrt{\text{vedh (also elsewhere and for the ears)}}}$, causative	
optative	98
-> ativișa	108
Look up the ca. reference	108
Come back to the issue of "kalpa". Look up passages in the Kośa.	115
write footnote: don't repeat ativiṣā; vulgate similar to H	119
material corresponds to SS.1.45.205ab, where it describes how al-	
cohol affects the body.	121
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 Mandalins." Are phanins really the same as	
darvīkaras?	_
grammar	
ri- ṛ-?	
varṇa means "colour" elsewhere?	_
where is cutting with a knife related to removing bile or phlegm	
maṣī burned charcoal. Find refs	-
find ref	
Check out these refs	
meaning of kalpa	
or a dual?	
Footnote here about who is speaking to whom	
a kind of asthma?	
Not happy with the last part	
connecting with the previous pāda?	
(atyartha? excessive?)	
fordvādaśādikaḥ)? not clear to me, is it dvādaśādhikaḥ?	_
(any better medical terms for them?)	
(since the word lagha is not clear to me)	
(Not too happy with it.)	151
(not sure about it)	
(Not in vulgate)	151

(I am looking for a better translation)
(I'd need to rework on it)
(I'd need to rework on it and think about the sequencing of the
number)
(āmadoṣa? Not too sure)
(2nd hemistich is incomplete)
(not too sure about the meaning of vyapada)
not so sure about sodāvarte
not so sure about it, MW mentions others like Cordia Myxa and
Alangium hexapetalum
not sure about it
(sāmāhāya- any better word?)
Not so happy with this translation
(Not happy with it)
(the second hemistich is incomplete)
can śṛta mean here boiled milk? Not happy with the last part 155
the rest of the text is unclear to me
(not so sure about it). [ghṛtābhyaṅgonavasthāsu should it be like
ghṛtābhyaṅgo 'navasthāsu?, svedā lepaḥ ghṛtābhyaṅgonavas-
thāsu ca yojayet] (Not so happy with the translation) 156
See also <code>Dalhaṇa</code> at 1.1.1 (Su 1938: 1)
See chapter 40 of Sūtrasthāna
vasā / medas / majjan
Does bhūtādi a compound or it means ahaṅkāra or ego? 165