

Draft Translation of the Nepalese  
*Suśrutasamhitā*

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# Contents

<b>Introduction</b>	<b>13</b>
The date of the Suśrutasamhitā . . . . .	13
Dhanvantari . . . . .	13
Methods of diagnosis . . . . .	14
Chinese evidence . . . . .	16
The Nepalese Version . . . . .	16
The vulgate . . . . .	17
The Translation . . . . .	19
 <b>Part 1. Sūtrasthāna</b>	 <b>21</b>
 <b>Sūtrasthāna 1: The Origin of Medical Knowledge</b>	 <b>23</b>
Literature . . . . .	23
Translation . . . . .	23
In praise of surgery . . . . .	26
 <b>Sūtrasthāna 2: The Initiation of a Student</b>	 <b>31</b>
Literature . . . . .	31
Translation . . . . .	31
 <b>Sūtrasthāna 3: The Table of Contents</b>	 <b>33</b>
Literature . . . . .	33
Translation . . . . .	33
 <b>Sūtrasthāna 10: Diagnosis</b>	 <b>35</b>
 <b>Sūtrasthāna 11: Preparing and using caustics</b>	 <b>37</b>

<b>Sūtrasthāna 13: On Leeches</b>	<b>39</b>
Literature . . . . .	39
Translation . . . . .	39
<b>Sūtrasthāna 14: On the Properties of Blood</b>	<b>47</b>
Literature . . . . .	47
Translation . . . . .	47
<b>Sūtrasthāna 16: Repairing Pierced Ears</b>	<b>55</b>
Literature . . . . .	55
Translation . . . . .	55
<b>Sūtrasthāna 28: Unfavourable Prognosis in Patients with Sores</b>	<b>65</b>
Literature . . . . .	65
Translation . . . . .	65
<b>Sūtrasthāna 29: Prognostic signs relating to the messenger and to dreams</b>	<b>67</b>
Literature . . . . .	67
Content of the chapter . . . . .	68
The messenger . . . . .	68
Dreams . . . . .	68
Translation . . . . .	69
<b>Sūtrasthāna 46: The Rules about Food and Drink</b>	<b>71</b>
Introduction . . . . .	71
<b>Part 2. Nidānasthāna</b>	<b>73</b>
<b>Nidānasthāna 1: The Diagnosis of Diseases Caused by Wind</b>	<b>75</b>
Introduction . . . . .	75
Literature . . . . .	75
Translation . . . . .	76
Symptoms of diseases that arise because of a combination of the five breaths with bile and phlegm . . . . .	80

## Part 3. Śārīrasthāna 89

### Śārīrasthāna 1: A Consideration of All Beings 91

Introduction . . . . .	91
Literature . . . . .	94
Translation . . . . .	95
The production of all things . . . . .	95
Prakṛti and Puruṣa . . . . .	98
Attributes of the Person . . . . .	101

### Śārīrasthāna 2: On Semen and Menstrual Fluid 105

Literature . . . . .	105
Translation . . . . .	105
Diagnosis by humours . . . . .	106
Therapies for menstrual blood . . . . .	109
During menstruation . . . . .	110
Types of persons . . . . .	114
Birth irregularities . . . . .	116

### Śārīrasthāna 3: On Conception and the Development of the Embryo 119

Literature . . . . .	119
Translation . . . . .	120
Conception . . . . .	120
Pregnancy . . . . .	122
Fetal development . . . . .	123
Effects of the mother's experiences on the unborn child . . .	124

### Śārīrasthāna 4: On the Formation of the Embryo 131

Introduction . . . . .	131
Literature . . . . .	132
Translation . . . . .	133
The seven skins . . . . .	133
The seven membranes . . . . .	134
Pathways in the body . . . . .	137
The formation of the fetus's organs . . . . .	138
On sleep . . . . .	139

<b>Śārīrasthāna 9: An Analysis of the Pipes</b>	<b>147</b>
Introduction . . . . .	147
Fluids and Their Conduits . . . . .	148
Literature . . . . .	152
Translation . . . . .	153
On the pipes in the body . . . . .	153
On the tubes in the body . . . . .	155
 <b>Part 4. Cikitsāsthāna</b>	 <b>159</b>
<b>Cikitsāsthāna 4: On the Treatment of Wind Diseases</b>	<b>161</b>
Literature . . . . .	161
Translation . . . . .	161
 <b>Cikitsāsthāna 5: On the Treatment of Great Wind Diseases</b>	 <b>169</b>
Literature . . . . .	169
Translation . . . . .	169
Wind-afflicted blood . . . . .	169
 <b>Cikitsāsthāna 15: On Difficult Delivery</b>	 <b>185</b>
Literature . . . . .	185
Translation . . . . .	185
 <b>Part 5. Kalpasthāna</b>	 <b>189</b>
<b>Kalpasthāna: Introduction</b>	<b>191</b>
The Sequence of Chapters . . . . .	191
The Spread of Indian Toxicological Lore to Medieval Islamic Au- thors . . . . .	192
The <i>Kalpasthāna</i> 's diffusion . . . . .	192
 <b>Kalpasthāna 1: Protecting the King from Poison</b>	 <b>195</b>
Introduction . . . . .	195
The meaning of "kalpa" . . . . .	195
Chapter 1 of the Kalpasthāna . . . . .	195
Literature . . . . .	196
Translation . . . . .	197

[Threats to the king] . . . . .	197
<b>Kalpasthāna 2: Poisonous Plants</b>	<b>207</b>
Introduction . . . . .	207
Shock . . . . .	208
Literature . . . . .	209
Translation . . . . .	210
Symptoms of poisoning . . . . .	212
Slow-acting poison . . . . .	215
<b>Kalpasthāna 3: Poisonous Insects and Animals</b>	<b>221</b>
Introduction . . . . .	221
Literature . . . . .	223
Translation . . . . .	223
Pollution of the environment . . . . .	225
The origin of poison . . . . .	227
The working of poison . . . . .	228
Patients beyond help . . . . .	229
<b>Kalpasthāna 4: Snakes and Envenomation</b>	<b>231</b>
Introduction . . . . .	231
The Seven Stages of Toxic Shock . . . . .	232
Literature . . . . .	232
Translation . . . . .	234
The Taxonomy of Snakes . . . . .	234
Behaviours . . . . .	236
Enumeration of Snakes . . . . .	238
Breeding and Gender . . . . .	240
Symptoms of Snakebite . . . . .	241
Summary Verses . . . . .	244
<b>Kalpasthāna 5: Therapy for those Bitten by Snakes</b>	<b>247</b>
Introduction . . . . .	247
Literature . . . . .	247
Translation . . . . .	248
The Application of Mantras . . . . .	249
Blood Letting . . . . .	250
Internal Medications . . . . .	250

Therapies at Each Pulse of Toxic Reaction . . . . .	251
Subsequent Therapies . . . . .	253
<b>Kalpasthāna 6: Rats and Rabies</b>	<b>259</b>
Introduction . . . . .	259
Mouse or Rat? . . . . .	259
Literature . . . . .	261
Translation . . . . .	262
The Types of Rat . . . . .	262
Detailed Symptoms . . . . .	264
The Bites of Wild Animals . . . . .	268
<b>Kalpasthāna 7: Beating Drums</b>	<b>271</b>
Introduction . . . . .	271
Literature . . . . .	271
Translation . . . . .	271
Recipe for the Caustic Antidote . . . . .	271
Application of the Caustic Antidote . . . . .	272
Recipe for the Immortal Ghee . . . . .	274
The Great Perfume . . . . .	275
<b>Kalpasthāna 8: Poisonous insects</b>	<b>277</b>
Introduction . . . . .	277
Insect names . . . . .	277
Literature . . . . .	278
Translation . . . . .	280
Taxonomy of insects . . . . .	280
Taxonomy of scorpions . . . . .	287
Spiders . . . . .	290
Concluding remarks . . . . .	299
End of the Kalpasthāna . . . . .	300
 <b>6. The Uttaratāntra</b>	 <b>303</b>
Introduction to the Uttaratāntra	305
Literature . . . . .	307



## **Part 6.1 Uttaratantra, Śālakyatantra 309**

### **Uttaratantra 17: Preventing Diseases of the Pupil 311**

Introduction . . . . .	311
Literature . . . . .	311
Translation . . . . .	311
[Complications] . . . . .	321
[Characteristics of the probe] . . . . .	321
[Complications] . . . . .	322

## **Part 6.2 Uttaratantra, Kumāratantra 325**

## **Part 6.3 Uttaratantra, Kāyacikitsātantra 327**

### **Uttaratantra 38: Diseases of the Female Reproductive System 329**

Introduction . . . . .	329
Literature . . . . .	329
Placement of the Chapter . . . . .	329
Parallels . . . . .	331
Philological notes . . . . .	332
Metrical alterations . . . . .	332
The original opening verses . . . . .	332
Translation . . . . .	334

## **Part 6.4 Uttaratantra, Bhūtatantra 337**

### **Uttaratantra 39: On Fevers and their Management [draft] 339**

Literature . . . . .	339
Remarks on the Nepalese version . . . . .	339
Translation . . . . .	340

## **Part 6.5 Uttaratantra, Tantrabhūṣaṇādhyāya 341**

### **Uttaratantra 64: Preservation of Health 343**

Literature . . . . .	343
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Translation . . . . .	344
<b>Uttaratantra 65: Rules of Interpretation</b>	<b>349</b>
Literature . . . . .	349
Early Sources . . . . .	349
The <i>Arthaśāstra</i> . . . . .	350
The <i>Yuktidīpikā</i> . . . . .	350
Tamil literature . . . . .	350
The <i>Viṣṇudharmottarapurāṇa</i> . . . . .	351
The <i>Saddanīti</i> . . . . .	352
Āyurvedic literature . . . . .	357
Tantrayukti-inventories . . . . .	363
Earlier Listing . . . . .	364
Later Listing . . . . .	364
Terminology . . . . .	365
1. <i>adhikaraṇa</i> . . . . .	365
2. <i>yoga</i> . . . . .	367
3. <i>padārtha</i> . . . . .	370
3. <i>hetvartha</i> . . . . .	374
5–6. <i>uddeśa</i> and <i>nirdeśa</i> . . . . .	376
Notes on Significant Variants . . . . .	378
...द्वितीये पादे... . . . .	378
यत्र तु स्नेहस्वेदाभ्यञ्जनेषु...पूर्वापरयोगसिद्धो भवति । . . . .	378
सामवेदादयश्च वेदाः . . . . .	379
...विद विन्द इत्येतयोश्च धात्वोः... . . . .	379
...धात्वोरेकार्थः । पश्चात् पदं भवति... . . . .	381
यदुक्तं साधनं भवति स हेत्वर्थः . . . . .	382
...तथा माषदुग्धप्रभृतिभिर्वर्णः क्लृद्यते . . . . .	383
समासवचनं समुद्देशः । . . . .	383
Characteristics of the Manuscript Transmission . . . . .	384
Translation . . . . .	385
<b>Editions and Abbreviations</b>	<b>391</b>
<b>Index of Manuscripts</b>	<b>397</b>
<b>General Bibliography</b>	<b>399</b>

<b>Materia Medica</b>	<b>435</b>
Abbreviations . . . . .	435
Flora . . . . .	438
Fauna . . . . .	467
Minerals . . . . .	475
<b>Glossary</b>	<b>477</b>

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# Introduction

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

## The date of the *Suśrutasaṃhitā*

In a previous publication, I discussed evidence showing that the *Suśrutasaṃhitā* as we have it now began to be assembled in the late centuries BCE, and was heavily revised and supplemented in the period before CE 500.<sup>3</sup> The more detailed reflections by Meulenbeld support this dating.<sup>4</sup> But we also now know, as a result of the Suśruta Project, that the work was subject to at least one further editorial campaign after the ninth century.<sup>5</sup>

## Dhanvantari

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

- 1 See Dominik Wujastyk, Birch, Klebanov, et al. [2023](#) for an introduction to the Nepalese text and Wujastyk et al. [2021](#)– for background on the Suśruta Project, 2021–2024.
- 2 For more discussion of this issue, see Dominik Wujastyk, Birch, Klebanov, et al. [2023](#): Introduction and ch. 2.
- 3 Dominik Wujastyk [2003b](#): 63–64.
- 4 [HIML](#): 1A, 333–352.
- 5 Dominik Wujastyk, Birch, Klebanov, et al. [2023](#): 16–26.

gate version of the *Suśrutasamhitā* is not tied in the same way to the older, Nepalese version of the text.<sup>6</sup> In the late ninth century, the *Suśrutasamhitā* was read as a work delivered by Divodāsa, King of Kāśī, not the god Dhanvantari. The text was thoroughly re-edited after the ninth century, adding the narrative frame of the Dhanvantari attribution as well as verses from the *Carakasamhitā* and other material. It may be that at least some of this editorial work was performed by the author Candraṭa (fl. 900–1050), since several manuscript colophons of the *Suśrutasamhitā* include the statement,

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

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

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

## Methods of diagnosis

Chapter ten of the *Sūtrasthāna* is dedicated to the topic of becoming a professional physician.<sup>8</sup> The fourth passage of the chapter, describes how a physician takes note of omens on the way to a patient's home, and then how he diagnoses the patient:

Then he should approach the house of the sick person according to the favourableness of the messenger, the reason given, omens, and good-luck signs. After sitting down, he should have a good look at the sick person, he should palpate them and interrogate them. Diseases are mostly understandable through

6 Dominik Wujastyk 2013; Birch, Dominik Wujastyk, Klebanov, Parameswaran, et al. 2021; Birch, Dominik Wujastyk, Klebanov, Rimal, et al. 2021; Dominik Wujastyk, Birch, Klebanov, et al. 2023.

7 Dominik Wujastyk 2025a.

8 See p. 35 below and Dominik Wujastyk 2025b for discussion.

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

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

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

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

The passage referring to the *Carakasamhitā* is absent.

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

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

10 ततो दूतनिमित्तशकुनमङ्गलानुलोम्येनातुरगृहमागम्योपविश्यातुरमभिपश्येत्स्पृशेच्च त्रिभिरेतैर्विज्ञानोपायैः दीर्घमायुषोल्पायुषो वेदितव्यः.

11 अयं पाठश्च चक्रासंगतः.

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

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

## Chinese evidence

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

## The Nepalese Version

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

1. MS Kathmandu KL 699 (siglum K),

- 12 However, another इत्येके “some say” passage that does occur in the Nepalese version, namely *Suśrutasaṃhitā* 4.5.3 (Su 1938: 424), does respond to a concept that is described in *Carakasamhitā* 6.29.19 (Ca 1941: 628) (Emmerick 1984: 101). Commenting on the *Carakasamhitā*, Cakrapāṇidatta actually cited this passage of Suśruta's explicitly and engaged in a discussion to harmonize the views of the two authorities (तेन न विरोधश्चरकसुश्रुतयोः ।).
- 13 Cakrapāṇidatta *ad Carakasamhitā* 8.12.39 (Ca 1941: 735) (see also HIML: 1A, 132, 350–351).
- 14 Lu 2025: 2. See further studies including those of Demiéville (1954), Zacchetti (2010) and Deleanu (1997).



<i>Sthāna</i> no. of <i>adhyāyas</i>	Sūtra	Nidāna	Śārīra	Cikitsā	Kalpa	Uttara	Nighaṇṭu
	46	16	10	40	8	66	
<i>MSS</i>							
KL 699	K						
NAK 1/1079	N						
NAK 5/333	H						

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

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

Figure 1 shows the parts of the *Suśrutasamhitā* text that are supported by the three manuscripts. The first of these MSS is the oldest, dated to CE 878.<sup>15</sup> It covers most of the *Suśrutasamhitā*, but lacks the *Nidānasthāna* and the *Śārīrasthāna*. The second is undated but is datable on palaeographical grounds to the twelfth or thirteenth centuries.<sup>16</sup> It contains the *Sūtrasthāna* and *Nidānasthāna* but breaks off shortly afterwards. The third manuscript, H, is the most complete, supporting the text of the whole of the *Suśrutasamhitā*. It is dated CE 1513.<sup>17</sup> The text of manuscript H follows K very closely but is not a direct apograph.<sup>18</sup> I and others who have studied this matter conjecture that it was either copied from an intermediary that followed K very closely or from an ancestor of K.<sup>19</sup>

## The vulgate

The version of the *Suśrutasamhitā* that we refer to as “the vulgate” is the version of the text that circulates in print today in multiple editions. The most careful and authoritative edition is that of Yādavaśarma Trivikrama

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

<sup>16</sup> Klebanov 2021a: 17–18.

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

<sup>18</sup> Chakraborty 2022.

<sup>19</sup> “...as neither my own research ... nor the study undertaken in Harimoto ... could determine any linear connection between any of the Nepalese manuscripts of the SS, one may assume that [there exists] an older common ancestor of both of the manuscripts K and H.” (Klebanov 2021b: 21).

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

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

It is telling that this edition includes the commentary of Ḍalhaṇa (b. ca. 1175) and, for the *Nidānasthāna*, also that of Gayadāsa (fl. ca. 1000). These important authors commented on a text that is, broadly speaking, what we call “the vulgate.” But they both mentioned quite often that the manuscripts they were consulting contained other versions of the text and in a high number of cases, these variations match the Nepalese version.<sup>22</sup> It is possible that Gayadāsa and Ḍalhaṇa, through their commentarial work on the text, participated in shaping “the vulgate.”

The scholar Rudolph Hoernle was also aware of this cleavage in the transmission-history of the *Suśrutasaṃhitā*. But with the more limited materials available to him at the turn of the twentieth century he drew the line a little differently. He referred to the text of the *Śārīrasthāna* of the *Suśrutasaṃhitā*, transmitted in the printed editions of his day, as “the Traditional Recension.”

The recension which is found in Jīvānanda’s and all other prints,<sup>23</sup> and which, in the sequel, will be referred to as the Traditional Recension, has in its favour not only all available manuscripts, but also all ancient commentaries on the Compendium of Suśruta, .... Or, shortly, the Traditional Recension is supported by the whole body of existing witnesses.<sup>24</sup>

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

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

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

22 E.g., see the discussion in footnote 189 below.

23 Hoernle listed four, S. M. Gupta 1835–36; Su 1889; Vīrasvāmi 1900–09; Govindjī, Jivanrām, and Prabhurām 1901.

24 Hoernle 1907: 68.

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

## The Translation

The translation follows the methods of rigorous philological care and modern principles of translation theory.<sup>26</sup> Major differences in sense from the vulgate text are marked **in this manner**, but the differences are so pervasive and fine-grained that most have not been explicitly marked. Readers are referred to the critical apparatus of the edition for the full account of the differences.

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

...we cannot go back beyond the council of Aluviḥāra (Ālokaviḥāra) under Vaṭṭagāmaṇī Abhaya (29–17 B.C.) where the Pāli canon was written down for the first time in Ceylon. This is the very starting point of our tradition handed down to us by the monks of the Mahāviḥāra. About recensions of the Pāli canon different from the Mahāviḥāra tradition and deviating from its wording... we scarcely have any knowledge at all.

Similarly, the manuscript evidence for the *Suśrutasaṃhitā* that is available today allows us to reconstruct a version of the work after it was consolidated into a text of five parts with a sixth or “later” (*uttara*) and somewhat differently-organized part already appended to the first five. The prehistory of the work before this form is tantalizingly unknown to us. That the

<sup>25</sup> Ray 1868–70. Hoernle’s evaluation of this edition was not entirely kind: “I have not been able to discover for it any authority whatsoever. ... it is probably that the recension of Gaṅgādhara is a reconstruction of his own to meet those of the difficulties which he had noticed” (Hoernle 1907: 70). For a full account of the genesis of this edition, see Pecchia 2022.

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

work was assembled from diverse sources and that many hands were involved is without doubt. The oldest surviving manuscript, MS Kathmandu KL 699, gives us physical evidence for the state of the text in the ninth century. We have almost no insight into the formational processes affecting the text before that time. But what we can see plainly is that the text was edited pervasively after that time, being influenced especially by the commentators Jejjaṭa, Gayadāsa and Cakrapāṇidatta and the editor Candraṭa. However, a clear picture of how these later editorial processes took place will only be possible as a result of further research into a wider manuscript base.

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## **Part 1. Sūtrasthāna**

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# Sūtrasthāna 1: The Origin of Medical Knowledge

## Literature

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

## Translation

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

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<sup>27</sup> [HIML](#): IA, 203–204.

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

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

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

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

31 Svayambhū is another name for Brahmā, the creator.

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



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

Cite Paul  
Courtright,  
Ganesha  
book.

- 33 Dānavas. The insertion marks (*kākapadas*) below the text at this point appears to be by the original scribe.
- 34 The vulgate doesn’t have *vināyakas* but does add *asuras*, probably under the influence of Ḍalhaṇa.
- 35 The scribal insertion marks (crosses) above the line at this point in MS K appear to be in a later hand and their referent is lost in the damaged part of the folio. Although MSS MS Kathmandu NAK 1-1079 and MS Kathmandu NAK 5-333 include spiders (*lūtā*) and creepy-crawlies (*sarīsrpa*) in the list, it does seem that MS K had a shorter list, and the vulgate edition adds rodents (*mūṣika*).
- 36 For discussion of the text-critical significance of this passage, see Harimoto 2013. I have read the passage as including the word अलङ्कृत्वा in the sense “make accessible” (cf. MW: 94, *sub* अलं विज्ञातुम्).

## In praise of surgery

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

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

- 22 “In this context, as far as this discipline is concerned, a human being (*puruṣa*) is called an amalgam of the five elements and the embodied soul. This is where procedures (*kriyā*) apply. This is the locus.”

“Why?”

“Because of the duality of the world, the world is twofold: the stationary and the moving. Its nature (*ātmaka*) is twofold, depending on the preponderance of Agni and Soma.<sup>38</sup> Alternatively, it can be considered as being fivefold. The multitude of beings in it are fourfold: they are

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

38 See Dominik Wujastyk 2004.

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

- 23–26 “Diseases are said to be the conjunction of the person and suffering (*duḥkha*). There are four of them: invasive, bodily, mental and inherent. The invasive ones are caused by an injury. The bodily ones are based on food, caused by irregularities (*vaiṣamya*) in wind, bile, phlegm and blood.<sup>40</sup>

“The mental (*mānasa*) ones, caused by desire (*icchā*) and hatred (*dveṣa*), include: anger (*krodha*), grief (*āśoka*), misery (*dainya*), overexcitement (*harṣa*), lust (*kāma*), depression (*viṣāda*), envy (*īrṣyā*), jealousy (*asūyā*), malice (*mātsarya*), and greed (*lobha*).

“The inherent (*svābhāvika*) ones are hunger, thirst, old age, death, sleep and those of the temperament (*prakṛti*).

“These too are located (*adhiṣṭhāna*) in the mind and body.

- 27 “Scarification (*lekhana*), nourishment (*bṛṇhaṇa*), purification (*saṃśodhana*), pacification (*saṃśamana*), diet (*āhāra*) and regimen (*ācāra*), properly employed, bring about their cure.
- 28 “Furthermore, food is the root (*mūla*) of living beings as well as of strength (*bala*), complexion (*varṇa*) and vital energy (*ojas*). It depends on (*āyatta*) the six flavours (*rasa*). Flavours, furthermore, have substances as their substrate (*āśrayin*). And substances are remedies (*oṣadhī*).<sup>41</sup> There are two types: stationary (*sthāvara*) and moving (*jaṅgama*).
- 29 “Of these, there are four types of stationary ones: fruit trees (*vanaspati*), flowering trees (*vrkṣa*), herbs (*oṣadhi*) and shrubs (*vīrudh*).<sup>42</sup> Amongst

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

40 Note that four humoral substances are assumed here.

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

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

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

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

43 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).

44 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).

45 On *indragopa*, see Lienhard 1978.

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

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

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

35 “There are verses about this:

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

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

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

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

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

“In this context,

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

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

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

- From the mention of “procedures (*kriyā*),” therapies (*karman*) such as oiling and excision (*chedya*) are taught.
- From the mention of the word “time,” every single teaching about the times for procedures is meant.

39 “There is a verse about this:

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

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

41 “There is a verse about this:

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

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

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

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

# **Sūtrasthāna 2: The Initiation of a Student**

## **Literature**

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

## **Translation**





# Sūtrasthāna 3: The Table of Contents

Literature

Translation

1  
54 54



# Sūtrasthāna 10: Diagnosis

11 [55](#) content



# Sūtrasthāna 11: Preparing and using caustics

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

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<sup>56</sup> See p. [263](#) below.  
<sup>57</sup> See p. [272](#) below.



# Sūtrasthāna 13: On Leeches

## Literature

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

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

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

## Translation

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

<sup>58</sup> HIML: IA, 209; IB, 324, n. 131.

<sup>59</sup> Siddiqi 1959: 96–109; Azeez Pasha 1971; Storey 1971: 231–232; HIML: IB, 324, n. 128; Speziale 2019: 8–9.

<sup>60</sup> Lisa Allette Brooks 2020a,b; 2021.

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

4 And there are the following about this:

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

5 *A horn shaped like a half-moon, with a large body the length of seven fingers, should first be placed on the incision. A strong person should suck with the mouth.*<sup>63</sup>

6 *A leech lives in the cold, is sweet and is born in the water. So when someone is afflicted by bile, they are suitable for bloodletting.*<sup>64</sup>

7 *A **gourd** is well known for being pungent, dry and sharp. So when someone is afflicted by phlegm it is suitable for bloodletting.*

8 In that context, at the scarified location one should let blood using a horn wrapped in a covering of a thin bladder, or with a **gourd** with a flame inside it because of the suction.<sup>65</sup>

9 Leeches are called “*jala-āyu-ka*” because their life (*āyu-*) is in water (*jala*).<sup>66</sup> “Home” (*okas*) means “dwelling;” their home is water, so they are called “water-dwellers (*jalaaukas*).”

later Devanāgarī manuscript.

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

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

63 This passage is not found in the vulgate, but it is similar to the passage cited by Dalhaṇa at 1.13.8 (Su 1938: 56) and attributed to Bhāluki. Bhāluki was the author of a *Bhālukitantra* that may have predated Jejjhaṭa and might even have been one of the sources for the *Suśrutasamhitā* (HIML: IA, 689–690 *et passim*). The editor Ācārya was aware of this reading in the Nepalese manuscripts; see his note 4 on 1.13.5 (Su 1938: 55, note 4).

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

65 There are questions about the wrapping or covering of the horn. Other versions of the text, and the commentator, propose that there may be two coverings, or that cloth may be a constituent. Our understanding of this verse is that the bladder material is used to cover the mouthpiece and then to block it, in order to preserve suction in the horn for a few minutes while the blood is let.

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



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

Among these,

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

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

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

67 Treating गर्दा as गर्दा 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."

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

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

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

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

Among these,

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

The non-venomous ones have been explained.

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

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

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

- particular have large bodies and are strong, they drink rapidly, consume a lot, and are without venom.
- 14 In reference to that, venomous leeches are those originating in decomposing venomous insects, frogs, urine, feces and in polluted water.<sup>73</sup> Non-venomous ones originate in decomposing [sacred lotus](#), [blue water-lily](#), [white water-lily](#), [fragrant lotus](#), [pondweed](#) and in pure waters.
- 15 There is a verse on this:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

78 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 725.

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

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

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

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

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

- 25 And about this there is the following:

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

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

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

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

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

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

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



# Sūtrasthāna 14: On the Properties of Blood

## Literature

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

## Translation

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

- 1 Now we shall declare the chapter about blood.
- 2
- 3 Food is of four types.<sup>85</sup> It is endowed with six tastes and is made of the five elements.<sup>86</sup> It has either two or eight potencies, and is endowed with many qualities.<sup>87</sup> Chyle (*rasa*) is the most intangible essence of this food that is properly transformed. It is of the nature of fire. Chyle is situated in the heart. From the heart, it enters into the twenty-four arteries—ten upward arteries, ten downward, and four sideways—and doing so day after day owing to the reaction of past

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

85 On the four food types, see note 395, p. 137.

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

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

activities that are caused by the invisible,<sup>88</sup> it satisfies the entire body, enlivens it, prolongs it,<sup>89</sup> and makes it grow. The motion of the entity that flows throughout the body should be understood by inference. That motion causes deterioration and growth.

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

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

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

- 6 *It is only due to chyle that women’s blood called menses exists. It increases from the twelfth year and decreases after the fiftieth year.*  
7 The menstrual blood, however, is called fiery.<sup>92</sup> That is due to the embryo being fiery and moist.<sup>93</sup>  
8 Others state that the embryo as constituted of the five elements and the preceptors call it the living blood.  
9 There are verses about this.

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

- 88 अदृष्ट (unseen): Doing any righteous or unrighteous action produces good merit and demerit respectively. This good merit and demerit are called अदृष्ट (invisible) because it cannot be directly known but can only be assumed through logical deduction.  
89 In the sense of prolonging its lifespan  
90 The vulgate emends अनुसरणे to अनुसरण- against the Nepalese MSS. This is logical because mobility would seem to be one of the attributes. Although it is awkward, we read अनुसरणे as a locative absolute “while flowing.”  
91 The duality being discussed here is that of the essential qualities of Fire and of Soma (agni and soma). See further discussion by Dominik Wujastyk (2004) and Angermeier (2021).  
92 Ḍalhaṇa commented that this is to distinguish the menstrual blood from regular blood that is gentle.  
93 Ḍalhaṇa commented here that the embryo is called such because the menstrual blood is fiery and the semen is gentle (सौम्य). On the fiery/moist distinction (आग्नेय/सौम्य), see Dominik Wujastyk 2004; Angermeier 2021.



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

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

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

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

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

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

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

96 Kunjalal Bhishagratna 1907-16: 109

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

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

99 Perhaps this refers to the digestive fire.

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

- 16 Resembling the expanse of sound, flame, and water, that entity moves along in a minute manner throughout the entire body.<sup>101</sup>
- 17 The aphrodisiac medicines, however, being used like a purgative due to their excessively strong characteristics, evacuate the semen.
- 18 Just as it cannot be said that the fragrance in a flower bud is present in it or not, but accepting that there is the manifestation of existing entities<sup>102</sup>, it,<sup>103</sup> however, is not experienced only due to its intangibility. That same entity is experienced at another time in the blossomed flower. In the same way regarding children also, the manifestation of semen happens because of the advancement of age<sup>104</sup>. For women, the manifestation is different as rows of hair, menses, etc.
- 19 That very essence of food does not nourish very old people due to their decaying bodies.
- 20 These entities are called body tissues (*dhātu-s*) because they bear the body<sup>105</sup>.
- 21 Their decay and growth are due to blood. Therefore, I will speak about blood. In that regard: The blood that is foamy, tawny, black, rough, thin, quick-moving, and non-coagulating is vitiated by air. The blood that is dark green, yellow, green, brown, sour-smelling, and unpleasant to ants and flies is vitiated by bile. The blood that is orange, unctuous, cool, dense, slimy, flowing, and resembling the colour of flesh-muscles is vitiated by phlegm. The blood having all these characteristics is vitiated by the combination of all three of them. The blood that is extremely black is vitiated by blood<sup>106</sup> just as bile. The blood that has

101 Dalhaṇa comments (Su 1938: 63) that the expanse of sound indicates the sideways movement of chyle, the expanse of flame indicates the upward movement of chyle, and the expanse of water indicates the downward movement of chyle. On अणुना विशेषेण “in a minute manner” see footnote 340.

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

103 fragrance

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

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

106 Yādaśarma Trivikrama Ācārya and N. R. Ācārya (Su 1938: 64) quote Cakrapāṇi-datta in a footnote: “This is the symptom when the blood vitiated in one part of the body vitiates the blood in another part.”

the combined characteristics of vitiations of two humours is vitiated by two humours.

22 The blood that is of the colour of insect cochineal, not thick, and not discoloured should be understood to be in its natural state.

23 I will speak of the types of blood that should be let out in another section.

24 Now, I speak of those that should not be let out. The swelling appearing in all the limbs of the body of a weak person that happens due to consuming sour food. The swellings of people with jaundice, piles, large abdomen, emaciation, and those of pregnant women.

26 In that regard, one should quickly insert the surgical instrument that is simple, not very close, fine, uniform, not deep, and not shallow.

26a One should not insert the instrument into the heart, lower belly, anus, navel, waist, groins, eyes, forehead, palms, and soles.

26b In the case of swellings filled with pus, one should treat them in the same way as stated earlier.

27-27a There, when the swelling is not pierced properly, when phlegm and air have not been sweated out, after having a meal, and due to thickness, the blood does not ooze out or oozes out less. Here is a verse regarding it.

28ab-cd *Blood does not ooze out of humans when in contact with air, passing stool or urine, and when intoxicated, unconscious, fatigued, sleeping, or in cold surroundings.*

29 That vitiated blood when not taken out increases the disease.

30 The blood that is let by an ignorant physician in cases of very hot surroundings, profuse perspiration, and excessive piercing, flows excessively. That profuse bleeding causes the appearance of acute 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 dis-

- ease, and satisfaction of the mind.
- 34ab-cd Defects of the skin, tumours, swellings, and all diseases caused by blood never arise for those who regularly drain their blood.
- 35 When the blood does not flow out, the physician should rub cardamom and camphor on the opening of the boil with three or four or all among crêpe ginger (*Cheilocostus speciosus*), butterfly gardenia (*Ervatamia coronaria* Stapf), *velvet-leaf*, *deodar*, *embelia*, *leadwort*, the three spices (black pepper, long pepper, and dry ginger), soot from the chimney (*āgāradhūma*), turmeric, sprouts of *purple calotropis*, and fruit of the *Indian beech*, according to availability, with excessive salt. By doing so, the blood flows out properly.
- 36 When there is an excessive flow of blood, the physician should sprinkle the opening of the boil with dry powders of *lodh tree*, liquorice, *foxtail millet*, *sappanwood*, red chalk, *elixir salve*, seashell, barley, *green gram*, wheat, and resin of the Sāla tree, and then press it with the tip of a finger. One should tightly bind it with powdered barks of Sāla, *white dammer tree*, *arjun*, *white-bark acacia*, *granthi*, *axlewood*, and *dhanvāna* (Camelthorn), or a linen cloth<sup>107</sup>, or *vadhyāsita*, or bone of cuttlefish, or powdered lac, along with the binding materials mentioned. After the piercing, the physician should pierce it again. The physician should serve cool clothing, food, a dwelling place, a bath, cooling ointments, and plastering. Or, one can cauterize it with heat. Or, as mentioned, one should give a decoction of *kākolī*, etc. sweetened by sugar and honey to drink. Or, one should consume the blood of black buck, deer, ram, buffalo, rabbit, or pig, accompanied by milk, green gram soup and meat soup<sup>108</sup>. The physician should treat the pains as mentioned.
- 36a Here are verses about this.
- 37ab-cd *When blood flows out due to the decay of body tissue, fire becomes weak<sup>109</sup> and the wind becomes highly agitated because of that endeavour.*
- 38ab-cd *The physician should serve the patient food that is not very cold, light in digestion, unctuous, increases blood, slightly sour or not sour at all.*

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

108 Based on Ḍalhana's comment as found in Su 1938: 66

109 This refers to the digestive fire.

- 39ab-cd *This is the four-fold method of hindering blood: joining, coagulation, haemostasis. and cauterization.*
- 40ab-cd *The astringent substance joins the opening, the cold substance coagulates the blood, the ash stops the blood, and cauterization contracts the blood vessel.*
- 41ab-cd *If the blood does not coagulate, the physician should employ joining. If the blood does not stop by joining the opening then he should employ haemostasis.*
- 42ab-cd *The physician should endeavour by employing these three methods according to the procedure. If these methods are unsuccessful then cauterization is highly desirable.*
- 43ab-cd *If the blood remains impure, the disease does not aggravate. The physician should then make the blood pure<sup>110</sup> and not drain blood in excess.*
- 44ab-cd *Blood is the basis of the body. It is sustained by blood only.*
- 44ef *Blood is called life. One should therefore save blood.*
- 45ab-cd *If the air in the person who underwent blood-letting is aggravated due to a cold shower, etc., the swelling with pricking pain should be sprinkled with lukewarm clarified butter.*

Can't be  
"sedation"

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



# Sūtrasthāna 16: Repairing Pierced Ears

## Literature

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

## Translation

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

<sup>111</sup> HIML: IA, 211–212317.

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

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

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

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

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

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

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



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

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

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

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

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

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

light dilator (*pravardhanaka*) in order to enlarge it enough.<sup>122</sup>

- 8 A person's ear enlarged in this way can split in two, either as a result of the humours<sup>123</sup> or a blow.

*Listen to me about the ways of joining it can have.*

- 9 Here, there are, in brief, fifteen ways of mending the ear flap.<sup>124</sup> They are as follows: Rim-join (*nemīsandhānaka*), Lotus-splittable (*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 (*kākausṭha*).<sup>125</sup>

In this context, among these,

- Rim-join: both flaps are wide, long, and equal.
- Lotus-splittable: both flaps are round, long, and equal.
- Dried flesh: both flaps are short, round, and equal.
- Fastening: one flap is longer on the inside.
- Cheek-ear: one flap is longer on the outside.<sup>126</sup>
- Take-away: the flaps are missing, in fact, on both sides.
- Ready-split: the flaps are like a dais (*pīṭha*).
- Multi-joins: one flap is small, the other thick, one flap is equal, the other unequal.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

136 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

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

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for three days and one should renew the cotton bandage after three days' (आमतैलेन त्रिरात्रं परिषेचयेन्निरात्राच्च पिचुं परिवर्तयेत्).

- 137 For such classifications, see the analyses by Zimmermann (1999) and B. K. Smith (1994).
- 138 Ḍalhaṇa's version of 1.16.19 (Su 1938: 79) includes ghee. However, Ḍalhaṇa's remarks on this passage and Cakrapāṇidatta's on 1.16.18 (Su 1939: 130) indicate that they knew a version of this recipe, perhaps similar to the Nepalese one, that did not include ghee. Ḍalhaṇa also noted that others simply read four oils, beginning with fat and without milk, whereas Cakrapāṇidatta said that some say it is made with four oils and milk.
- 139 The version of of this verse known to Ḍalhaṇa (vulgate (Su 1938: 79)) adds several ingredients to this admixture, including **prickly chaff-flower**, **Withania**, **milk-white**, **sweet plants** and **Indian ipecac**. Also, it has **beggarweed** instead of **Indian kudzu**. When commenting on 1.16.19, Ḍalhaṇa (Su 1938: 79) noted that some do not read **sweet plants** and **Indian ipecac**. Therefore, at his time there were other versions of this recipe circulating, with fewer ingredients, as seen in the Nepalese version.
- 140 For these aims (i.e., healing and enlarging the ear), the text known to Ḍalhaṇa (Su 1938: 79) had an additional verse and a half describing an ointment for rubbing the ear and **sesame oil** cooked with various medicines for massage. Cakrapāṇidatta (Su 1939: 131) did not comment on these verses, nor verse 15 of the Nepalese version, and so the version of the *Suśrutasamhitā* known to him may not have included them.
- 141 Ḍalhaṇa's version of 1.16.23 (Su 1938: 79–80) added another hemistich that stated more explicitly that the scarification should not be done on the outside of hole as it will cause derangement.

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

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

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

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

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

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

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



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

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

149 Ḍalhaṇa glossed अञ्जन as रसाञ्जन, elixir salve (Su 1938: 81).

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

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

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





# Sūtrasthāna 28: Unfavourable Prognosis in Patients with Sores

## Literature

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

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

## Translation

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

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

<sup>154</sup> Goswami 2011.

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



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

## Literature

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

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

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

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<sup>156</sup> HIML: IA, 219–220.

<sup>157</sup> Goswami 2011.

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

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

## Content of the chapter

The chapter has two distinct halves. The first describes the appearance and behaviour of medical messengers; the second describes the meaning of dreams.

### The messenger

This part of the chapter was discussed by Dagmar Wujastyk (2012: 111–112).

### Dreams

The interpretation of dreams, oneiromancy, is the subject of the second half of this chapter. This chapter is amongst the earlier writings on this subject in Indian literature. Although dream interpretation is evidenced as early as the *R̥gveda*<sup>160</sup>, the earliest developed text is probably the two chapters on dream interpretation included in the *Śardūlakarṇāvadāna* which was first fully translated into Chinese in the third century CE.<sup>161</sup> It is interesting that the *Śardūlakarṇāvadāna* is presented as the account of a low-caste non-ārya, Triśaṅku, which may hint at a non-Indian source for the material. Two chapters on oneiromancy *Svapnādhyāya* appear in the *Atharvavedapariśiṣṭa*.<sup>162</sup> As Pingree also noted, the earliest full treatise on the topic is the twelfth-century *Svapnacintāmaṇi* of Jagaddeva,<sup>163</sup> while the best known is the *Svapnādhyāya* of Bṛhaspati.

In the vulgate version of the *Suśrutasamhitā* there are often verses that do not appear in the Nepalese version. In this chapter of the Nepalese version, however, it is the other way around: there is a stretch of ten verses after verse 71 that appear in all three Nepalese witnesses but that do not appear in the vulgate either here or anywhere else. In the digital edition of the Nepalese version we have numbered them 1.29.71.add1 - 1.29.71.add10.<sup>164</sup>

160 Pingree 1981: 77, n. 68.

161 Mukhopadhyaya 1954; Crujsen and the Bodhinidhi Translation Group 2025: 154–161, 161–164.

162 The text is hard to date; perhaps “modern and epic” (Keith 1912: 767).

163 Von Negelein 1912; Şovărel 2025.

164 Wujastyk et al. 2026.

At the time of writing, we have not identified any parallels for these verses elsewhere in Sanskrit literature.

1.29.71.add2 is notable for it's reference to Dhanvantari, whose literary role in the Nepalese version is quite different than in the vulgate.<sup>165</sup>

## Translation

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<sup>165</sup> Birch, Dominik Wujastyk, Klebanov, Rimal, et al. 2021.



# Sūtrasthāna 46: The Rules about Food and Drink

## Introduction

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<sup>166</sup> This is the first place at which the term दूषीविष occurs in the *Suśrutasaṃhitā*. The term दोष was given important discussion by Meulenbeld [1991](#); [1992](#); [2011](#). See also R. P. Das [2003](#): 548–550.





## **Part 2. Nidānasthāna**

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# Nidānasthāna 1: The Diagnosis of Diseases Caused by Wind

## Introduction

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

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

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

complete  
this  
thought

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>167</sup> Adriaensen, Barkhuis, and Ruijters (1984) translated passages 1–39, together with the commentary *Nyāyacandrikā* by Gayadāsa.

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

## Translation

- 1 And now we shall explain the chapter about the aetiology of wind diseases.
- 3 After holding the feet of Dhanvantari, the foremost of the upholders of righteousness who emerged out of nectar, Suśruta makes this enquiry.<sup>168</sup>
- 4 O King! O best of orators! Explain the location and types of diseases of the wind, whether in its natural state or disordered.<sup>169</sup>
- 5–9 On hearing his words, the venerable sage spoke. This lordly wind is declared to be self-born because it is independent, constant and omnipresent. It is worshipped by the whole world. Amongst all beings, it is the self of all. During creation, continued existence and destruction, it is the cause of beings.  
It is unmanifest though its actions are manifest; it is cold, dry, light, and mobile. It moves horizontally, has two attributes and is full of dust (*rajas*).<sup>170</sup> It has inconceivable power. It is the leader of the humours<sup>171</sup> and the ruler of the multitude of diseases.  
It moves fast, it moves constantly, it is located in the stomach and in the rectum.<sup>172</sup>
- 9cd Now, learn from me the characteristics of wind as it moves inside the body.<sup>173</sup>
- 10 Wind connects the senses and the sense objects. Unvitiated, it maintains a state of equality between the humours (*doṣa*), the bodily tissues

168 Explain the nectar myth.

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

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

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

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

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

(*dhātu*) and heat (*agni*) and the rightness (*ānulomya*) of actions.<sup>174</sup>

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

- 12 Five types of wind:<sup>175</sup>

1. *prāṇa*,
2. *udāna*,
3. *samāna*,
4. *vyāna*,
5. *apāna*.<sup>176</sup>

The above five types of wind remain in their state of equality and support the body.<sup>177</sup>

- 13–14ab The wind that flows through the mouth is called the vital wind (*prāṇa*), the sustainer of the body. It causes food to enter within and supports the breaths.<sup>178</sup> It mostly causes diseases like hiccups and wheezing (*śvāsa*).

- 14cd–15 Since it is the one that flows upwards, that highest of winds is called *udāna*.<sup>179</sup> Special acts like speech and singing are all initiated by it. It particularly causes diseases above the neck (*jatru*).<sup>180</sup>

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

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

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

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

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

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

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

180 Ḍalhaṇa noted that “above the *jatru*” would include eyes, nose, ears, face, and head.

- 16–17ab The samāna wind flows in the receptacles of raw and of digested matter.<sup>181</sup> Assisting the digestive fire (*agni*), it cooks food and separates out the substances produced from it.<sup>182</sup> It mainly causes abdominal swelling (*gulma*), diminished digestive fire (*agnisaṅga*) and diarrhoea.<sup>183</sup>
- 17cd–18 The vyāna moves everywhere in the body, active in making chyle (*rasa*) flow. It also makes sweat and blood flow as well as causing movement **in every respect**.<sup>184</sup> Angered, it causes diseases that generally exist throughout the whole body.
- 19–20ab The apāna resides in the place of digested food and, at the right moment, it draws wind, urine, and feces, as well as semen, fetus and menstrual blood downwards. Angered, it causes terrible diseases located in the bladder and rectum.
- 20cd–21ab Irritated vyāna and apāna winds cause defects of semen and urinary diseases (*prameha*). Simultaneously aggravated, they surely destroy the body.<sup>185</sup>
- 21cd–22ab From here, I shall describe all the diseases, located in the various places of the body, that are caused by wind that is irritated in various ways.
- 22cd–24 Aggravated wind in the stomach causes diseases like vomiting, as well as disorientation (*moha*), fainting, thirst, heart-seizure (*hṛdgraha*), and pain in the flanks.<sup>186</sup> It also causes rumbling of the bowels, gripes

Meulenbeld cited discussions on the difficulties of interpreting the term जत्रु (Meulenbeld 1974b: 465). Hoernle (1907: §§62, 98) translated *jatru* as “neck, windpipe”. See also Hoernle’s notes on the expression “above the *jatru*” (idem, 237–238).

181 The “receptacle of raw matter” (आमाशय) is described at 1.21.12 (Su 1938: 102) as one of the locations of phlegm, and the place where food arrives, just above the location of bile, and where the food is moistened and broken down for easy digestion. The “receptacle of digested matter” (पक्वाशय) is described at 1.21.6 (Su 1938: 100) as being located below the navel and above the pelvis and rectum.

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

183 Ḍalhaṇa on 1.11.8 (Su 1938: 46) described अग्निसङ्ग as “the fire is stuck, dissolved.”

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

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

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

(*śūla*), swollen belly, painful urine and feces, constipation, and pain in the sacrum (*trika*).<sup>187</sup> Aggravated wind in the ears etc., destroys the senses.

- 25abc–29 Located in the skin, it causes discolouration (*vaivarṇya*), throbbing, dryness, numbness (*supti*), itching (*cumucumāyana*), and pricking pain.<sup>188</sup> Located in the flesh, painful lumps.<sup>189</sup> Located in the fat, it causes slightly painful lumps that are not wounds.

Located in the ducts, it causes acute pain, contraction and filling up of the duct.<sup>190</sup> When it reaches the sinews, it paralyses the network of sinews, and causes them to tremble. Located in the joints, it destroys the joints and it causes sharp pain and swelling. It causes a splitting of the bones, when it acts there, and dryness as well as sharp pain; and when it is in the marrow, it causes an sickness that never abates. Wind located in the semen, it causes the non-production or faulty production

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

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

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

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

- of semen.<sup>191</sup>
- 30–31ab Wind moves incrementally from the hand to the foot, the head, and the bodily tissues. Or it may pervade people’s entire bodies, causing stiffness, convulsion, numbness (*svāpa*), swelling, and acute pain everywhere.

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

- 31cd–32ab In the stated locations, wind that is compounded causes compounded afflictions.<sup>192</sup> And located in the limbs, it can cause a multitude of diseases.<sup>193</sup>

#### Prāṇa

- 34cd–35ab Prāṇa covered by bile causes vomiting and a burning sensation and when covered by phlegm it causes weakness, exhaustion, lassitude and **loss of the sense of taste**.<sup>194</sup>

#### Udāna

- 35cd–36ab When udāna is joined with bile there is bewilderment (*moha*), fainting (*mūrchā*), dizziness (*bhrama*) and exhaustion. And when covered by phlegm there is exhilaration and an absence of perspiration, slow digestion, and coldness.<sup>195</sup>

191 Ḍalhaṇa and Gayadāsa both suggest that a faulty production विकृतां प्रवृत्तिम् is too fast, too slow, knotty and discoloured [Su 1938: 262](#).

192 Ḍalhaṇa on 2.1.31cd ([Su 1938: 262](#)) explained “wind that is compounded” as wind being mixed with bile and phlegm.

193 The Nepalese version omits passages 2.1.32cd–33ab which are about the diseases that arise when contaminated wind mixes with bile and phlegm ([Su 1938: 263](#)). See p. 214 below, where the Nepalese text inserts this material.

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

195 The expression “exhilaration and an absence of perspiration” translates the Nepalese version’s अस्वेदहर्षः as if it were a dvandva. The vulgate has the easier dvandva, अस्वेदहर्षौ “lack of sweating and also exhilaration” 2.1.36ab ([Su 1938: 263](#)). Perhaps



### Samāna

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

### Apāna

- 37cd–38ab When apāna is associated with bile there is a burning sensation, a temperature and blood in the urine.<sup>196</sup> When covered with phlegm there is a feeling of heaviness in the lower body and coldness.

### Vyāna

- 38cd–39.1 When vyāna is covered by bile there is a burning sensation (*dāha*), shaking of the limbs and fatigue.<sup>197</sup> When covered by phlegm there is paralysis, stiffening (*uddaṇḍaka*), and swelling with pain.<sup>198</sup>  
 40–41 In general, wind-blood causes inflammation in those who are delicate and enjoy inappropriate food, and because of the torment of the **humours**,<sup>199</sup> the roads, intoxication from wine, and lack of exercise,<sup>200</sup>

the Nepalese reading is an Epic form of m. sing. dvandva as described by Oberlies (2003: 361–362, n. 3).

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

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

198 The word उद्दण्डक “being like a vertical stick” is rare or unknown as a medical term (unrelatedly, it is the name of an ascetic group listed in works such as the *Cāturāśramyadharmā* of Kāṇvāyana (NCC: 3, 306)). Some of these symptoms are in common with Stiff Person Syndrome.

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

200 Probably, the “torment of the roads” refers metonymically to excess travel. “Lack of exercise” could be read as just “exercise,” and while that may sound like torment, the former interpretation better fits the context. Note that the sequence -प्रमदामद्य- in the vulgate separates “confusion” and “wine” while the Nepalese version’s “wine-

from the inversion of the seasons and locales, from the consumption of uncongenial (*asātmya*) foods, and because of the **lack of exercise** taken by an overweight person.<sup>201</sup>

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

- 42–44 The wind may become aggravated by riding elephants, horses, camels and for other reasons.<sup>202</sup>

By consuming vegetables that are pungent, hot, sour, or alkali and by strong, habitual anguish (*santāpa*), the blood rapidly becomes liquid and that quickly blocks the pathway of the quick-moving wind;<sup>203</sup> irritated by the obstruction of the pathway, it goes wrong. That blood, mixed with corrupted wind is called “wind-blood” because of the wind’s force.

Similarly, bile may be tarnished by corrupted blood.<sup>204</sup>

- 45–46 Because of wind-blood, the feet have an aversion to touch, as well as pricking, splitting, dryness, and a loss of sensation. Contaminated bile mixed with blood causes a sharp burning sensation, excessive heat, a red swelling and a softening of the feet.  
When blood is contaminated by phlegm, the feet get itchy, cold and white, swollen, thick and stiff. Furthermore, when blood is contaminated by all of them, the humours display their respective signs in the

confusion” is a more obvious reading. Ḍalhaṇa read मिथ्याहारविहारिन् as a dual “inappropriate food and recreation” (Ḍalhaṇa on 2.1.40 & 4.5.5 (Su 1938: 263 & 423)).

- 201 Instead of “lack of exercise” the vulgate reads “lack of sexual intercourse,” which makes little sense.

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

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

- 202 Ḍalhaṇa exemplified “other reasons,” as carrying loads, etc.

- 203 The word सन्ताप, “anguish” can mean physical as well as emotional pain.

- 204 The Nepalese version omits the vulgate’s similar statement about phlegm being affected by blood.

feet.

- 48 Residing in the soles of the feet, and sometimes in the hands, this disease creeps through that body like angry rat poison.<sup>205</sup>
- 49ab, 50ab Wind-afflicted blood (*vātarakta*) that bursts out (*sphuṭita*) as far as the knees, and that is split and oozing, is incurable, and that which has lasted for a year can be mitigated (*yāpya*).<sup>206</sup>

### *Convulsions and seizures*

- 50cd–51 When aggravated wind enters into all the pipes (*dhamanī*), the wind, which moves repeatedly, makes the body convulse (*ākṣip*) quickly and repeatedly. Because of the repeated convulsing (*ākṣipāṇa*) it is traditionally called “The Convulsor (*ākṣepaka*).”
- 52–56 Since a person blacks out (*apatāmyate*) completely, it is known as a seizure (*apatānaka*).<sup>207</sup>
- 52cd–53ab If wind that is mixed with a lot of phlegm is present in the pipes (*dhamanī*), it is called Stick Seizure (*daṇḍāpatānaka*) because it makes one paralyzed like a stick.<sup>208</sup>
- 54ab The one that bends the body like a bow is technically termed Bow Paralysis (*dhanuḥstambha*).

205 The commentators Gayadāsa and Ḍalhaṇa both read “the whole body” (सदेहम् for तदेहम्, interpreting सद् as सकलम् (Su 1938: 264)). The subject, “this disease,” is not expressed in the Sanskrit sentence.

206 The sentence appears to describe the condition of the skin, but the word “skin” is not expressed.

207 Explaining अपतानक by reference to अपताम्यते is a folk etymology, since the words have different etymological roots.

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

208 Against Ḍalhaṇa on 2.1.52 (Su 1938: 265), we read the intensifier भृशम् with कफान्वित rather than the transitive verb तिष्ठति, for sense.

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

- 54cd–55cd When wind is agitated and located in the fingers, ankles, abdomen, heart, chest, or throat and attacks the network of sinews, the person has paralyzed eyes and a stiff jaw, their flanks are bent and they vomit phlegm.<sup>209</sup>
- 56 When a person is caused to bend inwards like a bow,<sup>210</sup> then the strong wind causes internal tension (*abhyantarāyāma*).
- 57 And when the wind is located in the network of external sinews it causes external tension (*bāhyāyāma*), that breaks the chest, hips. and thighs. That is untreatable, say experts.
- 58 The wind, mixed with phlegm and bile, or even the wind on its own, causes another, fourth convulsion (*ākṣepaka*) that is caused by trauma (*abhighāta*).<sup>211</sup>
- 59 A seizure (*apatānaka*) that arises because of miscarriage, excessive bleeding and trauma cannot be cured.<sup>212</sup>
- 60–61 When wind that is extremely irritated and strong, proceeds to the downwards, upwards and horizontal pipes (*dhamani*), then, loosening the bonds of the joints of one side of the body or another, it destroys that flank. Expert physicians call this paralysis (*pakṣāghāta*).<sup>213</sup>
- 62 If someone is damaged by wind, the whole side of their body is incapacitated and without feeling (*acetana*). Then they rapidly fall down or even die.
- 32cd–33ab When wind is full of bile, heat, anguish and fainting can occur. And when it is full of phlegm, there is coldness, swelling and heaviness.<sup>214</sup>
- 63 Experts know that a flank struck by uncontaminated wind is trouble-

209 Perhaps the bent flanks, भग्नपार्श्व, are meant to echo the image of the bow, like a scoliosis.

210 It is not clear what the qualifier “inwards” is meant to indicate, medically; perhaps a form of emprosthotonos. The verb नाभ्यति is a causative, perhaps passive in sense.

211 Ḍaḥaṇa again cited Brahmadeva’s opinion on this passage; see note 207 above.

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

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

214 In the vulgate, this text appears thirty verses earlier in the chapter (see footnote 193 above). Its context at that point seems awkward. It fits slightly better in the context at this point.

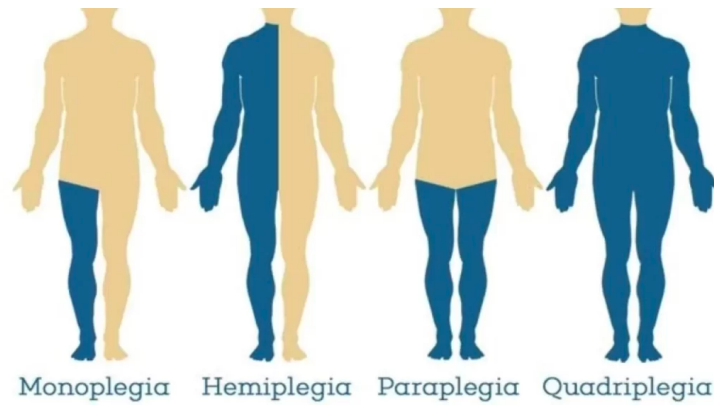


Figure 2: Types of paralysis. Image courtesy of Chiro Sciences.

some, very hard to cure. It is curable when mixed with another, and it is incurable when caused by wasting (*kṣaya*).<sup>215</sup>

68cdef, 69cd Speaking excessively and loudly or eating coarse items, laughing, yawning, burdens, or an uneven bed cause the wind to irritate the face and it brings about paralysis (*ardita*).<sup>216</sup>

70–71ab Half the face becomes crooked and the neck turns upwards. The head trembles, speech is hindered, and the eyes etc., are deformed.<sup>217</sup> There is also pain in the neck, chin and teeth on that side.

72cd Experts in disease call that ailment “facial paralysis (*ardita*)”

73 Facial paralysis is definitely not curable for a person who is weak, has unblinking eyes, whose speech is extremely indistinct and one who has

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

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

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

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

217 Gayadāsa noted that “eyes etc.” included the brows and the cheeks, etc. (Su 1938: 267), and Ḍalhaṇa on 2.1.70 (Su 1938: 267) copied this sentence.

a tremor, nor if it has lasted three years.<sup>218</sup>

- 74 There is a tendon (*kaṇḍarā*) joining the heel and the toes. Afflicted by wind, it prevents the movement of the thigh. That is traditionally called sciatica (*gr̥dhrasī*).<sup>219</sup>
- 75 There is a tendon (*kaṇḍarā*) from the back of the arm to the base of each of the fingers. It causes the destruction of the activity of the arms. And that is called All Bent (*viśvañcī*).<sup>220</sup>
- 76 A dense, very painful swelling cause by wind-blood, in the centre of the knee, that is like a jackal's head, is known as "Jackal-head (*kroṣṭukaśīrṣa*).
- 77 When wind that is located in the waist attacks a tendon of the thigh, then the person may get a limp (*khañja*); there is lameness (*paṅgu*) from the piercing of the two thighs.
- 78 He trembles a lot and walks as if with a limp.<sup>221</sup> He should be known as one with lathyrism (*kalāyakañja*), someone whose joints have become loose.<sup>222</sup>
- 79 When the foot is placed on an uneven place, wind may cause pain. This so-called wind-thorn (*vātakaṇṭaka*) arises, being located in the ankle (*khaluka*).<sup>223</sup>

218 The commentators Gayadāsa and Ḍalhaṇa both mentioned that some people took "three years" to mean that the patient had been drooling from their nose, eyes and mouth for three years. It is unclear where this idea came from.

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

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

221 "A lot" translates अम्, the unanimous reading of the Nepalese witnesses. The vulgate reads the easier प्रक्रामन् "stepping forward."

222 "Lathyrism" translates कलायखञ्ज, etymologically "chickling pea-lameness". This demonstrates the early Indian awareness of the connection between chickling peas and lameness or paralysis. This link was rediscovered by Sleeman (1893: 1, 127–129) and discussed by Buchanan (1904).

223 The word खलुक "ankle" is rare and has several variants in standard dictionaries (e.g.,



- 80 Wind mixed with bile and blood causes a burning sensation in the feet, especially when walking a lot. One may designate that as foot-burn (*pādadaḥa*).
- 81 A person whose feet tingle and become numb is known as having tingling feet (*pādahaṛṣa*). It is produce by the irritation of phlegm and wind.
- 82 Wind that is located in the shoulder may dry up the joints of the shoulder. Constricting the ducts (*sirā*), it remains there producing dangling arm (*avabāhuka*).<sup>224</sup>
- 83 When the wind obstructs that which carries sound in the ear and remains there, it causes deafness, whether it is pure or mixed with phlegm.
- 85 A wind with phlegm having obstructed the pipes (*dhamani*) that carry sound make men inactive (*akriyaka*), mute (*mūka*), mumbling (*min-mira*) and stammering (*gadgada*).<sup>225</sup>
- 84 The wind seemingly splitting someone's head, neck and jaw, and the temples, produces pain in the ears. And he is called "someone with karnaśūla (*earache*)."
- 86 The pain that arises from the locations of feces and urine and descends, as if splitting the anus and genitals is called quiver (*tūnī*) by name.<sup>226</sup>
- 87 That same pain, when it starts from the anus and genitals and running in the wrong direction, forcefully gets as far as the large intestine is traditionally known as counter-quiver (*pratitūnī*).
- 88 A very swollen belly that is inflated and fiercely painful is known as swelling (*ādhmāna*). It is caused by a terrible obstruction of the wind.
- 89 That same pain when it starts in the stomach and excludes the flanks and the heart is known as counter-swelling (*pratyādhmāna*). It is wind mixed up with phlegm.
- 90 If the wind originates below the navel, whether moving or still, there is a long dense knot like a stone that protrudes upwards, known as wind-

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MW: 335).

224 Ḍalhaṇa and Gayadāsa both defined two diseases i.e., "drying up" and "dangling arm."

225 Note that this and the next verse occur in reverse order in the vulgate. The Nepalese text has the merit of keeping the verses about vocal problems together. On मिन्मिर, cf. Bangla মিনমিন "mumbling, speaking faintly."

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

stone (*vātāṣṭhīlā*). It blocks the external pathways.<sup>227</sup>

- 91 One should describe this same disease, causing pain, obstructing wind, feces, and urine, as counter-stone (*pratyāṣṭhīlā*). It originates obliquely and is located in the abdomen (*jaṭhara*).

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

227 Ḍalhaṇa on 2.1.90 (Su 1938: 270) discussed the identity of the अष्टीला “stone,” reporting the opinions of some that it was a kind of long, round stone known in north India, and others who thought it was a long, round, iron vessel used by leather workers. Ḍalhaṇa glossed बहिर्मागावरोधिनीम् “blocking the external pathways” as “wind, feces and urine.”

Finally, Gayadāsa and Ḍalhaṇa also noted that “some sources have the phrase नाभेरधस्तात्सजातं चलं वा यदि वाऽचलम् ‘something produced below the navel, either moving or still.’” And in fact, witness N has this half-śloka.



## **Part 3. Śārīrasthāna**

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# Śārīrasthāna 1: A Consideration of All Beings

## Introduction

The short account of Sāṅkhya philosophy offered in this chapter of the *Suśrutasamhitā* is several times characterized by its authors as being “special to physicians”.<sup>228</sup> And it does indeed stand slightly apart from the major classical forms of Sāṅkhya philosophy in some regards.

For example, the description of the evolution from Ahaṅkāra given in *Suśrutasamhitā* 3.1.4 (p. 95) corresponds more to the *Māṭharavṛtti* and to the Purāṇas than to other commentaries on the *Sāṅkhyakārikā*. As Solomon pointed out, the description of Ahaṅkāra in Māṭhara’s commentary on the *Sāṅkhyakārikā* (ca. 1000) is unique in the following regard:

All [early Sāṅkhya commentaries] mention the paryāyas of ahaṅkāra, viz. bhūtādi, vaikṛta and taijasa; but all except M[āṭharavṛtti] simply state that the 16 are produced from ahaṅkāra and enumerate them. M[āṭharavṛtti] alone explains here that the five tanmātras are produced from bhūtādi which is tāmasa, the 11 organs are produced from vaikṛta which is sāttvika, while both are produced from taijasa which is rājasa.<sup>229</sup>

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

<sup>228</sup> 3.1.11 वैद्यके तु “but in medicine...”; 3.1.13 चिकित्सिते “in medicine”; 3.1.16 आयुर्वेदशास्त्रेषु “in the treatises about medicine...”; 3.1.16 स एष कर्मपुरुषश्चिकित्साधिकृतः “it is this agentic person that medicine is concerned with.”

<sup>229</sup> Solomon 1974: 52, 180.

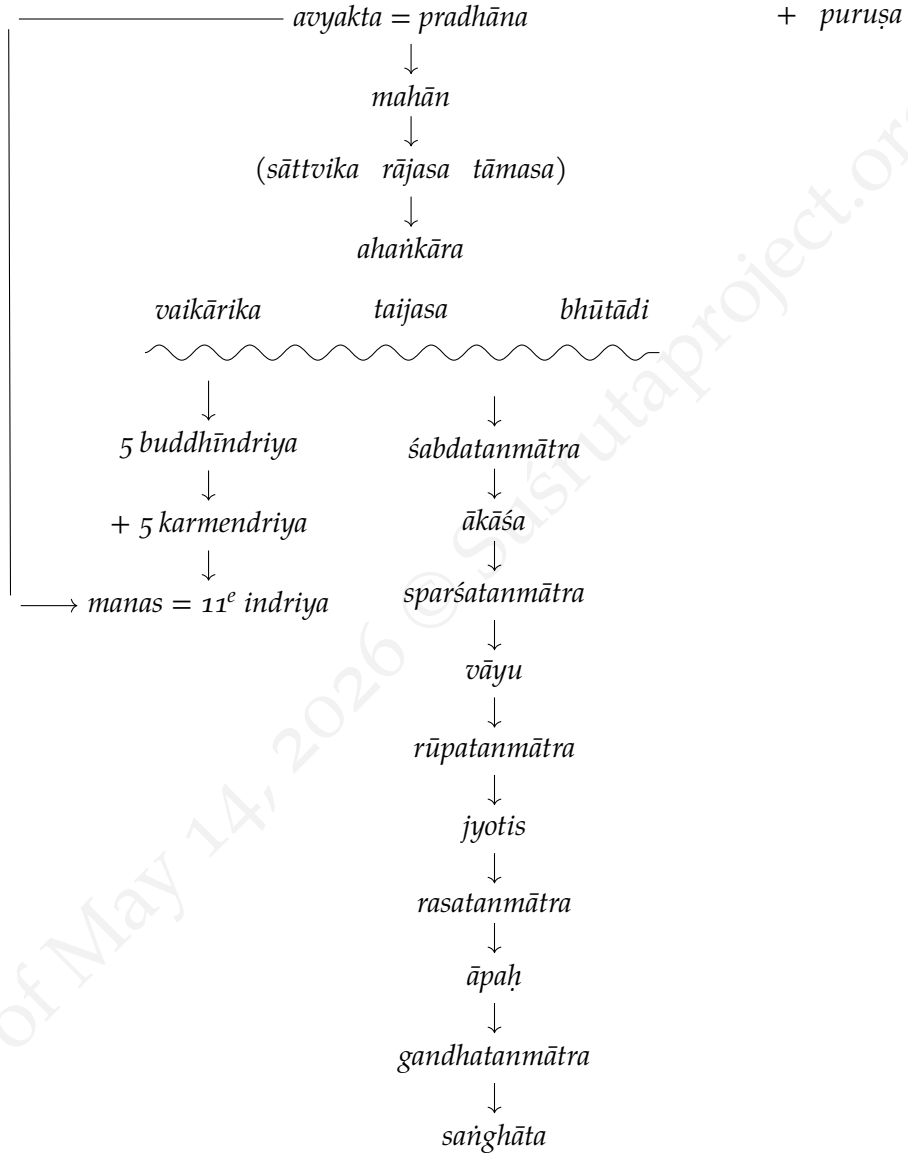


Figure 3: Levels of original creation as presented in the following Purāṇas: *Vāyupurāṇa*, *Brahmāṇḍapurāṇa*, *Viṣṇupurāṇa*, *Mārkaṇḍeyapurāṇa*, and *Kūrmapurāṇa* (after Biardeau 1981: 27). See footnote 241.

Table 2: Homologies according to Mahābhārata 14.42.27–40.

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

Another example of the *Suśrutasaṃhitā*'s eclectic account of Sāṅkhya is the list of homologies given in 3.1.7–8. The evolutes of Prakṛti are described as having three aspects or instantiations: in the physical world (*adhibhūta*), in the individual person (*adhyātma*), and in the divine realm (*adhidaiva*). While this terminology is reminiscent of very old language from the Upaniṣads, this specific scheme is not widely known in Sāṅkhya literature, or anywhere.<sup>230</sup> The scheme is first found in the *Mahābhārata*: see Table 2.<sup>231</sup> The scheme also appears in the fourteenth- or fifteenth-century *Tattvasamāsasūtra* sūtras 7–9 and in its commentaries *Kramadīpikā*

<sup>230</sup> These homologies in the *Suśrutasaṃhitā* were noted by Comba (2011: 55). The adjacent topic of the three kinds of suffering was discussed by Steiner (2007) and Vukadin (2023). For the Upaniṣads, one thinks of *Bṛhadāraṇyaka* 1.5.21 (*adhyātma*), 3.7.15 (*adhibhūta*, *adhyātma*), 2.3.3 (*adhidaivata*), *et passim*. In the Pāli Canon, *ajjhātika* (cognate Skt. *adhyātmika*) means “inner, internal, in the physical body,” as is clear from, e.g., *Mahāsatthipadopamasutta* ¶6 where the “internal” earth element is characterized as including head, hair, body hair, nails, teeth, skin, flesh, sinews, bones, marrow, kidneys, heart, liver, etc. Ed. (Trenckner and R. Chalmers 1888–1925: 1, 185), tr. Ñānamoli and Bodhi 1995: 279.)

<sup>231</sup> Referred to in *Mahābhārata* 6.30.1 (Sukthankar, Belvalkar, et al. 1933–59: 7, 1666–1668) and then described in detail twice, in 12.300.17–301.14 (*ibid.* 15, 1666–1668) and

and the *Tattvayāthārthyadīpanatīkā* of Bhāvagāṇeśa, both of which set out homologous triples, equating ontologies on the personal, physical and divine levels.<sup>232</sup>

Another parallel between the present chapter and the *Mahābhārata* occurs in 3.1.9. The text is explaining the similar and different properties of Puruṣa and Prakṛti. This passage in the *Suśrutasamhitā* is very close in both meaning and wording to *Mahābhārata* 12.210.6–8:<sup>233</sup>

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

तदेवमेतौ विज्ञेयावव्यक्तपुरुषावुभौ ।  
 अव्यक्तपुरुषाभ्यां तु यत्स्यादन्यन्महत्तरम् ॥ ६  
 तं विशेषमवेक्षेत विशेषेण विचक्षणः ।  
 अनाद्यन्तावुभावेतावलिङ्गौ चाप्युभावपि ॥ ७  
 उभौ नित्यौ सूक्ष्मतरो महद्भ्यश्च महत्तरौ ।  
 सामान्यमेतदुभयोरेवं ह्यन्यद्विशेषणम् ॥ ८

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002 and, in his notes, citations of the parallel passages in the *Carakasamhitā*.<sup>234</sup> Larson and Bhattacharya (1987) provided a major overview of Sāṅkhya literature. Recent overviews of the classical Sāṅkhya theory include those of Chatterjee (2021: §2.4), Adamson

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

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

233 (Sukthankar, Belvalkar, et al. 1933–59: 15, 1159). The parallel was pointed out by Christèle Barois.

234 HIML: IA, 243.

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

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## Translation

- 1 So, now we shall explain the anatomy chapter that is a reflection about all beings.<sup>235</sup>

### The production of all things

- 3 That which is called “the unmanifest” is the causeless cause of all living beings, having the characteristics of *sattva*, *rajas* and *tamas*, having eight forms, and being the reason for the appearance of this whole world.<sup>236</sup>

It is the single basis of the many witnesses (*kṣetrajñā*),<sup>237</sup> just as the ocean is to the beings who live in water.<sup>238</sup>

- 4 From that unmanifest, the Mahat arises, having exactly the same properties.<sup>239</sup> From that Mahat, which has those same properties, arises the Ahaṅkāra, having exactly the same characteristics.<sup>240</sup> It has three as-

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

236 We do not translate the polysemic terms *sattva*, *rajas* and *tamas*, about which a large scholarly literature may be consulted.

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

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

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

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

pects: mutable (*vaikārika*), fiery (*taijasa*) and elemental (*bhūtādi*).<sup>241</sup>

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

From the Ahaṅkāra as starting point for the elements (*bhūtādi*), arise the five bare entities (*tanmātra*), with exactly the same characteristics.<sup>242</sup> It is as follows: bare sound, bare touch, bare form, bare taste, bare smell.<sup>243</sup>

From these elements (*bhūta*) come ether (*ākāśa*), air, fire, water and earth; from these come sound, touch, form, taste and smell, with the same distinctions.<sup>244</sup> In this way these twenty-four principles (*tattva*) have been explained.

- 5 In this context, entities such as sound are the objects of the faculties (*indriya*) of cognition. Amongst the faculties of action, they are: speaking, holding, enjoyment, excretion and walking respectively.
- 6 The eight productive principles (*prakṛti*) are the unmanifest (*avyakta*), The Great (*mahān*), the I-principle (*ahaṅkāra*), and the five fine elements (*tanmātra*). The rest are the sixteen modifications (*vikāra*).
- 7 And for each of these, the sense object is the physical entity (*adhibhūta*).<sup>245</sup> But they themselves are the personal aspect (*adhyātma*). The

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

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

243 Or, “the essence of sound,” etc.

244 On “ether,” see footnote 275.

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

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

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

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

divine aspect (*adhideva*) is thus: Brahmā is the divine aspect of the intellect (*buddhi*), Īśvara is of the sense of the self (*ahaṃkāra*), the moon is of the mind, the directions are of the ear, wind is of the skin, the sun is of the eyes, the waters is of the tongue, the earth is of the nose, fire is of the voice, Indra is of the hands, Viṣṇu is of the feet, Mitra is of the anus, and Prajāpati is of the genitals.<sup>246</sup>

- 8 This whole group lacks consciousness.<sup>247</sup> And the twenty-fifth, the Person (*puruṣa*), is the one that causes consciousness. And he is connected to the effects (*kārya*) that are the instruments (*kāraṇa*).<sup>248</sup> Even though

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

<sup>246</sup> Expressed as a table in Table 3. On this and the next passage, see discussion above, 93.

<sup>247</sup> I.e., the group of twenty-four principles (*tattva*).

<sup>248</sup> This sentence is hard to understand, but it is underscoring the unique role of the Person. The vulgate text at this point has, "is united by cause (*kāraṇa*) and result,"

the productive principle (*pradhāna*) is unconscious, they point out that it is active for the purpose of the Person's freedom (*kaivalya*).<sup>249</sup> On this point, they give the examples of causes like the one about milk, etc.<sup>250</sup>

## Prakṛti and Puruṣa

- 9 From this point onwards we shall describe how Prakṛti and Puruṣa have similar and different essential properties (*dharma*).

Both are without beginning and both are without end; both both are permanent;<sup>251</sup> both are unsurpassed, both are without characteristics (*liṅga*) and both are omnipresent.<sup>252</sup>

But Prakṛti is single, unconscious, has three guṇas, is essentially a seed, is essentially creative and has the essential property of being in the middle.

The Puruṣas, meanwhile, are multiple and have consciousness. They do not have the guṇas, they are not essentially seeds, they are not essentially creative, and do not have the essential property of being in the middle.

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

- 249 The expression “they point out” suggests reference to outside experts. Since the following milk simile is identical to *Sāṅkhyakārikā* 57 (Mainkar 1972: 184–186; Wezler and Motegi 1998: 263), it seems certain that the reference is to this text or a lost predecessor. The *Sāṅkhyakārikā* was translated into Chinese in the mid-sixth century and may have been composed one or two centuries before that time (Hulin 1978: 138).

- 250 I.e., the calf in the proximity of the cow causes the milk, in the same way that Prakṛti in the proximity of Puruṣa causes evolution. Ḍalhaṇa on 3.1.8 (Su 1938: 340) explained that the milk, even though it is unconscious (*ajñā*), comes forth (*pravartate*) (in the cow) for the purpose of nourishing a calf. Ḍalhaṇa also gave the example of a man's semen that is incognizant (*ajñā*) but is comes forth (*pravartate*) in the presence of erotic women, at a private party, for the purpose of the man's enjoyment. *Pāṭaṅjalayogaśāstra* 4.17 addressed the same issue with the simile of magnetism: the mind (*citta*) was likened to a piece of iron that is attracted by the magnet of sense objects (Āgāśe and H. N. Āpaṭe 1904: 193, et passim).

- 251 This is an emended reading of the Nepalese witnesses, which both read अनित्यौ “impermanent.” It is inconsistent and contextually incorrect to assert that Puruṣa is impermanent. The vulgate reads “permanent.”

- 252 See discussion, p.94.

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

Some people argue that the Person actually consists of these particulars<sup>253</sup> because he is manifested by them and made out of them.<sup>254</sup>

- 11 In the Vedic tradition, however,<sup>255</sup>

people with a wide perspective consider essential being (*svabhāva*), destiny, time, transformation (*pariṇāma*), the Lord, and chance (*yadṛcchā*) to be Prakṛti.<sup>256</sup>

- 12 So one should note that the elements (*bhūta*) that are produced specifically have their qualities.<sup>257</sup> From those, the entire group of living beings (*bhūtagrāma*) is generated, having their characteristics (*lakṣaṇa*).<sup>258</sup>

253 Ḍalhaṇa on 3.1.10 (Su 1938: 340) identifies these as the principles (*tattva*), beginning with महत्.

254 This opinion of “some people” represents a kind of materialist who thinks that the Person is also composed of prakṛti’s components rather than being distinct and unitary. This is an outsider view as far as early Sāṅkhya is concerned. On अञ्जन in the compound तदञ्जन “manifested by them,” Kuiper (1953) noted the inadequacy of dictionary entries for derivatives of roots अञ्ज/अञ्ज, and described the root of the present word under no. 3 “show, manifest, mark, adorn, honour.” See *ibid.*, §12, pp. 76–82.

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

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

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

258 This passage contains potential ambiguities about the polysemic word भूत, whose

- 13–14 Its applicability (*upayoga*) is stated always with regard to medicine.<sup>259</sup> Therefore in therapeutics, no consideration is given beyond the elements. Because it has been stated,

[by saying ‘Puruṣa’] he has stated that it originates from a collection of substances beginning with the elements (*bhūta*).<sup>260</sup>

And in the science of medicine (*āyurveda*), it is the elemental senses that are described, as well as the objects of the senses.<sup>261</sup>

- 15 There is a verse on this:

A human being grasps each object of sense by means of their own corresponding sense organs. It is an established fact that one thing cannot be grasped by a different one, because it is constrained by the equivalence of their origins.<sup>262</sup>

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

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

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

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

- 262 E.g., the eye can see visual images because the eye and the visual images themselves both originate in the element of fire. But the eye cannot see scents or sounds.



- 16 In the teachings of Ayurveda, witnesses (*kṣetrajña*) are not considered to be [both] omnipresent as well as permanent.<sup>263</sup> From the established opinion of Ayurveda, they bring forward logical reasons to explain the Person as witnesses that are permanent but not omnipresent. Witnesses that are permanent but not omnipresent transmigrate into the wombs of animals, and into humans and gods, according to the determining factors (*nimitta*) of virtue and vice.<sup>264</sup> They may be grasped through inference, they are mobile, they are extremely fine, they have consciousness, they are eternal, they are manifested in the conjoining of semen and menstrual blood. The Person has been defined as “an aggregation of the five great elements and the embodied soul”.<sup>265</sup> Therefore, this is indeed the “patient (*karmapuruṣa*)” who is the subject of medicine.<sup>266</sup>

### Attributes of the Person

- 17 Its attributes (*guṇa*) are happiness and distress, desire and aversion, and effort, breathing in and out, closing and opening the eyes,<sup>267</sup> cog-

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

On “witnesses” see footnote 237.

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

265 I.e., in *Suśrutasamhitā* 1.1.22 (*Su* 1938: 5) and mentioned again in 3.1.14 above.

266 “Patient” translates कर्मपुरुष, the “Person subject to action (*karma*).” For this sense of the English word, cf. the OED’s entry: “A person who or thing which undergoes some action, or to which something is done; a (passive) recipient. Chiefly in contrast with agent” (OED: Patient 4a). Ḍalhaṇa on 3.1.16 (*Su* 1938: 342) glossed कर्मपुरुष both as “the one who experiences the results of karma” (कर्मफलभाक्) and also as “the one who receives the results of medical care” (चिकित्सितकर्मफलम्). See the discussion by Roṣu (1978: 67, 132, 141, 142, 146, 147, 169, 177). The term “कर्मपुरुष” also occurs at 3.8.8 (*Su* 1938: 380), where it clearly means “patient,” and again at 6.65.22 (*Su* 1938: 817), where *Suśrutasamhitā* 1.1.22 is cited as an example of the interpretative rule called “recontextualization (*prasaṅga*)” (see p. 388 below). Note, that while this citation of 1.1.22 in 6.65.22 is present in the vulgate text of the *Suśrutasamhitā*, it is not present in the Nepalese version.

267 A masculine dvandva.

nizing, thinking, intending, reflecting, remembering, knowing, deciding, and perceiving sense objects.<sup>268</sup>

- 18 Furthermore, not being malicious, enjoying sharing, tolerance, truthfulness, righteousness (*dharma*), being a believer (*āstikya*),<sup>269</sup> knowing, cognizing, intelligence,<sup>270</sup> willpower,<sup>271</sup> and not being overly attached are associated with *sattva*.

Excessive suffering, being ungenerous (*apradāna*),<sup>272</sup> bad behaviour, a lack of compassion, dishonesty, egoism, hypocrisy, pride, lust (*harṣa*), desire and aversion are associated with *rajas*.<sup>273</sup>

Depression, being a non-believer,<sup>274</sup> unvirtuous behaviour, unreasonableness (*buddhinirodha*), ignorance, lack of intelligence, laziness, and sleepiness are associated with *tamas*.

- 19 Furthermore, sound, the auditory faculty, the aggregate of all intervals (*chidra*) and separateness are associated with the ethereal (*āntarīkṣa*).<sup>275</sup> The faculty of touch, the aggregate of all gestures (*ceṣṭā*), all spontaneous movements (*spanda*) of the body and lightness are associated with air.<sup>276</sup>

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

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

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

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

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

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

274 See footnote 269.

275 The term “ether,” translating अन्तरीक्ष, refers to the classical element of extension that separates all entities and prevents the existence of a vacuum. These characterisations of the elements are not typical in Sanskrit philosophical literature.

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



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

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

Smell, the olfactory organ, the aggregate of all solid bodies, and heaviness are associated with earth.<sup>277</sup>

20 In that context, ether is mostly sattva, wind is mostly rajas, fire is mostly sattva and rajas, water is mostly sattva and tamas, earth is mostly tamas.

21 And on this there is:

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

*The manifest characteristic of all these is regarded as being in each of the separate substances.*<sup>278</sup>

22 *The eight productive entities have been declared and the sixteen modifications, and, concisely, the witness, according to their own system and another system.*<sup>279</sup>

This is the first chapter on anatomy.

ening, although others say all actions of body, voice and mind" (नमनोन्नमनादिसर्वक्रियासमूहः, कायवाङ्मनःक्रियासमूह इत्यन्ये).

277 There is a partial overlap of the elemental qualities (*guṇa*) listed in this section with those mentioned in some anonymous stanzas that appear in the *Yuktidīpikā* on *Sāṅkhyakārikā* 38c (Wezler and Motegi 1998: 225), also referred to by Vācaspatimiśra in his *Tattvavaiśārādī* on PYŚ 3.44 (Prasāda 1912: ??).

278 The Sanskrit text of the Nepalese version at this point is supported by both witnesses, but is harder to construe than the vulgate. The vulgate's द्रव्ये तु makes a clearer sentence, but *lectio difficilior potior*. It is possible that this verse is cited from another con The general sense is that while these substances pervade each other, they nevertheless preserve their individual characteristics.

Frauwaller (1984: 1, 96–97) identified what he called the Sāṅkhya "accumulation theory," according to which every element possesses, besides its own special quality, additionally the total qualities of the previous element out of which it emanated. It is possible that this verse is informed by such thinking.

279 Ḍalhaṇa on 3.1.22 (Su 1938: 344) commented that the "own system" was surgery (शल्यतन्त्र) and the other system was ear, nose and throat surgery and Sāṅkhya (शालाक्यतन्त्रे साङ्ख्ये च). The sentence could also be translated as "depending on itself and depending on another."

PYS 3.44?

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# Śārīrasthāna 2: On Semen and Menstrual Fluid

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>280</sup> R. P. Das (2003: chs 6–8) also studied topics of this chapter and in chapter 13 provided an overview of the conceptual background of ayurveda on the topics discussed in this chapter.

## Translation

- 1 We shall now explain the anatomical chapter on the purification of sperm (*śukra*) and blood (*śoṇita*).
- 3 Semen (*retas*)<sup>281</sup> is incompetent to produce offspring if it is [characterized by] wind, bile, phlegm, blood (*śoṇita*),<sup>282</sup> decomposition (*kūṇapa*), clumps (*granthi*),<sup>283</sup> stinking pus (*pūtipūya*), low volume (*kṣīṇa*), urine, or feces.

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<sup>280</sup> HIML: IA, 244–246.

<sup>281</sup> The Nepalese version has -रेतांसि “semen” (in the plural) as the subject of the sentence: “seeds are unable to produce offspring....” In the vulgate, -रेतसः is a masculine bahuvrīhi, making “men whose semen has...” the subject of the sentence.

<sup>282</sup> Note that the list begins with the four entities, wind, bile, phlegm and blood, hinting at a four-humour system (see Dominik Wujastyk 2000: 485–486).

<sup>283</sup> Modern Establishment Medicine (MEM) understands that normal ejaculate contains coagula which, however, dissolve after about half an hour. But coagula that do not dissolve may sometimes be a sign of an underlying disorder (see, e.g., Lamming and Marshall 1990: 2, 614–615; Cohen 1990).

## Diagnosis by humours

- 4
- When the dysfunction is caused by wind, there is a colour and a type of pain that typically goes with wind problems.
  - If caused by bile the colour and the pain are typical of bile afflictions. If caused by phlegm the discolouration and suffering are characteristic for phlegm disease.
  - And if caused by blood (*śoṇita*) there will be a colouration due to blood and a sensation of a bile affliction. Moreover, when caused by blood (*rakta*) there is the smell of decomposition (*kuṇapa*).<sup>284</sup>
  - Phlegm with wind causes the appearance of clumps.
  - Bile with blood (*śoṇita*) causes the appearance of foul-smelling pus (*pūtipūya*).
  - Bile with wind (*māruta*) cause a weakening of semen.
  - Humoral colligation (*sannipāta*) causes the smell of urine and feces.<sup>285</sup>

Cases of foul-smelling sperm, sperm with clumps, and when it reeks of pus are hard to treat. But when sperm contains urine or faeces there is no treatment.<sup>286</sup>

- 5
- Moreover, seasonal blood (*ārtava*) too can become afflicted (*upasṛṣṭa*), seedless (*abīja*) because of the three humours, and blood as the fourth, taken individually, in pairs or triples or all together.<sup>287</sup>

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

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

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

<sup>284</sup> Note that the text mentions both शोणित and रक्त. This raises the question of whether the author considered these to be different, or whether it is an artefact of textual transmission.

<sup>285</sup> The expression “humoral colligation,” translating सन्निपात, refers to the simultaneous disorder of three humours at the same time, a condition that is difficult to treat (see Dominik Wujastyk 2016b: 38 *et passim*).

<sup>286</sup> Note that the above characterizations presuppose the direct inspection of an ejaculate. The process of collection is not described in the sources in this chapter.

<sup>287</sup> This translates the text of the oldest surviving witness, N, and the vulgate. But MS H, that normally follows K very closely, has a negative particle, न्, reversing the sense of the sentence.

6 And there is a verse on this.

An expert should overcome the first three of these sperm pathologies with special treatments such as unction and sweating, as well as by means of a urethral instillation (*uttarabasti*).<sup>288</sup>

find out  
about ut-  
tarabasti

**Therapies for sperm, by humour**

- 6.1 In that context, when the sperm is of the nature of wind, there is an enema (*āsthāpana*) consisting of **Bengal quince**, **Indian kudzu** and milk.<sup>289</sup> In the urethral instillations one should use sesame oil well cooked with **mahua**, **grey orchid**, **deodar**, and **chir pine**. One can also make the patient drink clarified butter with ripe **pomegranate**, **citron fruit**, **rock salt**, a caustic (*kṣāra*), and **two kinds of salt**.<sup>290</sup>
- 6.2 When the sperm is of the nature of bile, there is an enema of milk cooked with curds, **Malay beechwood** and **liquorice**. One should also apply a paste (*kalka*) of **white dammer tree** and **axlewood** in the vagina. There is an oily enema (*anuvāsana*) of sesame oil cooked with **liquorice**; in the same way, it should only be applied as a urethral instillation.<sup>291</sup> One should make him swallow ghee cooked with **wild sugar cane**, ??, **heart-leaved moonseed**, **white teak**, **false daisy**, and the **five roots**.
- 6.3 When the sperm is of the nature of phlegm, there is an enema (*āsthāpana*) consisting of a decoction (*kaṣāya*) of **golden shower tree**. And one should also apply an oily enema (*anuvāsana*) of sesame oil cooked with **long pepper**, **embelia** and honey; and it should only be applied as a urethral instillation. One should make him drink a ghee cooked with **hairy bergenia**, **white teak**, **emblic myrobalan**, **long pepper**, **bearded premna**, and **prickly chaff-flower**.

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

289 These three recipes are not present in the vulgate text of the *Suśrutasaṃhitā*.

290 -विपक्व “well cooked with...” might be interpreted as “with ripe...”.

291 By specifying “upper (i.e., urethral) instillation” the author is clarifying that this is not a rectal enema.

7 And there are verses about this:

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

8 When it smells like a corpse, he should drink ghee cooked with the [sal group of trees](#). †When clumps appear, it is cooked with stones, or also in ash from a [flame-of-the-forest](#).<sup>292</sup>

9 And also, when it resembles pus, it is treated with items such as [phalsa](#) and [banyan](#). When the sperm is deficient it should be treated as was stated before and also as will be described.<sup>293</sup>

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

10.add1 In these six cases, a wise person should carry out the sequence that starts with oleation.<sup>294</sup>

10.add2–3 It deteriorates as a result of not having sex with women for a long time as well as from the use of actions, and from over-using the drugs that are astringent, spicy and sharp, that are acidic (*amla*), salty, sere (*rūkṣa*), sour (*śukta*) or stale (*pary-uṣita*), and because of suppressing (*vegāghāta*) the impulses in vaginas and from intercourse (*gamana*).<sup>295</sup>

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

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

294 It is uncertain which six cases the author intended, but probably it refers to the behaviours listed in the next verse.

295 This passage is hard to interpret and there are no parallels, commentary or meaningful alternate readings.

## Therapies for menstrual blood

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

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

12cd And there is a verse about this:

To purify the menstrual blood (*ārtava*), one should apply the procedure that finishes with a urethral instillation (*uttaravasti*)<sup>296</sup>

13cd One should use a paste (*kalka*) as well as cloths and a salutary lavages (*ācamana*).<sup>297</sup>

14cd In case of a bad smell and the appearance of pus, or the appearance of marrow in the blood.

15 She should drink a decoction (*kvātha*) of white sandalwood or a decoction of red sandalwood.<sup>298</sup>

14ab When clumps (*granthi*) appear, she should drink velvet-leaf, three heating spices, and Indrajao.<sup>299</sup>

14.add1 She should drink a decoction (*niḥkvātha*) that is the extracted juice (*surasa*) of a caustic (*kṣāra*), dried ginger, and devil's dung.<sup>300</sup>

<sup>296</sup> The "procedure ending with a urethral instillation" probably refers to verse 6 above (see page 107).

<sup>297</sup> The word आचमन, normally "sipping water from the palm" is here translated "lavage" following the context and Ḍaḥḥaṇa on 3.2.13 (Su 1938: 345), who described it as "water for washing the vagina" (योनिप्रक्षालनोदक). This treatment may be intended for the condition mentioned in 12cd, but in the vulgate text there is a preceding half verse stating that the treatment is for the "four disorders of menstrual blood."

<sup>298</sup> The name चन्दन may refer to several types of sandalwood; presumably one is meant here that is different from white sandalwood, i.e., perhaps Pterocarpus santalinus Linn. f. The vulgate has an extra half-śloka here.

<sup>299</sup> On ग्रन्थि, see note 283.

<sup>300</sup> At this point, the sequence of passages in the Nepalese version differs substantially

- 24 Thus a man has unblemished semen and a woman has pure menstrual blood.<sup>301</sup>

### During menstruation

- 25 During the season (*ṛtu*), starting from the first day onwards, the chaste woman (*brahmacārīṇī*) foregoes bathing, anointments, ornaments and grooming (*vilekhana*).<sup>302</sup> She should abstain from sleeping during the day, collyriums, weeping tears (*aśrupāta*), massages, cutting her nails, taking showers, laughing, telling stories, hearing too much noise and from exertion.<sup>303</sup>

For what reason? By sleeping during the day, the fetus becomes deaf.<sup>304</sup> From collyrium he becomes blind. From weeping, his vision is impaired. From bathing and anointing, he becomes badly behaved. From massage with oil he gets a pallid skin disease (*kuṣṭha*).<sup>305</sup> From cutting the nails he gets ugly nails (*kunakha*). From smearing an unguent he becomes bald. From habitually exercising in the open air he goes mad. For this reason one should avoid these.

For three days of ritual food, the husband should protect (*√rakṣ*) the woman. She lies on a layer of *halfa grass*, and eats a different kind of food from the palm of her hand, or from a plate or from a leaf.<sup>306</sup>

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

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from the vulgate. For example, the next passage in the vulgate, 3.2.15, occurs above, and the next below on p. 109.

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



who has chanted a benediction and recited a blessing.<sup>307</sup>

What is the reason for that?

26 And there is a verse on this.

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

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

28 Next, after the man has eaten a rice porridge with ghee and milk in the afternoon, having been celibate for a month, at night he should sexually approach the woman who has had a diet rich in oil and mung beans. He then soothes her in a friendly way and he may go to her optionally on the fourth, sixth, eighth, tenth or twelfth day.<sup>308</sup>

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

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

During one of these nights, the pregnant woman should press three or four drops of juice from one or other of the following: *convolvulus*, *banyan*, *Indian bat tree*, *country mallow*, *carray cheddie*. Then she should administer them in the right nostril if she desires a son and in the left if she wants a girl, and she should not sneeze them out.<sup>309</sup>

33 For certain, in the presence of these four, a fetus that follows the rules will come into being, just like a sprout is from a combination of field, seed, water and grass.<sup>310</sup>

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

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

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

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

29, 30 missing?

Problematic passage in the edition.

- 34 Children born in this manner are beautiful, of noble character and enjoy long lives.<sup>311</sup> They provide release from obligation (*r̥ṇa*) and they themselves have children, benefitting their parents.<sup>312</sup>
- 35 In that context, the element of heat (*tejas*) is the most important factor as far as complexion (*varṇa*) is concerned. That being granted, at the moment the fetus is formed, when the food has water as its chief element, then the fetus is fair.<sup>313</sup> When earth is the predominant element, it is dark (*kṛṣṇa*). When earth and ether are the chief elements, it is dark brown (*śyāma*).<sup>314</sup> Some people say that the newborn (*prasava*) has the same colour as the colour of the food that the pregnant woman commonly eats. Similarly, creatures like snakes, scorpions and large geckos that inhabit black, yellow or white habitats are black, yellow or white.<sup>315</sup> In that context, congenital blindness (*jātyandha*) is caused by the element of brilliance (*tejas*) not reaching the location of eye (*dṛṣṭi*). Similarly, red eyes are a consequence of blood, white eyes are a consequence of phlegm, yellow eyes are a consequence of bile, and dysfunctional eyes (*vikṛtākṣa*) are a consequence of wind.<sup>316</sup>
- 35.1–4 And on this, there are the following:<sup>317</sup>

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

- 311 We translate महासत्त्वाः as “noble character;” Ḍalhaṇa, commenting on the vulgate reading सत्त्ववन्तः, refers to the गुणस्, interpreting the expression as “not strongly influenced by रजस् and तमस्.”
- 312 Children born in this manner fulfil their parent’s obligation to have children and they themselves have children, thus continuing the family. The three debts are normally understood as being to the gods, the ancestors and to sages. But Ḍalhaṇa’s phrasing is odd in that he says पितृणामृणत्रयमोक्षणशीलाः “behaving so as to provide release from the three debts to the ancestors.”
- 313 The food of the mother, that is.
- 314 The terms कृष्ण and श्याम often mean more or less the same, a dark blue or black colour. The latter can shade into brown or dark green.
- 315 Cf. also n., p. 283. Cf. HIML: IA, 70 and notes on these poisonous animals as described in the *Carakasamhitā*, and Meulenbeld 1974b: 455-456 on the names *kṛkalāsa/kṛkalāśaka*, *śaya* and *saraṭa* and the confusion surrounding this topic and the indigenous names of some species such as *ṭikṭikī*, *jyeṣṭhi*, *jyaishṭhi*, *girgiṭ*.
- 316 The term विकृताक्ष was known to Kātyāyana (*Mahābhāṣya* on P.6.3.3, (*Mahābhāṣya*: 3, 142)).
- 317 The next four verses are absent in the vulgate; they were reproduced by the editor

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

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

When phlegm that is free of any impurity moves to the eyes, their eyes shine with a white circle within a circle.<sup>318</sup>

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

36 Just as the ghee in a pot placed on a fire melts, so the menstrual blood of a woman may flow out after sex with a man.<sup>319</sup>

37 But when the wind splits the seed (*bīja*), two lives (*jīva*) come into the belly (*kukṣi*). They are called "twins (*yama*)," being created from preceding virtue (*dharma*) or its opposite.<sup>320</sup>

37.1 When the mixing is happening, if the man's semen (*retas*) is plentiful and pure then the pregnant woman gives birth to two boys.

37.2 When the mixing is happening, if the woman has a lot of semen (*śukra*) then the pregnant woman gives birth to two girls. There is no doubt about this.

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

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

318 Perhaps this describes the appearance of arcus senilis.

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

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

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

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

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

## Types of persons

- 38 The term for men and women who have diminished seed is *Āsekya*.<sup>321</sup> Without doubt, after eating something white (*śukla*), his flag is raised.<sup>322</sup>
- 39 Someone who is born in a foul womb is termed a *Saugandhika*. That person gains strength from smelling a vagina and a penis.<sup>323</sup>
- 40abc A man, who has activity in his own anus because of being celibate and then has activity amongst his own women is known as a *Kumbhika*.<sup>324</sup>

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

322 Ḍalhaṇa on 3.2.38 (Su 1938: 348) made it clear that this is a metaphor for having a penile erection.

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

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

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

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

323 Etymologically, “Sweet Smelling.”

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

- 40d–41abc Hear about the next one, the *Īrṣyaka*. Someone who has sexual activity after seeing the copulation of other people is termed an *Īrṣyaka*.<sup>325</sup>
- 41d–42 Hear about the fifth, the *Ṣaṇḍhaka*. A man who, out of delusion, has sexual activity with a young girl (*kaumārī*) during her season as if he were a woman. In such a case, a male is born who looks and behaves like a woman. He is termed a *Ṣaṇḍha*.<sup>326</sup>
- 43 Moreover, if a woman, during her season, has sexual activity like a man, then if a girl is born she will have the behaviours of a man.
- 44 The *Āsekya*, the *Sugandhin*, the *Kumbhika* and the *Īrṣyaka* are known to have semen. The man with no semen is termed a *Ṣaṇḍha*.<sup>327</sup>
- 45 In both of these cases, they have a semen-carrying vessel that dilates as a result of unnatural excitement.<sup>328</sup> Then the flag may be raised.<sup>329</sup>

not menstruating) during her season, when the love is attached to another.” (Also cited in *Mahākośa*: 1, 220a–b.)

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

- 325 Etymologically “one who envies.”

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

- 326 The vulgate’s भार्या “woman, wife” for the Nepalese version’s कौमारी “girl” is probably bowdlerization.

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

- 328 Ḍaḥaṇa on 3.5.45 (*Su* 1938: 349) cited the expression नरनारीषण्डौ from the *Carakasamhitā* (*Ca* 4.2.17303, reads -नारि) to establish that women too may have these unnatural excitements.

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

- 329 On this euphemism, see footnote 322 above.

## Birth irregularities

- 46 The **appearance**, behaviour and mentality that is associated with a man and a woman is also the same as that which their **offspring** (*garbha*) has.<sup>330</sup>
- 47 Whenever a woman and a woman have sex together, they release semen on each other. Then a being without bones comes into being.<sup>331</sup>
- 50 A **fetus** (*garbha*) of a deformed shape like a gourd, a scorpion or a snake and others of the same type are known to be often brought about by sin.<sup>332</sup>
- 51 Offspring (*garbha*) that is *vimānitaḥ* by irritation of wind and by pregnant longing may become hunchbacked, have a shrivelled hand (*kūṇi*), be lame, mute or have a stutter.<sup>333</sup>
- 52 The newborn may have abnormalities because of the bad behaviour of its mother and father and because of bad actions from the past, by means of the irritation of wind etc.<sup>334</sup>

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

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

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

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

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

334 Ḍalhaṇa on 3.2.52 (Su 1938: 349) took the position that the bad actions were those of



- 53 The child in the womb does not make wind, urine and feces because it has little impurity and because the wind in the stomach is not functioning.
- 54 The child in the womb does not cry out because the movement of the wind is obstructed since the mouth is covered by the caul and the throat is surrounded by phlegm.
- 55 The inward and outward breathing, movement and sleep that the fetus adopts conform to the inward and outward breathing, movement and sleep of the mother.
- 56 The composition of the body parts, the descent and appearance of the teeth, the absence of hair on the palms all happen by themselves.<sup>335</sup>
- 57 Those cultivated people who in previous embodiments were constantly aware of the scriptures are rich in sattva and have memory of their previous births.<sup>336</sup>

Here ends the second chapter that is the anatomy.

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the parents, not the child.

- 335 The text reads शरीराणाम् “of the bodies” that we have translated “of the body parts,” following Ḍaḥaṇa’s interpretation. He also said that “palms” included the soles of the feet.
- 336 The vulgate text adds a final verse about how the karma of a previous embodiment follows a person to his new life. Witness L adds yet another verse that says the lack of hair on the palms is because they come from the mother, while the areas of the body from the father have much hair.

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

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>337</sup> Important subsequent studies of the chapter include those of R. P. Das and of Kritzer.<sup>338</sup>

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<sup>337</sup> [HIML](#): IA, 247–247.

<sup>338</sup> R. P. Das [2003](#): ch. 8, et passim; Kritzer [2009](#); [2013](#); see also the valuable terminological study by Suneson ([1991](#)).

## Translation

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

## Conception

- 3 Semen is of the nature of Soma (*saumya*) and menstrual blood is of the nature of Agni (*āgneya*).<sup>339</sup> Furthermore, in this context there also exists a proximity of the other elements (*bhūta*), by way of a minute special property, because they help one another and they enter into one another.<sup>340</sup>
- 4 In this case, when there is a union of **a husband and wife**, the wind from the body stimulates the heat (*tejas*).  
In that case, because of the colligation (*sannipāta*) of fire and wind, the semen that is ejaculated finds its way to the vagina.  
It is commingled with menstrual blood (*ārtava*), then because of the joining together of Agni and Soma, what is being mingled together arrives in the receptacle of the fetus.  
He is referred to by names that express synonyms such as, the knower of the field, the sentient, the toucher, the smeller, the seer, the hearer, the taster, the human, the goer, the witness, the creator, the speaker, **the one who is, “who is the one that is life at the start?”**<sup>341</sup>

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

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

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

341 The last phrase is awkward. It translates यः कोऽसावाद्य आयुरिति, which could be paraphrased, “the one who is the answer to the question ‘who is the one who is life at the outset?’” or “...‘who is that first one who is life?’” The text differs from the vulgate’s यः कोऽसाव् इति, that omits आद्य आयुर् (3.3.4 (Su 1938: 350)). Most other early editions print योऽसाविति (e.g., S. M. Gupta 1835–36: v. 1, 320; Su 1889: 313; M. Śarmā 1895–99: v. 2, 635; C. Bhaṭṭācārya 1908–11: v. 3, 30. Ghāṇekara (1936–41: v. 2, 65) read

Driven by fate, and impelled by wind, the imperishable, unchanging, inconceivable elemental self (*bhūtātman*) enters into the uterus (*garbhāśaya*) together with sattva, rajas and tamas, gods and demons, and other entities.<sup>342</sup>

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

6ab In that context, there is a twelve-night period that is the season (*ṛtu*).<sup>343</sup>

3.3.6.1 †In that context, approaching a woman in season for intercourse during the first day is not conducive to long life (*anāyusya*); a man comes into being.<sup>344</sup> To the extent that the fetus is deposited at that time, because of being expelled it is lost.<sup>345</sup> †

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

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

3.3.9 And on this:

When the day is over, the lotus inevitably closes. In the same way, when the season is over, the woman’s uterus closes.<sup>346</sup>

यः कोऽसावित्यु). No other translators translate this phrase, nor does Ḍalhana gloss it.

342 In the vulgate, भूतात्मन् “elemental self” is not the subject of the sentence, which then reads less clearly overall.

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

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

345 In this and the following sentences, parts of witness H are damaged and impossible to read.

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

- 3.3.7–8 One may know that a woman has her season because she has a full, clear face, a moist body, mouth and teeth, she desires a man, she speaks nicely, and she has relaxed belly, eyes, and hair. Her arms, breasts, loins, navel, thighs, hips and bottom are vibrant and she has the utmost excitement and eagerness.
- 3.3.10 At the right time, what has accumulated over a month and has come via the two pipes (*dhamanī*) is led by wind towards the mouth of uterus.<sup>347</sup> It is slightly dark and smells.<sup>348</sup>
- 3.3.11 From twelve years onwards, blood is present periodically. It ceases after fifty amongst those whose bodies are old and aged.
- 3.3.12 It is declared that there will be a male on even days and a female otherwise. Therefore a clean man who wants descendants should approach the woman at the time of her flower.<sup>349</sup>

## Pregnancy

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

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

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<sup>347</sup> “Given by the grammarians as two distinct roots, not without some justification,” Whitney 1885: 19.

<sup>348</sup> “Pipes” (धमनी) are defined in the *Suśrutasamhitā* at 3.9.8–11 (Su 1938: 385). This verse was discussed by R. P. Das (2003: 64–66) (see some corrective remarks by C. Vogel (2005).) On the “pipes” and other conduits in the āyurvedic body, see also Dominik Wujastyk 2022: 404–406.

<sup>349</sup> The reading of the vulgate text contains the object of the sentence, menses (*ārtava*), explicitly. The commentators take “at the right time” to indicate the onset of menses in a young woman.

<sup>350</sup> “Flower” referring to the twelve-day period that has been discussed earlier. Dalhaṇa on 3.3.12 (Su 1938: 352) noted the conflict between the idea presented in passage 5 above and the present idea about odd and even days. He quoted passages by the ancient authorities Videha (see footnote 782) and Bhoja (footnote 29) that squared the circle by asserting that there are greater amounts of semen on even days, and greater amounts of menstrual blood on odd days, etc. See tr. by P. V. Sharma (1999–2001: 2, 143).

- 3.3.16 From that moment onwards, she should not practice intercourse, exertion, excessive dieting, sleeping by day, waking at night, grief, riding in a vehicle, fear, excessive coughing, or therapies like oleation or blood-letting while alone and at the wrong time.<sup>350</sup>

## Fetal development

- 18 In that connection, in the first month, a *kalala* comes into being.<sup>351</sup> In the second, ripening by means of blood, heat and air, a conjunction of the great elements becomes a *ghana*.<sup>352</sup> If it is a *granthi* (*knot*), it is a male; it is a woman if it is a *peśī*; it is a neuter if it is an *arbuda*. In the third, the hands feet and head develop into five bulges (*piṭaka*).<sup>353</sup> And the distinction of the limbs and minor body parts (*pratyāṅga*) is minute. In the fourth, the distinction of the limbs and minor body parts (*pratyāṅga*) become apparent (*pravyakta*). In the fifth, the distinction of the limbs and minor body parts (*pratyāṅga*) become even more apparent (*pravyaktatara*). The element of consciousness (*cetanādhātu*) becomes manifest (*abhivya-kta*) because of the fact that the heart of the fetus becomes apparent.<sup>354</sup> How so? Because it (the consciousness) is located there.<sup>355</sup>

350 The vulgate passage 3.3.17, which is not present in the Nepalese version, presents the doctrine that if a part of the pregnant woman's body is assailed by a humour, that same part of the child's body in the womb will be damaged. A similar idea is presented in 3.3.21 below and previously in 3.2.25 (p. 110).

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

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

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

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

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

During the fourth month the fetus develops intentionality (*abhiprāya*) with respect to the objects of sense. And the woman starts to have two hearts; she perceives its purposes (*nimitta*).<sup>356</sup> If the dual-hearted nature of the woman is ignored, she will give birth to a hunchback with a withered arm, a man with no semen (*ṣaṇḍa*), a dwarf with dysfunctional eyes (*vikṛtākṣa*), or someone eyeless.<sup>357</sup> Therefore she should be given whatever she wants. With her dual-hearted nature being acknowledged, she will give birth to someone heroic and long-lived.

- 19 The physician should gather and give to the pregnant woman whatever objects of sense she wishes to experience, because of the danger of damaging the fetus.
- 20 A woman whose pregnant cravings have been satisfied will give birth to a son full of good qualities. And a woman whose pregnant cravings have not been satisfied causes danger for the fetus or herself.<sup>358</sup>

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

- 21 When a woman, sharing her heart with the fetus (*dauhrda*), is slighted in respect of one of the objects of sense, she will bring forth a son who suffers pain in that selfsame sense organ.<sup>359</sup>
- 22 A woman who has a pregnant longing (*dauhrda*) to see a king gives birth to a son who is wealthy and very fortunate.
- 23 A woman sharing her heart with the fetus (*dauhrdā*), who is in fine raiment, undergarments, silk and decoration, will produce a charming son who likes ornamentation.

that the heart of the fetus becomes apparent."

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

357 The term षण्ढ is discussed on p. 114 above.

358 The गर्भ "fetus" could also mean "the womb." आत्मन् "(danger for) herself" could mean "for the body (of the fetus)."

359 Note the historical and scribal confusions of forms connected with द्वि-हृद् "two-heart" and दोहद "pregnant longing" (from two-heartedness with the fetus) as opposed to derivatives of दुर्-हृद् "bad-heart," such as दौर्हृद "bad-heartedness." The lexeme दौहृद "having pregnant longings (from two-heartedness)," is a false Sanskritization of the MIA दोहळ, itself < \*द्वैहृद (Lüders 1940: 46, 183 n. 2). Cf. further notes, parallels and confusions in CDIAL: #6690. The expression "morbid cravings," appearing in translations and dictionaries, is the result of conflating the two distinct historical forms.

- 24 When she is in an ashram, she gives birth to one who is self-restrained and habituated to virtue.  
If she gives birth in the presence of an image of a deity, her child is like one who gives joy.<sup>360</sup>  
If she is within sight of wild species of animals then she gives birth to one who has violent habits.
- 25 The son of a woman who eats Indian monitor lizard has an inclination to sleep and a murderous nature.<sup>361</sup> If she eats the meat of cattle, he is born strong and tolerant of all suffering.
- 26 Because of pregnant craving for buffalo meat, the son is a hero, has red eyes and is hairy.<sup>362</sup>
- 28 Therefore, as regards things that have not yet been mentioned, if a woman concentrates on feminine pregnant cravings she will cause a son to be born who is the same, in terms of body, diet and behaviour.
- 29 What will happen, impelled by the person's karma, recurs repeatedly. In the same way, the effect of fate generates pregnant craving (*dauhr̥da*) in her heart.
- 30 In the fifth month, the mind becomes more awakened. In the sixth, the intellect. In the seventh, the body becomes pravyakta (*differentiated*) in all parts. In the eighth month the vital energy (*ojas*) is unstable; one born at that time does not survive.<sup>363</sup>  
Then, a ritual offering (*bali*) of meat and boiled rice should be given for him as tribute (*bhāgadheya*) because tribute is due to Nairṛta.<sup>364</sup>  
The birth happens on any of the ninth, tenth, eleventh or twelfth months. If it is different than this, there will be something wrong with him.
- 31 As a matter of fact, the fetal conduit (*garbhanāḍī*) is connected to

360 The reading of the vulgate, पार्षद- "is like an attendant," makes better sense than the Nepalese हर्षद- "one who gives joy."

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

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

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

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



mother's **navel** that supplies chyle (*rasa*).<sup>365</sup> It supplies his mother's strength (*vīrya*) that comes from the essence (*rasa*) of food.<sup>366</sup> Due to this infusion (*upasneha*), it grows bigger. That causes it to live, even before the differentiation of the limbs has begun, because of the infusion of the criss-crossing ducts (*dhamanī*) that carry chyle (*rasa*) and that from conception onwards run through the whole body.

### The formation of the embryo

32 And now, the formation of the embryo.<sup>367</sup>

"The head comes into being first of all," says Śaunaka, "because it is the root of it".<sup>368</sup>

"Amongst the chief organs of sense, the heart is first," says Kṛtavīrya, "because it is the location of the intellect and the mind".<sup>369</sup>

365 In the vulgate text, the umbilical is connected to the mother's नाडी not नाभि. Also, the vulgate is explicit that the umbilicus is connected to the fetus's navel.

From the contemporary physiological view it is the mother's placenta, not navel, that connects with the umbilical cord. In contemporary usage, a navel can only be a post-delivery anatomical region, and the fluid flowing in the cord is blood, not chyle.

366 Or "it supplies the mother's tastes (*rasa*) and strength (*vīrya*) that come from food." The option here is whether the terms रस and वीर्य should be taken in the technical pharmacological sense (रस, वीर्य, विपाक, प्रभाव, see Meulenbeld 1987), or as generic adjectives. Dalhaṇa did not comment on this issue.

367 For a parallel discussion in the *Carakasamhitā*, compare 4.6.21 (Ca 1941: 334).

368 I.e., the root of the fetus. The तन् in the compound तन्मूलत्वं "the root of it" could refer to the head, and that is indeed the reading of the vulgate text. We take it as picking up the genitive गर्भस्य at the start of this passage.

On the medical author (Bhadra)Śaunaka, see HIML: 1A, 150–152. The Śaunaka who has an opinion about fetal formation appears in the *Carakasamhitā*, here in the *Suśrutasaṃhitā*, and in the *Bhelasamhitā*. His views in the *Suśrutasaṃhitā* and the *Bhelasamhitā* concur but differ from the view expressed in the *Carakasamhitā*. In the *Carakasamhitā*, this view about the head is proposed by Kumāraśirā Bharadvāja (4.6.21 (Ca 1941: 334)).

369 The phrase "amongst the chief organs of sense" could be read with the previous phrase about the primacy of the head. MS Kathmandu NAK 5-333 has a daṇḍa before the phrase, suggesting that it is part of Kṛtavīrya's view, but scribal practice gives this low significance. Dalhaṇa does not mention this phrase; Yādavaśarma Trivikrama Ācārya and N. R. Ācārya (Su 1938: 353, note 3) recorded a variant reading देहेन्द्रियाणाम् "amongst the body and the organs of sense."

On Kṛtavīrya, see HIML: 1A, 370–371; note that the view of the *Suśrutasaṃhitā* is attributed to Kāṅkāyana the Bactrian in the *Carakasamhitā* and to Parāśara in the *Bhelasamhitā*.



“It is the navel,” says Pārāśarya, “from that, the breath of the embodied person expands”.<sup>370</sup>

“It is the hand and foot,” says Mārkaṇḍeya, “because they are the root of its motion”.<sup>371</sup>

In this context, Subhūtigautama says, “it is the embryo’s torso,” because of the fact that all the limbs originate from a connection with it.<sup>372</sup>

But this is not correct. The limbs and smaller body parts appear at the same time. Because of the smallness of the embryo at that moment in time they cannot be perceived.<sup>373</sup>

It is like the sprout of a bamboo or the fruit of a mango. Just as in a ripe mango fruit, the fibres, flesh, stone and its core (*majjan*) can be seen separately because of the progression of time, so in the same way, those same things are not perceptible at an early stage (*taruṇa*) because they are so small.<sup>374</sup> It is time that reveals these tiny things such as fibres. In this same way the sprout of the bamboo can be explained.

Thus, although in the early stage of the embryo all the limbs and smal-

370 The reading of the Nepalese version, giving breath as the reason for Pārāśarya’s view, is more coherent than the vulgate’s version.

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

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

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

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

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

374 The list of a mango’s parts parallels the parts of the body.

ler parts cannot be perceived even though they are present, with the progression of time they too become clearly manifest.<sup>375</sup> There is no connection between earlier and later time, they say. It is solely because of the smallness that they are not revealed. At the proper time, they become manifest.

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

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

- 34 In this context, if milk appears first in her left breast, and if her right flank is larger, and lifts her right thigh first,<sup>376</sup> and if she often has pregnancy cravings regarding objects that have masculine names, and if she only dreams about items like *sacred lotus*, *blue water-lily*, *white water-lily*, *mango* and *hog plum*, that have masculine names, and if she has a glowing face and complexion, then one may say, “She will give birth to a boy.” And in the opposite case, a girl. If both her flanks

375 Dalhaṇa on 3.3.32 (Su 1938: 354) cited a passage from the author Bhoja at this point: गर्भो रुणद्धि स्रोतांसि रसरक्तवहानि वै । रक्ताज्जरायुर्भवति नाडी चैव रसात्मिका ॥ सा नाडी गर्भमाप्नोति तया गर्भस्य वर्तनम् । यद्यदश्नाति मातास्य भोजनं हि चतुर्विधम् ॥ तस्मादन्नाद्रसीभूतं वीर्यं त्रेधा प्रवर्तते । भागः शरीरं पुष्पाति स्तन्यं भागेन वर्धते ॥ गर्भः पुष्यति भागेन वर्धते च यथाक्रमम् । गर्भं कुल्येव केदारं नाडी प्रीणाति तर्पिता । “The embryo blocks the conduits that carry chyle and blood. From blood comes the placenta and the umbilicus (*nāḍī*) that consists of chyle. That umbilicus goes to the embryo and the embryo is nourished by it. Whatever food the mother eats is of four kinds. From that food, potency, transformed into chyle, proceeds in three ways. One part nourishes the body, one part increases the breast milk, and one part nourishes the embryo, respectively. The umbilicus, being filled up, supplies the embryo, just like an irrigation canal supplies a field.” On the author Bhoja, see footnote 29, p. 23; on the four kinds of food, “things drunk, eaten, chewed or licked,” see footnote 395, p. 137.

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

droop, and her abdomen protrudes forwards, and if she has other signs mentioned before, one may know that there will be a child of the third gender (*napuṃsaka*). If there is a depression in her waist and her belly is like a barrel, she will give birth to twins.

35 And there is a verse on this.

Women who are devoted to gods and brahmans, who are pure, who consume a healthy, measured diet, give birth to girls of great virtue. When the opposite is true, the girls are void of virtue.<sup>377</sup>

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

This is the end of the third chapter.

<sup>377</sup> In MS Kathmandu NAK 5-333, the compounds महागुणाः and निर्गुणाः are f. pl. nom. or f. acc.; the vulgate reads masculine accusatives in both cases, “children of great virtue ...void of virtue”.

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# Śārīrasthāna 4: On the Formation of the Embryo

## Introduction

This chapter opens with sixteen passages that discuss of the seven of skins (*tvac*) and membranes (*kalā*) that form early in the fetus's life.<sup>378</sup> This system of dermal and interstitial membranes (*kalā*) was not known to the *Carakasamhitā* as such. Rather, the *Carakasamhitā* mentioned six kinds of त्वच् with different names and characteristics. These were classified not according to appearance, as in the *Suśrutasamhitā*, but mainly according to the diseases that they supported.<sup>379</sup> The concept of interstitial skins was used in the *Suśrutasamhitā* as an explanatory mechanism for the stages of snake envenomation.<sup>380</sup> The *Suśrutasamhitā*'s concept of seven skins dominates the narrative of later works.<sup>381</sup>

The chapter then moves to the description of the flow of substances in the body and the conduits through which such flow takes place, and then the formation of "organs." Zimmermann (1978a,b) long ago elegantly problematized the early twentieth-century attempts to equate Ayurvedic descriptions and models in the light of post-Vesalian European ana-

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

379 *Carakasamhitā* on 4.7.4 (Ca 1941: 337). This contradiction between the *Carakasamhitā* and the *Suśrutasamhitā* was discussed by the commentator Cakrapāṇidatta (*idem*).

380 See p. 244.

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

tomical understandings. These efforts have only grown stronger and less sophisticated with the continuing identification of Ayurvedic medicine as a component of Indian national identity. Although we use the language of “organs” in this translation, we do so advisedly. As Zimmermann (1979) also argued, in Ayurveda, as in pre-Aristotelian Greek medical thought, we have “Pathology without Anatomy.” That is to say, in Ayurveda, we have not so much anatomical descriptions of organs as individual physical objects, but rather “a conceptual system of fluids, channels and diseases: fluids and channels that symbolize organic functions, and diseases that introduce imbalance and strain.”

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002 and, in his notes, citations of the parallel passages in the *Carakasamhitā*.<sup>382</sup>

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<sup>382</sup> [HIML](#): IA, 247–249.

## Translation

- 1 Next we shall discuss the anatomical chapter on the analysis of the foetus.
- 3 Fire, and liquid (*soma*), air, *sattva*, *rajas*, and *tamas*, the five senses, the elemental self (*bhūtātman*), and the mind are the life principles (*prāṇa*).<sup>383</sup>

### The seven skins

- 4 You see, sperm and menstrual blood, maturing, get seven skins (*tvac*), for it is like the skins (*santānika*) on heated milk.<sup>384</sup>  
The first of these, called “Shining (*avabhāsinī*),” makes all colours shine and makes visible five kinds of complexion (*chāyā*). It is the size of one-eighteenth part of a rice grain.<sup>385</sup>

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

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

जडस्तु भूतात्मशब्देन न मनोऽभिधत्ते । मनोग्रहणं नाधीयते । तन्न भूतात्ममनसोर्व्यक्तभेदात् ।

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

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

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

The following characterization of these skins is longer in the vulgate text because it imports the concept of “foundations (*adhiṣṭhāna*).” This concept of skins as “foundations” is present in the *Carakasamhitā* account of six skins, which are described as being the foundations of various illnesses. See pp. 232, 131. It seems likely that the vulgate here has been supplemented with material from the *Carakasamhitā*.

385 Ḍalhaṇa on 3.4.4 (Su 1938: 350) interpreted व्रीहि “grain of rice” as being a barley corn (a standard unit of measurement).

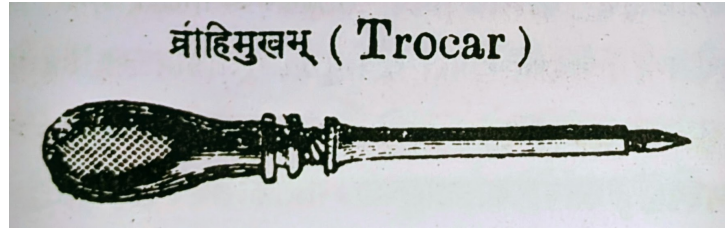


Figure 4: The *Vrīhimukha* instrument, as illustrated in [Su 1938](#): 37.

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

Using the rice-tip instrument (*vrīhimukha*), one penetrates the measure of the thickness of a thumb or a finger’s breadth (*aṅgula*).<sup>386</sup>

## The seven membranes

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

<sup>386</sup> This sentence is cited from 4.14.18 ([Su 1938](#): 461) in the chapter called *Udarāṇām cikitsitam* “On the therapy of the abdominal ailments.” The measure अङ्गुष्ठोदरप्रमाण “the size of the belly of a thumb” is विंशतितमभागोनषड्यवप्रमाणम् “one twentieth less than six barleycorns” ( $5\frac{19}{20}$ ) according to Ḍalhaṇa on 4.4.4 ([Su 1938](#): 355). Cf. *Mahākośa*: 10. The procedure described is the puncturing the abdomen and the insertion of a tube to release an abnormal buildup of fluid (ascites); it is today called paracentesis. The citation from the *Cikitsāsthāna* about piercing for ascites illustrates that the sum of the thicknesses of the above-mentioned layers corresponds to the thickness of the belly that has to be pierced.

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



- 6 There are two verses.

*Just as one sees the core (sāra) when wood is being cut, in the same way, one sees tissue (dhātu) when flesh is being cut.*<sup>387</sup>

- 7 *And experts know that the membrane (kalā) parts are hidden by sinews (snāyu) and covered by amnion (jarāyu) and also surrounded by mucus (śleṣman).*<sup>388</sup>

- 8 The first of these is called “flesh-support (māṃsadharā).”  
From it arise ever new ramifications (pratāna) in the flesh: ducts (sirā), sinews (snāyu), pipes (dhamanī), and tubes (srotas).<sup>389</sup>

- 9 On this there is the following:

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

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

- 11 On this there is the following:

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

- 12 The third one is called named fat-support (medodharā). You see, all beings have fat in the abdomen and also marrow inside the large bones.<sup>390</sup>

- 13 And there is a verse on this:

<sup>387</sup> सार may here mean “pith,” i.e., the woody core of a tree.

<sup>388</sup> The series of seven कला membranes that are described in the following passages bear a similarity to the bodily constituents रस/त्वक्-शुक्र that are described in various places in the *Suśrutasamhitā* and the *Carakasamhitā*; see discussion by Maas (2008).

<sup>389</sup> On these different conduits, see Rây, H. N. Gupta, and M. Roy 1980: 26–28; Dominik Wujastyk 2003b: xlv–xlvii; 2022: 404–406 and the descriptions by Dasgupta (1952a: 2, 344–352). The translation “pipe” for धमनी (from the धम् “blow”) is intended to suggest the primary function of transporting air; “vessel” would be an alternative translation. Adhyāyas 7 and 8 of the *Śārīrasthāna* describe the सिरा and adhyāya 9 the धमनी, with the स्रोतस् being described at the end of chapter 9.

<sup>390</sup> This view differs from that of the vulgate and Ḍalhaṇa who saw fat in smaller bones and marrow in larger ones.

*Marrow is located especially inside in the thick bones. Whereas, in all others, fat is said to occur together with blood.*<sup>391</sup>

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

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

- 16 The fifth one, which is called the feces-support (*purīṣadharā*), supports the four kinds of food that have descended from the stomach into the colon (*pakvāśaya*).<sup>392</sup> Being located in the colon, it divides up the abdominal cavity (*koṣṭha*).  
 17 There is a verse on this:

*The impurity located at the lower intestine (*uṇḍuka*) is divided by the membrane (*kalā*) called impurity-support (*maladharā*).<sup>393</sup> It is attached all around the liver and the abdominal cavity (*koṣṭha*) as well as the intestines.*<sup>394</sup>

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

392 Cf. R. P. Das 2003: 177.

393 The term उण्डुक, “intestine, caecum, rectum or anal canal,” is of uncertain interpretation. Ḍalhaṇa said that the ordinary-language term for उण्डुक was पोटलका. The *Suśrutasaṃhitā* defined उण्डुक as one of the main internal components of the body present in the trunk: “The trunk of the body comprises the places of the undigested matter, the digestive fire and the digested matter, of urine and of blood, and the of the heart, intestines (उण्डुक) and lungs” (स्थानान्यामाग्निपक्वानां मूत्रस्य रुधिरस्य च । हृदुण्डुकः फुप्फुसश्च कोष्ठ इत्यभिधीयते, *Suśrutasaṃhitā* 4.2.12–13 (Su 1938: 409)). The occurrence of उण्डुक in a list together with अन्त्राणि at *Suśrutasaṃhitā* 3.5.5 (Su 1938: 364) would suggest that the former was not just “intestines,” but this passage does not occur in the Nepalese version of the *Suśrutasaṃhitā*, so ancient thinking on this subject was evidently in flux. See further references in R. P. Das 2003: 177–178 and *Mahākośa*: 1, 109, 241.

394 Ḍalhaṇa on 3.4.17 (Su 1938: 356) discussed this passage in detail, citing Gayadāsa, Vṛddhavāgbhaṭa and Caraka. Each of these authorities had different interpretations of the passage. For reference, see the diagram of the peritoneum in Isaza-Restrepo, Martin-Saavedra, Velez-Leal, et al. 2018: fig. 3

- 18 The sixth, called bile-support (*pittadharā*), is the one that cooks (√*pac*) the fourfold items known as “eaten, drunk, chewed and licked”.<sup>395</sup>
- 19 *Whatever item eaten, drunk, chewed and licked, on reaching the innards (koṣṭha), decomposes (√*jṛ*), being dried in due time by the heat of bile.*
- 20 The seventh, called semen-bearer (*śukradharā*), is the one that pervades the whole body of all beings.<sup>396</sup>
- 21 There is a verse on this:

*The best physician regards the semen in men’s bodies just like ghee in milk or jaggery in cane-juice.*<sup>397</sup>

## Pathways in the body

- 22 The tube (*srotas*) for urine is located two finger’s breadth (*aṅgula*) to the right side, below the opening of the bladder. A man’s semen is discharged from it.<sup>398</sup>
- 24 The paths of the tubes (*srotas*) of pregnant women which carry menstrual blood become obstructed by the fetus (*garbha*). This is why pregnant women have menstrual blood, but it is not seen. Then, its downward motion being obstructed, it accumulates above the upper part and is then released into the abdomen (*udara*). The remainder arrives at an

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

396 In this case, the कला does not correspond in any obvious way to an entity identifiable in contemporary anatomy.

397 The metaphors point to the essential components in substances that are initially invisible but later produce a solid product.

398 Cf. receptacle “F” in the figure at Dominik Wujastyk 2008: 236. The vulgate text has an additional verse at this point.

even higher part; it enters into the breasts. That is why pregnant women have full, raised breasts.<sup>399</sup>

### The formation of the fetus's organs

- 25 The liver and the spleen are produced from blood.<sup>400</sup> The lung (*pup-phusa*) comes from the foam of blood.<sup>401</sup> The lower intestine (*uṇḍuka*) comes from an secretion (*kiṭṭa*) of the blood.<sup>402</sup>
- 26 And there is a verse on this.

*What is considered the best nutriment (prasāda) of blood and phlegm is cooked by bile, and also cleansed by the wind.*<sup>403</sup>

- 27–28 *A person's intestines are produced from that, as well as the rectum and bladder. In that context, the child, being stirred and heated like gold develops a tongue by which he can recognize tastes.*<sup>404</sup>
- 31 The heart originates from the pure part of blood and phlegm. It is spoken of as the seat of consciousness because of being the location of the pipes (*dhamanī*) that carry the life-breath. When it is covered by tamas, all living beings sleep.

399 R. P. Das (2003: 81–82) discussed the vulgate version of this passage, which has significant differences including the coining of the term अपरा that is not present in the Nepalese version.

400 The vulgate text has गर्भस्य “of the fetus” in this sentence.

401 For references and interpretation of पुष्फुस, see Dominik Wujastyk 2003b: 271, n. 23, 276, n. 31. Prof. Zysk noted the Greek parallel φῦσα “bellows” (Liddell and R. Scott 1901: 1700a; KEWA: 2, 307). The Greek word is not commonly used in Greek medical literature and the Sanskrit form is reduplicated.

402 On उण्डुक, see note 393 above.

403 The प्रसाद “nutriment” is one of the two components of humoral substances (or sometimes of the body tissues (*dhatu*)), the other being the मल “impurity.” See *Mahākośa*: 1, 536; R. P. Das 2003: 563 et passim. Note that blood is here treated as a humoral entity (see Meulenbeld 1991 for discussion). Ḍalhaṇa reported that the commentator Gayadāsa added the phrase “[being cooked] within the heart.”

404 The ungrammatical धाम्यमान meaning “heating, smelting” rather than “blowing” is common in alchemical literature; see Hellwig 2009: passim; Dagmar Wujastyk 2025: 327, n. 11.

The vulgate has extra verses here that extend the idea of wind as the creator of various further parts of the body.

## On sleep

- 33 But they teach that the sleep related to Viṣṇu (*vaiṣṇavī*) is injurious (*pāpman*).<sup>405</sup> By nature, this sleep caresses all living beings. In that context, when phlegm, which is dominated by tamas, reaches the pipes (*srotas*) that convey consciousness, it is the sleep called “of tamas (*tāmasī*)”.<sup>406</sup> At the time of dissolution one does not wake up from it. For those who have a lot of tamas, it happens during days as well as nights. For those who have a lot of rajas it happens for no reason.<sup>407</sup> For those who have a lot of sattva, it happens at midnight. For those who have diminished phlegm and abundant wind, it is subject to modification (*vaikārikī*) because of the damage to the mind.
- 34 And there are verses on this:

Look more  
at Dalhaṇa.

- O Suśruta, the heart is said to be the location of the consciousness for living beings. And when it is overpowered by tamas, then sleep enters living beings.*
- 35 *Tamas is said to be cause of sleep; sattva is the cause of waking. Alternatively, it is in fact nature (svabhāva) that is generally said to be the more weighty cause.*<sup>408</sup>
- 36 *The lord, as an embodied self, dreams about the experiences in earlier bodies. With his mind connected with rajas, he grasps good and bad things.*
- 37 *Since the organs are imperfect as a result of tamas, even though the embodied self is not sleeping, he is spoken of as being fast asleep.*<sup>409</sup>

405 Dalhaṇa glossed “related to Viṣṇu” as meaning divine illusion (*māyā*) (विष्णोरियं वैष्णवी मायेव ।). The allusion is to Viṣṇu’s period of sleep, although it is not known why this should be called injurious or wicked.

406 On the “pipes that convey consciousness” see references at *Mahākośa*: 1, 868. The conduit is usually a स्रोतस् (6.61.8 (Su 1938: 800)) but exceptionally a नाडी (*Suśruta-saṃhitā* 6.46.6 (Su 1938: 739)), in the context of insanity (*unmāda*).

407 Dalhaṇa glossed “for no reason” as “at any time” (अनियतकाले); that kind of sleep is called “of tamas (*tāmasī*).” ).

408 “Nature” here probably refers to the propensity of an individual.

409 “Organs,” (करण) refers to the sense organs and the mind, the “collection of the senses” as Dalhaṇa put it (Dalhaṇa on 3.4.37 (Su 1938: 359): (इन्द्रियग्राम). This and the previous verse seem to describe two kinds of sleep that an embodied person experiences: normal dreaming sleep, and a kind of waking sleep in which cognition is limited by tamas.

### Against sleeping in the daytime

- 38 Daytime sleep is prohibited during every season except in summer (*grīṣma*).<sup>410</sup> Even during the prohibited times, what is prohibited is recommended for a period of three quarters of an hour (*muhūrta*) for children, the elderly, someone with a chest injury (*kṣataksīṇa*),<sup>411</sup> people who have drunk alcohol,<sup>412</sup> women, and those who are exhausted by the action of travelling in a vehicle or on foot, those who have not eaten, and those with reduced fat, wind, phlegm and chyle.<sup>413</sup> For those who are awake at night, in fact, one may sleep during the day for half the time he was awake.

But sleeping in the day is really an abnormality. People sleeping at that time obtain demerit and also irritation of all their humours; based on this irritation they develop cough, wheezing, a cold, headache, heaviness of the head, crushing pain in the limbs (*aṅgamarda*), loss of appetite (*arocaka*) and weak digestion.<sup>414</sup> And also, in fact, for those who are awake during the night, the very same problems (*doṣa*) manifest for the same cause.

- 39 There are verses about this:

*Therefore, one should not be awake at night and should avoid sleeping during the day. Having recognized that both cause problems, the wise person should practice measured sleep.*

*In this way, a man may live intensely for a century free from disease, with a happy mind, strong and good-looking, neither too fat or too*

<sup>410</sup> On the shifting terminology of seasons in the *Suśrutasaṃhitā* see Angermeier 2022.

<sup>411</sup> The condition is the subject of *Carakasāṃhitā* 6.11 (*Ca* 1941: 478–482) and is characterised as damage to or in the chest typically caused by over-exertion, and typically presenting as cough and wasting.

<sup>412</sup> The vulgate reads “who are always drunk.”

<sup>413</sup> The list of vulnerable types, “children, the elderly, ...” is a standard formula that appears in several other locations in the *Suśrutasaṃhitā*.

<sup>414</sup> The vulgate added “fever” to this list of illnesses.

On अङ्गमर्द, “crushing pain in the limbs,” the *Mahākośa*: 1, 9 cites passages from the *Suśrutasaṃhitā* and *Carakasāṃhitā* describing pain or tingling in the limbs, as if the limbs were being rubbed, etc.

*thin, and with good fortune.*<sup>415</sup>

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<sup>415</sup> The vulgate reads वृषः “as a bull” for भृशम् “intensely,” thus introducing the idea of virility (Su 1938: 359).

Draft tr. from here 56 (

41 )

Fainting is generally predominantly caused by pitta; dizziness or vertigo arises from a combination of rajas, pitta, and vāta. Drowsiness is caused by tamas, vāta, and kapha; sleep arises from kapha and tamas.

42 Insomnia arises from vāta, pitta, mental agitation, depletion, and trauma; it subsides through appropriate opposing therapies.

43 In insomnia oil massage of the head, body rubs, powder massage of the body and gentle stroking massages are beneficial.

44 With meals consisting of preparations made from ground rice and wheat flour, prepared with sugarcane products; meals that are sweet, unctuous and enriched with milk, meat broths, and similar nourishing items.

45 At night, it would be appropriate to apply a diet with broths of burrowing animals and birds that scatter grain, as well as products with grapes, of white sugar and sugarcane preparations.

46 One should arrange soft and pleasing beds and seats. In case of sleeplessness ; however , the wise person should also employ other appropriate measures.

47 In the case of excessive sleep, emesis and other purificatory measures are beneficial (Fasting), bloodletting, and inducing mental agitation are also (appropriate).

48 For those afflicted by kapha, fat, or toxins staying awake at night is beneficial. Daytime sleep, on the other hand, is beneficial for those suffering from intense colic, hiccup, indigestion, or diarrhoea.

49 Lack of awareness in the sense objects, yawning, heaviness, and fatigue -if these symptoms appear in someone/in such case, one should diagnose that as drowsiness, which arises from an affliction of sleep.

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56 see 41

57 Indeed, the growth of the foetus is due to the essence, the qualities, and the self-nature; it also essentially depends on timely and appropriate nourishment.

58

59

60 As it is said: And sight and hair pores never grow. These are fixed for mortals - thus is the opinion of Dhanvantari.

61 Even when the body is declining), these two always grow - regarding as their nature and constitution thus: nails and hair- such is the fact.

62 There are three basic constitutions: wind, bile, and phlegm.

63 However, when there is an intense defect in the union of semen and menstrual blood, the constitution takes origin because of that; now hear from me the characteristics of these.

64 (Their characteristics are as follows): In that case, the vāta constitution is wakeful, dislikes cold, is unfortunate, and because of that ignoble, afflicted with head diseases/headaches and impaired vision; with cracked hands and feet, dry and scanty hair/baldness, sparse beard, quick-tempered, a tooth-gnasher, weak in strength, and short-lived.

65 He is unsteady, with unstable friendships, ungrateful, thin and rough, with prominent veins, and talkative; quick in movement, noisy, (with the mind) in the air, and while asleep, he moves in confusion.

66 Unstable in intellect, restless in mind, having little in the way of teeth, wealth, possessions, and friends; he speaks only scarcely and incoherently- this (is) a man of vāta constitution.

67

68 The pitta-natured person, however, is sweating, tolerant of cold, foul-smelling, yellow (in complexion), or dark; having

loose limbs, copper-coloured nails, eyes, palate/uvula?, tongue, lips, soles, palms, and palate; unfortunate, with wrinkles and early grey hair, of loose bowels, with much hunger but hating much heat, quick to anger, quick to be pleased, and has a medium lifespan.

- 69 Intelligent, with a skilled mind, a restrained speaker, radiant in assemblies, and possessing irresistible power; when asleep, he would behold the golden filaments of the palāśa blossom and even the lightning-flash of fire.
- 70 He should not bow to others out of fear, but be gentle to those who bow to him; and if he shows no liking for friendly courtesies to those who bow, then here in this world he will always have agitated speech, for his nature in this world will be one produced by pitta.
- 71 A person of phlegmatic constitution is characterized by a complexion resembling dūrvā grass, vedi, sword blade, moist clay, ariṣṭa wood, sugarcane (or reed) stalk -any one of these shades. Such a person is fortunate, pleasant to look at, and fond of sweet things. He is grateful, steadfast, patient, not greedy, strong, deliberate in grasping things, firm in enmity, and long-lived.
- 73 He has a smooth, unctuous body; a firm, well-proportioned, and beautiful frame; he is endowed with prosperity; his voice (resembles the deep sound of) a cloud, a drum, or a lion. When asleep, he may see in dreams lotuses, swans, and ruddy geese, and also delightful bodies of water.
- 74
- 75 A person of kapha constitution has a firm grasp of the sciences, a stable mind friendship, and after long consideration gives much (in gifts). His speech and words are well-finished and deliberate and he is always showing respect to his teachers.
- 76
- 77 When, in a person's constitution, the characteristics of two doṣas are seen, that should be recognized as a combined constitution. There are three kinds- [those involving] the accumulations (of two doṣas).
- 78 No aggravation, alteration, or depletion arises from other

- causes; rather, by the very nature of their constitutions), they know the end of life is known.
- 79 Just as a worm born in poison is not harmed by the poison, in the same way, the body is not afflicted by its own constitution because it was born from it.
- 80 Here, some say that the material nature of men is threefold, described in terms of wind, fire, and water. If a man's body is steady and large, he is (of) the earth-nature, patient in disposition. And one of the ether element is pure and long-lived - so declare the great authorities.
- 81 Purity, faith, study in the Vedas, reverence for the teacher, hospitality, and sacrificial worship - these are the characteristics of one belonging to the « brahma-body ».
- 82 Valour, authority, great fortune, perpetual knowledge of the scriptures, and the maintenance of servants - these truly are the bodily marks of one of Indra-like nature).
- 83 Patience, fondness for cold, a tawny/brownish complexion, blond, having yellow/tawny hair, and fondness for water - these are likewise the bodily marks of a of Varuṇa-nature.
- 84 Neutrality, patience, the acquisition and accumulation of wealth, and great productive power - these are the bodily marks of one of Kubera-nature.
- 85 Fondness for perfumes and garlands and love for dance and music, and a habit of amusement- these are indeed the bodily marks of a Gandharva-nature.
- 86 One who fulfills undertakings, is firm in effort , steadfast, endowed with memory, pure, free from attachment, aversion, fear, and ignorance - such a person possesses the nature of Yama.
- 87 Let men know (that) the man engaged in chanting the vow of celibacy, performing fire rituals and study endowed with knowledge and wisdom, possessing the nature of a sage.
- 88 These seven are the pure bodies the passionate ones, know for me: the powerful, the fierce, the brave , the cruel, and the non-envious.
- 89 But eating alone, being conditioned and of an asuric nature, is of this sort of character: exclusive adherence (to one's own view), cruelty, envy, and speech of unrighteousness.

- 90 cf. *infra*
- 91 cf. *infra*
- 92 Excessive self-praise is also *ca api* a bodily characteristic of the *rakṣasa* nature; likewise, disregard for proper conduct, harshness, and fondness for violence.
- 93 Lust for women, shamelessness- a demonic collection of qualities, harshness, restlessness through toil, quickness to anger, and cowardliness.
- 90 (cf. *supra*?)  
(A man) given to pleasure and food, fickle, and of snake-like nature - they consider such a man to be ungenerous, lazy, of bad character, and untrustworthy.
- 94 They consider a greedy and ungenerous man to have the nature of a ghost.
- 91 (cf. *supra*?)  
One whose desires are awakened, or who avoids enjoyment, who constantly eats, and who indeed (is) intolerant, has no fixed abode- this is called a bird-like nature. These six are *Rājasic* traits; but now learn from me about the *Tamas*-type.
- 95 Poor understanding, slowness, excessive sleep, habitual indulgence in sex, incapacity (to take an initiative), and sorrows - these are to be recognized as beastly qualities.
- 96 Instability, foolishness, cowardice, fondness for water, and mutual jostling - these are qualities entirely fish-like in nature.
- 97 Lacking spirit and strength of limb, devoted solely to food, without cherished aims or desires - that would be a man with the nature of a tree).
- 98 Thus these threefold constitutions, beginning with the *rājasic* and subsequently as discussed, have been described. Having recognized one's bodily constitution, one should act accordingly, so it is said.
- 99 Thus ends the *Śārīra*, the fourth chapter.

# Śārīrasthāna 9: An Analysis of the Pipes

## Introduction

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

## Function

There is also the interesting question of what it is that was actually considered to be flowing in these vessels. The *sirā* vessels most often carry blood, and “blood-letting” is often called “piercing the *sirās*.” The *dhamanī* vessels most often conduct wind (Skt. *√dham*, “blow”), an idea strongly reminiscent of the classical Greek doctrine of Praxagoras of Cos (fl. ca. 300 BCE), whose *pneuma*-carrying arteries started in the heart

and spread out into tubular *neura* that dwindled into nerves.<sup>416</sup> But all the Ayurvedic vessels seem also to transport other substances, including humours, waste products, sensations, and perceptions.<sup>417</sup> In āyurveda (as opposed to tantra or yoga), the *nāḍī* vessels are primarily discussed as the locus of the pulse, though what it is that pulses is not made explicit. In one case Vāgbhaṭa used *nāḍī* to refer to the windpipe. Faced with the word *snāyu*, one is virtually obliged to use its English cognate term “sinew.” But the *snāyus* seem sometimes to refer to what are today called nerves rather than to sinews or tendons, and indeed this is the primary meaning of the cognate term that has evolved in several contemporary Indian languages. The word *kaṇḍarā* more unambiguously refers to tendons.

### Terminology

I have chosen to use neutral terms like “pipe,” “tube,” “duct,” and “sinew” to translate some of the above terms, thus retaining the original distinctions but avoiding an inappropriate and a-historical identification with the anatomical distinctions developed especially since the discoveries of William Harvey (1578–1657).<sup>418</sup>

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

### Fluids and Their Conduits

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

These fluids are transported from place to place by three principle types of conduit: ducts (*sirā*), pipes (*dhamanī*), and tubes (*srotas*) described above. Given the importance of this system of fluid distribution to the Āyurvedic physiology, surprisingly little work has been done

416 Steckerl 1958: 17–19, 49–53; Phillips 1973: 137; Walshe 2016: 137–159 et passim.

417 Dasgupta (1952–61: 344–52) provided a clear account of this topic.

418 Kutumbiah (1962: 27–29) presented a thoughtful and perceptive discussion of this topic with sensitivity to its medical-historical context.

on clarifying what these conduits do, and how they are explained in āyurvedic theory.<sup>419</sup>

This lack of interest in the fluid mechanics of the anatomy is not-Surendranath Dasgupta new. Early Chinese and Japanese medical books abound in diagrams of the body carrying lines illustrating channels of *chi*, but no Indian book or manuscript to my knowledge shows maps of the medical ducts, pipes, or tubes. In fact, medical illustration does not become established as a tradition in India until relatively recently, only getting underway seriously with the production of Sanskrit and vernacular medical printed texts in the second half of the nineteenth century.<sup>420</sup> And that initiative too, being inspired and influenced by Western anatomy, largely ignores the traditional conduits of the āyurvedic body.<sup>421</sup>

## Ducts

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

As a garden or a field is irrigated by water-carrying canals, and each part receives nourishment, so the ducts provide nutrition to the body by means of their contraction and dilation. Their branches are just like the veins on a leaf.<sup>422</sup>

A point of special interest is that the ducts are coloured according to what they carry: those carrying wind are yellowish brown (*aruṇa*), those carrying bile are dark blue, those carrying phlegm are white, and those carrying blood are red.<sup>423</sup> It seems likely that these distinctions are based on the observation of different-coloured vessels under the surface of the skin. In yet

419 Exceptions include Dasgupta (1952–61: ii.13) and Kutumbiah (1962: ch. 2), who both invested effort to visualize and describe the āyurvedic bodily conduits.

420 Dominik Wujastyk 2008.

421 Lust 2018; Birch 2024.

422 *Suśrutasamhitā* 3.7.3 (Su 1938: 376).

423 Ibid., 3.7.18 (Su 1938: 377).

another simile, Suśruta likens the distribution of these ducts from the umbilical centre through the body to the spokes radiating from the centre of a wheel.<sup>424</sup>

## Pipes

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

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

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

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

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

<sup>424</sup> Ibid., 3.7.5 (Su 1938: 376).



intestines and function in defecation. The remaining eight pipes supply sweat to the horizontal pipes.

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

### Tubes

According to the vulgate text of the *Suśrutasamhitā*, there are initially twenty-two tubes (*srotas*) in the body, two for each of eleven substances.<sup>425</sup> Two of the tubes (*srotas*) carry breath (*prāṇa*), and are joined to the heart and the pipes (*dhamanī*) which carry nutritive juice. Two more carry food, and are joined to the food-carrying pipes and the stomach. Two carry water and are joined to the palate and the lung (*kloman*). Two carry nutritive juice and are joined to the same places as those carrying breath. Two carry blood, and are joined to the liver, the spleen, and the pipes which carry blood. Two carry flesh, and are joined to the ligaments, skin, and pipes which carry blood. Two carry fat and are joined to the waist (*kaṭī*) and the kidneys. Two carry urine and are joined to the bladder and penis. Two carry faeces and are joined to the receptacle of digested food and the rectum. Two carry semen and are joined to the breasts and testicles. Two carry menstrual blood and are joined to the womb and the pipes which carry menstrual blood. (There is no suggestion that these last pairs are specific to either gender.)

The *Carakasamhitā* adds three more categories of tube: two carrying bone, two carrying marrow (completing the set of seven basic body elements (*dhatu*)), and two carrying sweat.<sup>426</sup> It omits menstrual blood. The *Carakasamhitā*'s description of the various roots of the tubes is different in small details from the *Suśrutasamhitā*'s, and it also asserts that the humours wind, bile, and phlegm are carried in them indiscriminately and all over the body.<sup>427</sup>

<sup>425</sup> *Suśrutasamhitā* 3.9.12–13 (*Su* 1938: 386–387); cf. *Carakasamhitā* 3.5 (*Ca* 1941: 249–252).

<sup>426</sup> On the variability of the lists of body elements, see Maas 2008: §4 et passim.

<sup>427</sup> *Ca*.vi.5.

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

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

The *Suśrutasamhitā* recorded the existence of an ancient disagreement amongst physicians as to whether the pipes, ducts and tubes are really separate types of vessel, and in particular whether there is a significant difference between pipes (*dhamanī*) and tubes (*srotas*). As the text argued, there is indeed a difference between these three types of vessel: they look different, they have different connections, and they have different functions. The authoritative tradition of medical science also asserts their difference. It is merely because of their close proximity, similarity, and small size that they are conflated. The *Carakasamhitā* also testified to contemporary debates about the nature of these vessels; it recorded – and rejected – an extreme view that the human body consists only of a conglomeration of tubes.

Conduits such as the ducts grow in the flesh just like lotus roots located in muddy water grow in all directions in the ground.<sup>428</sup>

From the heart it enters the twenty-four pipes (*dhamanī*). Ten go up, ten go down, and four are horizontal. Then, through an invisible agency, it nourishes the whole body, day in, day out, making it grow, holding it up, and making it go. One can mark its passage as it courses through the body by inference based on whether diseases are caused by diminution or by superfluity. This nutritive juice (*rasa*) courses through all parts of the body, through the humours, body tissues, impurities, and organs.<sup>429</sup>

## Literature

Meulenbeld (HIML: 1A, 258–259) summarized this chapter of the *Suśrutasamhitā* and documented the relevant research literature to 2002. On these different conduits, see further Kutumbiah 1962: 23–29 and

<sup>428</sup> *Suśrutasamhitā* 3.4.9 (Su 1938: 356).

<sup>429</sup> *Suśrutasamhitā* 1.14.3 (Su 1938: 59).

tables; Rây, H. N. Gupta, and M. Roy 1980: 26–28; Dominik Wujastyk 2003b: xlvī–xlvii; 2022: 404–406 and the admirably clear description by Dasgupta (1952a: 2, 344–352).

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## Translation

### On the pipes in the body

- 1 Next, we shall discuss the analysis of the pipes (*dhamanī*).
- 3 There are twenty-four pipes. And they originate from the navel.  
Regarding that, some teachers have said that there is no difference between ducts (*sirā*), pipes (*dhamanī*) and tubes (*srotas*), because pipes and tubes are just types of duct. But here, it is said that that is not correct. Pipes, tubes and ducts are quite different. Why? Because of the difference in their colours, in their connections to their roots, because of their divergent functions, and because of traditional doctrine. Their distinct functions only appear to have no functional difference because of the close proximity of their mutual ramifications, the similarity of their functions, and their smallness.
- 4 Those vessels originate in the navel, you see. Ten of them go up, ten go down, and four go horizontally.

### Pipes that go up

- 5 You see, the ones that go up support the body, conveying particular things like sound, touch, visible form, taste, smell, exhalation, inhalation, vision, sneezing, yawning, laughter, speaking, crying and so on. But when they near the heart, they become three by three. There are thirty. Ten of them carry two each of wind, bile, phlegm, blood and chyle. He grasps sound, touch visual form, taste and smell by means of eight. He speaks by means of two; he makes sound by means of two.<sup>430</sup> By means of two, he sleeps, by means of two he wakes up. Two carry blood; two connected to the breasts carry womens' breastmilk.<sup>431</sup> Two carry the semen of a man from the two breasts.  
Thus, these thirty, counting their subdivisions, have been described. They hold up and sustain the parts above the navel, i.e., the belly, flanks

430 Ḍalhana on 3.9.5 (Su 1938: 384) described "making a sound" as the production of an indistinct sound, as opposed to fully-articulated speech.

431 अस्र "blood" can also mean tears, and this is the interpretation of the vulgate. But the anatomy of women's milk and menstruation suggests "blood." Ḍalhana did not comment.

and back, the shoulders, neck head and arms.<sup>432</sup>

- 11 And there is a verse about this:<sup>433</sup>

*The five primary elements (adhibhūta), becoming five, bring into existence the five senses in five ways. After bringing the five senses into existence in five ways, they dissolve into five items at the time of death.*

### Pipes that go down

- 7 The ones that go downwards convey wind, urine, feces, semen and menstrual blood. They arrive at the gall bladder (*pittāśaya*). Then, separating out the essence of food and drink that is located there and has been matured by heat, they provide nourishment to those that go upwards and to the ones that go sideways, and they fill up the locations of the chyle (*rasa*).<sup>434</sup>

Every pair of these carry wind, bile, phlegm and chyle.<sup>435</sup> There are ten of these. Two of them convey food. Attached to the intestines, two water-carrying ones each connect to the urinary bladder. And two are for making semen appear. In this manner, two of them carry blood. For women, two of them are defined as being for menstrual fluid. Two are connected to the large intestine for expelling feces. Another eight horizontal ones deliver sweat.

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

- 8 And there is a verse on this:

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

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

433 In the vulgate, this verse appears near the end of the chapter, before the description of स्रोतस्.

434 Ḍalhaṇa on 3.9.7 (Su 1938: 385) glossed "the locations of the रस as "the heart."

435 Or "The fluids wind, bile and phlegm."

### Pipes that go horizontally

- 9 Each one of the four horizontally-moving ones is split one hundred times and a thousand times. And these are innumerable. They bind and stretch this lattice-like (*gavākṣita*) body. With their openings being connected to the pores, they allow sweat to flow out and chyle (*rasa*) to bring in refreshment internally and externally. They cause the powers (*vīrya*) of anointment, showering, bathing, and lotions, being matured on the skin, to be conveyed to the interior of body. It is these, in fact, that give one the experience of touch, whether pleasant or unpleasant. These four pipes that reach every part of the body, with their subdivisions, have been explained.
- 9.add And there are two verses on this:

*All these pipes are interconnected like the senses. Whether waking or sleeping they convey in the realm of the senses.*<sup>436</sup>

- 10 *They have openings through which chyle (*rasa*) is accumulated, just like the naturally-occurring holes in lotus stalks and fibres.*<sup>437</sup>

### On the tubes in the body

- 12 From this point on we shall explain the root of the tubes (*srotas*) that are defined for piercing.<sup>438</sup> They are the ones responsible for carrying breath, food, water, chyle, blood, meat, fat, urine, feces, semen and menstrual blood.<sup>439</sup> Their particulars are many.<sup>440</sup>

436 The meaning of this verse is not perfectly clear. The verse is not present in the vulgate version of the text and the readings of some parts of the text in witness H are not certain.

437 The subsequent verse 3.9.11 in the vulgate appears earlier in this chapter in the Nepalese version.

438 The vulgate and the Nepalese version differ significantly on this topic. See Table 4.

439 It is notable that this list does not include mind (*manas*), which is elsewhere said to be transported by these tubes (e.g., see 139).

440 Ḍalhaṇa explained that the descriptions of the consequences of piercing these tubes that is given in the following passages are diagnostic because the roots of these the tubes are thick and the results of piercing are the only think that distinguishes treatable from untreatable conditions (मूलस्य स्थूलत्वेन तद्विद्वलक्षणस्यैव साध्यासाध्यपरिच्छेदकत्वात्तद्विद्वलक्षणव्याख्यानमेव प्रतिज्ञातम् ।, Ḍalhaṇa on 3.4.12 (Su 1938: 386)). He also noted that the appearance of these tubes should be understood from “another treatise” by

	Nepalese	vulgate
breath		<i>prāṇa</i>
food		<i>anna</i>
water	<i>udaka</i>	<i>udaka</i>
chyle		<i>rasa</i>
blood	<i>rakta</i>	<i>rakta</i>
flesh	<i>māṃsa</i>	<i>māṃsa</i>
fat	<i>medas</i>	<i>medas</i>
urine	<i>mūtra</i>	<i>mūtra</i>
feces	<i>purīṣa</i>	<i>purīṣa</i>
semen	<i>śukra</i>	<i>śukra</i>
menstrual blood		<i>ārtava</i>

Table 4: Contents of tubes.

- Two of these carry breath.<sup>441</sup> They have their root in the heart and the pipes (*dhamanī*) that carry chyle (*rasa*). Someone who is pierced there experiences screaming, convulsions, and dizziness as well as unconsciousness and death.
- There are two that carry water (*udaka*).<sup>442</sup> They have their root in the stomach (*āmāśaya*) and the pipes (*dhamanī*) that convey food. Someone pierced there dies, just like someone pierced in one that conveys breath, and with the same symptoms.
- Two of these carry blood . They have their root in the liver and the spleen. The limbs of someone pierced there become dark and they have fever, pallor, a burning feeling and bleeding.
- Two of these carry flesh (*māṃsa*). They have their root in the vessels (*nāḍī*) that carry sinews (*snāyu*), skin, and blood.<sup>443</sup> Someone pierced there gets swelling, a withering of the flesh, knots in the

which he meant the *Carakasamhitā*, which he quoted explicitly (*Carakasamhitā* 3.5.25 (Ca 1941: 252)).

441 This sentence is not present in the Nepalese version. Perhaps this is an old eye-skip because of the repetitive sentence structure of these passages. The vulgate reads तयोर्प्राणवहे द्वे “two of these vessels carry breath,” at this point and the Nepalese edition has been emended to read with the vulgate here.

442 The vulgate reads “food” for “water,” which seems logical given the next sentence.

443 It is unexpected to see the term नाडी in such a context, since it is rare and not a well-defined term in Ayurvedic physiology; the vulgate instead reads धमनी. The term नाडी entered Ayurvedic discourse mainly in the context of pulse diagnosis, which was introduced in the fourteenth century by the author Śārṅgadhara.

ducts (*sirā*) and dies.

- Two of these carry fat (*medas*). They have their root in the buttocks (*kaṭī*) and the kidneys. Someone pierced there gets sweaty, has an oily body and a dry palate.
- Two of these carry urine (*mūtra*). They have their root in the bladder (*basti*) and the penis. Someone pierced there develops a blocked bladder as well as urinary blockage and a paralyzed penis.<sup>444</sup>
- Two of these carry feces. They have their root in the intestine and in the anus. Someone pierced there has constipation, a bad smell and knotted entrails.
- Two of these carry semen. They have their root in the breasts and in the testicles. Someone pierced there is impotent (*klaibya*), or else ejaculates only after a long time or, when he does ejaculate, little semen appears, pain can arise because of the cutting of the raphe (*sevanī*), and there can be death.<sup>445</sup>

One should treat a pierced tube only after trying to avoid it. One should then treat the extracted foreign object (*śalya*) according to the protocols for wounds.

13.add1, 13.add2 There are two verses:

*Someone who does not have certain knowledge like this about the roots of the tubes becomes very dangerous and does not succeed in his treatments.*

*Someone who knows this thoroughly will be honoured by the king. The opinion of Dhanvantari is that such a one is worthy of honour amongst physicians.*

Here ends the ninth chapter of the Anatomy, on the analysis of the pipes (*dhamanī*).

444 स्तब्ध “paralyzed” could also be “numb” or “stiff.”

445 At this point, the vulgate includes a symmetrical passage about two tubes for menstrual blood, rooted in the womb and the pipes that carry menstrual blood, whose piercing can lead to barrenness or the inability to tolerate intercourse.



## **Part 4. Cikitsāsthāna**

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# Cikitsāsthāna 4: On the Treatment of Wind Diseases

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>446</sup>

## Translation

- 1 Now we shall describe the treatment of wind diseases.  
weight
- 3 When the wind enters the stomach, one should sequentially give to the patient, **who has vomited**, the formulation (*yoga*) with six-units (*ṣaḍ-dharaṇa*), together with tepid water, for seven nights.<sup>447</sup>

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446 [HIML](#): IA, 265–266.

447 The vulgate has the reading छर्दयित्वा which means “after making [him] vomit”. Thus, vomiting is a part of the treatment. Whereas छर्दित in the H manuscript is ambiguous: vomiting may be part of the treatment or a symptom of the ailment. The expression “six units” refers to the six ingredients listed in the next passage. Ḍalhaṇa on 4.4.3 ([Su 1938](#): 420) noted that धरण in this context means a particular weight characterized as equivalent to 21 medium-sized [hyacinth beans](#). P. V. Sharma (1999–2001: 303) proposed that that the formulation contains six ingredients each the weight of a *dharaṇa*. See 4.31.7 ([Su 1938](#): 508) where the term धरण is defined in terms of other weights. (In epigraphical Sanskrit, a धरण may be a silver or gold coin ([Sircar 1966](#): 91).)

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

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

- 4 “Six-unit” is traditionally the formulation that is [leadwort](#), [Indrajao](#), [velvet-leaf](#), [kutki](#), [Indian aconite](#), and [myrobalan](#). It cures serious diseases.
- 5 When the wind has entered the abdomen (*pakvāśa*) one should treat it with an oil purge. One should also treat it with cleansing enemas and very salty foods.
- 6 When the wind has entered the bladder, a cleansing enema method should be carried out. And once an inflamed wind is in the ears and the like, a procedure that destroys wind should be done.
- 7 When the wind has reached the skin, flesh, and [blood](#), one should do an oil rub (*abhyāṅga*), apply a poultice (*upanāha*), rubbing (*mardana*) and ointments (*ālepana*). One should also perform blood-letting.<sup>448</sup>
- 8 When the wind has got into the ligaments, joints, and bones, an expert should apply oleation (*sneha*), a poultice (*upanāha*), cauterization (*agnikarma*), binding, and rubbing (*unmardana*).
- 9 When the wind is deep within the bone, then a strong physician should insert a tube (*nāḍī*) into the bone, which has been split open by manual agitation (*pāṇimantha*), and suck out the wind.<sup>449</sup>
- 10ab When the wind has reached the semen, one should perform the treatment for the defects of the semen.<sup>450</sup>
- 10cd–11 When the wind has reached the whole body, an intelligent person should conquer it by means of immersion, sauna (*kuṭī*), trench sweating (*karṣū*), blanket sweating (*prastara*), oil massage, enema, and blood-letting.<sup>451</sup> Or, if is located in a single limb and is stuck there, a

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

449 Although gramatically the expression “which is split” could be construed with “wind,” it has to be understood here as referring to the bone. The word order is not obvious. Ḍalhaṇa on 4.4.9 (Su 1938: 420) interpreted पाणिमन्थ as the name of a particular awl and described the bone being pierced by this awl so that a double-headed tube can be inserted into the resulting opening.

This verse is in *na vipulā* metre.

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

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

Regarding blood-letting, Ḍalhaṇa on 4.4.11 (Su 1938: 421) commented that because

- thoughtful physician may conquer it with cow-horns.<sup>452</sup>
- 12 Or, if it is mingled with phlegm (*balāsa*), bile, and blood, the physician should treat it with remedies that are compatible (*avirodhin*).<sup>453</sup> However, when the wind is inactive, he should perform blood-letting many times.<sup>454</sup>
- 13 And one should lick the milk cooked in the lesser five roots together with salt and soot from the chimney (*āgāradhūma*), mixed with oil and also a juice (*rasa*) that has the sourness of a fruit.<sup>455</sup>
- 14–16ab Alternatively, cereal soup with a good amount of ghee is a wholesome food that repels wind. However, a *śālvala* poultice is famous as being a lukewarm and very salty substance made of the cottony jujube group combined with an item that repels wind and together with all the sour drugs and the meat of creatures from marshes and water that have all the oils.<sup>456</sup> One should always apply a bandage with that to people who are ill with wind.
- 16cd–18ab One should tightly bind someone who is bent, afflicted by pain, or whose limbs are numb (*stabdha*), with a strip of cloth (*paṭṭa*) made of bark, cotton or wool (*ūrṇa*).  
Alternatively, after massaging the affected body part and applying the

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

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

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

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

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

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

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

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

- śālvala poultice on it, one should insert it into a sack made of the hide of a [cat](#), [mongoose](#), or [otter](#), or else of [deer](#).<sup>457</sup>
- 18cd–19 Vomiting and an errhine done skilfully alleviate the wind that has entered the chest, between the shoulder-blades (*trika*), the shoulders, or the nape of the neck.<sup>458</sup> The wind located in the head is defeated by blood-letting and by the application of oil to the head (*śirobasti*).
- 20–21ab In that context, one should let the oil remain carefully for one thousand measures (*mātrā*).<sup>459</sup> Only an enema (*basti*) can curtail the wind, whether it is throughout the whole body or in just one limb. Its force (*vega*) is like the wind.<sup>460</sup>
- 21cd–26 Oils, perspiration, oil massage, enema, unctuous purging of the bowels, *śirobasti*, oiling the head, unctuous smoke, gargling with lukewarm water, errhines, an oily paste (*kalka*), milks, meats,<sup>461</sup> soups, oils,<sup>462</sup> any unctuous substance, unctuous and salty meals that are made sour by fruits, bathing with lukewarm water, massages, saffron, [agarwood](#), [malabathrum](#), [costus](#), [cardamom](#), [crape jasmine](#), garments made of silk, wool, and fur, soft cotton garments, inner rooms with sunlight, no wind flow, and a soft bed, taking the warmth of fire, and celibacy, etc., are to be collectively employed for patients with wind diseases.
- 27 One should take 12 grams each of pastes (*kalka*) of [turpeth](#), [red physic nut](#), [clove bean](#), [gamboge](#), [the three myrobalans](#), and [embelia](#), with 48 grams of [viburnum-root](#) and [kumkum tree](#), and six kilos of the juice of [the three myrobalans](#) and curds and three kilos of ghee.<sup>463</sup> One should

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

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

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

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

461 The plural indicates milk and meat from various animals.

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

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

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

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

- 28 Take wood that has been used in instruments for grinding sesame seeds. Chop those that have been used to grind the sesame seeds for a long time into tiny pieces. Next, crush them, put them into a large pot of water and make them into a paste. Then, collect the oil from the surface of the water, either with a cup or by hand, and cook it into a admixture (*prativāpa*) that has herbs that destroy wind added to it, following the *snehapāka* (oil-cooking) method.<sup>464</sup> This is the fine oil (*aṇutaila*) that is mentioned in wind disorders. It is called fine oil (*aṇutaila*) because it is produced from ingredients of fine (*aṇu*) oil.
- 29 Alternatively, one should burn a patch of ground using many sticks of wood belonging to the *the greater five roots*. After one night, when the fire has gone out, the ash should be removed. Then, when the earth has been extinguished, it should be soaked with a hundred pots of sesame oil cooked with herbs like *beggarweed*. It should be left in that condition for one night.<sup>465</sup> Next, one should put all the earth that is oily in water and then pour it into a large cauldron. The oil that rises to the surface should be taken out with both hands and stored in a private place. Next, one should thoroughly cook that oil a thousand times for as long as possible with a thousand parts of a decoction of wind-alleviating herbs, meat soup, milk, and *mangosteen*.<sup>466</sup> An admixture (*prativāpa*)

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

464 This special method of preparing oil in three grades is described at *Suśrutasaṃhitā* 4.31.11 (Su 1938: 509). See also *Mahākośa*: 1, 944.

465 Meulenbeld (HIML: 1B, 104, n.123) noted that the *Carakasamhitā* 6.26.23, 74 (Ca 1941: 598, 602) stated that the group starting with *beggarweed* (विदारिगन्ध्या) is the same as the हृस्वपञ्चमूल or the स्थिरादि groups.

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

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

is added to the oil containing the Himalayan herbs (*haimavata*), herbs of the southern region, *Withania*, and other herbs that reduce wind.<sup>467</sup> While the oil is being cooked, one should blow conch shells loudly, open umbrellas, beat kettle drums and wave chowries. Then, when the oil is perfectly cooked, it should be removed from the heat and poured into a golden or silver pot and stored. This thousand-cooking (*sahasrapāka*) oil has irresistible potency and is fit for kings.

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

- 30 One should collect fresh leaves of *castor oil tree*, *Malabar nut*, *weaver’s beam tree*, *Indian beech*, *Indian spinach*, and *leadwort*. These leaves should be thoroughly pounded along with salt in a mortar. This mixture should be put in a oil pot which is smeared with cow-dung and then heated. This “leaf-salt (*patralavaṇa*)” is indicated for wind disorders.
- 31 In the same way, one should pound the stalks of *oleander spurge*, *eggplant*, and salt and throw ghee, oil, fat, and marrow into a pot full of that.<sup>468</sup> Then, one should smear it and heat it as before.<sup>469</sup> This is the fat-salt (*sneha-lavaṇa*) that is indicated for wind disorders.
- 32 One should collect the fresh fruits, roots, leaves, and branches of this group of twenty: *silky Dalbergia*, *flame-of-the-forest*, *Tellicherry bark*, *Bengal quince*, *purple calotropis*, *oleander spurge*, *prickly chaff-flower*, *weaver’s beam tree*, *corky coral tree*, *marsh barbel*, *horseradish tree*, *burflower tree*, *rajmahal hemp*, *Malabar nut*, *Indian beech*, *Indian spinach*, *hairy-fruited eggplant*, *yellow-berried nightshade*, *marking-nut tree*, *Asoka tree*, and *headache tree*.<sup>470</sup> Then mix them with salt and heat them as previously. Then liquefy them using the alkali method and cook them.<sup>471</sup> And in this case, the additive (*prativāpa*) is the *long pepper* group.<sup>472</sup>

467 Ḍalhaṇa on 4.4.29 (Su 1938: 423) commented that हैमवता: refers to the herbs that grow in the northern region. But the term can also be a more specific taxon, i.e., *sweet flag and white clitoria*.

468 The syntax here is not perfectly clear.

469 As previously, the pot should be smeared with cow-dung.

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

471 Methods of preparing alkalis are described in *Suśrutasaṃhitā* 1.11 (Su 1938: 45–50). Cf. Ḍalhaṇa on 6.42.40–44, 58.46 (Su 1938: 720, 790) et passim.

472 The *long pepper* group is described at *Suśrutasaṃhitā* 1.38.22–23 (Su 1938: 166). It is



This salt is called the The Efficacious (*kalyāṇaka*). When there is wind disease, it is recommended in drink and food for those afflicted by enlarged spleen (*plīhan*), sluggish digestive fire (*agnisaṅga*), indigestion (*ajīrṇa*), loss of appetite (*arocaka*), haemorrhoids (*arśas*).<sup>473</sup>

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

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

473 Most of these ailments are listed at *Suśrutasaṃhitā* 1.11.8 (Su 1938: 46) as conditions treatable with internal alkali preparations.



# Cikitsāsthāna 5: On the Treatment of Great Wind Diseases

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>474</sup>

## Translation

### Wind-afflicted blood

- 1 Now we shall describe the treatment of great wind diseases.
- 3 Some people say that there are two kinds of wind-afflicted blood (*vātarakta*), the superficial (*uttāna*) and deep (*avagāḍha*).<sup>475</sup> However, this is not correct.  
Why?  
It is like pallid skin disease (*kuṣṭha*): having been superficial, it becomes deep after an interval of time. Therefore counting it as two things is rejected.
- 4 In this regard, it brings about pains that are caused by wind-afflicted blood (*vātaśonita*).

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<sup>474</sup> HIML: IA, 266.

<sup>475</sup> On wind-afflicted blood (*vātarakta*), see the discussion at 81.

Ḍalhana commented (*Su* 1938: 424) that उत्तान refers to being situated in the skin and flesh, and अवगाढ refers to being situated internally.

The view referred to can be found at *Carakasamhitā* 1.19.3 (*Ca* 1941: 109–110) and 6.29.19 (*Ca* 1941: 628). See the contextual discussion by Emmerick (1984: 101).

The wind of someone who habitually eats too much, and heavy, hot food, gets irritated by specific things like conflicts with strong people.<sup>476</sup> The wind's path is obstructed by corrupted blood that suddenly unites with it and causes pains that are triggered by blood with wind in it. Experts refer to that as "wind-afflicted blood (*vātaśonita*)."<sup>477</sup> It initially establishes itself in the hands and feet. Then it spreads throughout the body. Its preliminary symptoms are pricking, burning, itching, swelling, stiffness, rough skin, throbbing of the ducts, sinews and pipes, and weakness of the thigh. There is also the chance appearance of brown and red round patches (*maṇḍala*) that arise on the soles of the feet, fingers, ankles and wrists. This disease fully manifests in people who do not have treatment and who do not behave as they should.<sup>478</sup>

Its characteristics have been stated. In the case of any of these, those who do not take precautions develop disability.

- 5 Wind-blood most commonly gets irritated in those who are very delicate, those who have wrong diet and activity, those who are corpulent, and those who live in comfort.<sup>478</sup>
- 6 In such a case, one should treat a patient if he is strong, self-possessed, and well-resourced, as long as he is not being worn down (*avaśṛṇ*) by breathlessness, thirst, fever, fainting, dyspnea, stiffness, or loss of interest in food (*arocaka*), and not secondarily afflicted by cramps (*saṅkoca*).<sup>479</sup>

476 Ḍalhaṇa on 4.5.4 (Su 1938: 424) noted that "conflicts with powerful people, etc." were listed in the *Vraṇapraśna* chapter (*Suśrutasaṃhitā* 1.21); see *Suśrutasaṃhitā* 1.21.19 (Su 1938: 103). A long list of wind-irritants is given in that passage. Ḍalhaṇa on 1.15.32 (Su 1938: 73), *et passim*, glossed अध्यशन not as "overeating" but as "eating when previous food is not yet digested."

477 This specific type of "treatment" (*pratisāra*) is described as being of four types at *Suśrutasaṃhitā* 4.40.69 (Su 1938: 558), i.e., paste, linctus, honey and powder (*Mahākośa*: 1, 527).

478 This same passage occurs in 2.1.40 (Su 1938: 263), where Ḍalhaṇa questioned its appropriateness given its repeated occurrence here. See footnotes 199 and 201 (pages 81 and 82).

479 On secondary afflictions (*upadrava*), see a floating definition verse cited by Ḍalhaṇa on 6.39.296ab (Su 1938: 693) and the definition in *Carakasamhitā* 6.21.40 (Ca 1941: 561). The difficulties in rendering this term were discussed by Meulenbeld (1974b: 447–448).

The syntax of the dvandva compound ending in the present passive participle अवशीर्यमाणम् is unusual; it is written out of the vulgate.

## Therapy

- 7 In this case, for fear of irritating the wind, one should start by repeatedly draining the corrupted blood, little by little, that is blocking the channels (*mārga*), except when the person's body is weakened by excessive wind and dryness.<sup>480</sup> Then, one should apply the preliminary treatments like emesis. Next, **if the wind, mixed with food, is strong**, the patient should be given mature ghee to drink.
- Alternatively, he should be made to drink goat's milk, with half its quantity of oil, mixed with twelve grams (*akṣa*) of liquorice,<sup>481</sup> or else it can be cooked with painted uraria and sweetened with sugar and honey. Or it could be cooked with dried ginger and bulrush.
- Alternatively, one should cook sesame oil together with and an admixture (*pratīvāpa*) of a paste (*kalka*) of periploca of the woods, common smilax, honey,<sup>482</sup> snake mallow, deodar, sweet flag, and grey orchid, together with milk with a decoction that has been processed eight times, consisting of beautyberry, grey orchid, bitter melon, painted uraria, toothbrush tree, wild asparagus, common smilax, and the ten roots, and use this in drinks and the like.<sup>483</sup>
- Alternatively, an admixture of cottony jujube, etc., is cooked with a decoction of wild asparagus, prickly chaff-flower, axelwood, liquorice, giant potato, heart-leaf sida, country mallow, and the five grass roots.<sup>484</sup>
- Alternatively, one may use the heart-leaf sida-oil that is prepared by the hundred-cook (*śatapāka*) method.<sup>485</sup>
- That said, one should affuse (*pariṣecana*) the patient with sours or with milk that has been cooked with roots that remove wind.<sup>486</sup>

480 "Drain" translates अवसिञ्चेत्, which is glossed by Ḍalhaṇa on 4.5.7 (Su 1938: 425) as "आसवेत्." See also *Mahākośa*: 1, 64, which also glosses अवसेचन as विस्रावणम्. Blood-letting is being indicated.

481 Ḍalhaṇa on 4.5.7 (Su 1938: 425) clarified that "half the quantity" meant half the total quantity of the milk. For the measure अक्ष, which is a synonym for कर्ष, see Dominik Wujastyk 2003b: 263.

482 The vulgate reads mahua (*madhūka*) for "honey."

483 The vulgate version of this passage seems to contain dittography of ten roots (*daśamūla*) and is slightly incoherent (Su 1938: 424).

484 This recipe is different in the vulgate. The "admixture of cottony jujube etc." is an item that occurs elsewhere in other recipes, e.g., 6.17.94 (Su 1938: 632).

485 The "hundred-cook" method is something cooked a hundred times or sometimes with a hundred ingredients. See p. 166 above. See also *Mahākośa*: 1, 803.

486 Ḍalhaṇa glossed "sours (*amla*)" as "items like liquor, sour gruel (*sauvīraka*), rice-

In that regard, when barley, wheat, sesame, mung beans and green gram are ground and mixed individually with a paste made of cottony jujube, purple roscoea, malaxis orchid, adder's mouth orchid, heart-leaf sida, country mallow, hare foot uraria, periploca of the woods, charoli nut, sugar, bulrush, grey orchid, and sweet flag in order to make a poultice (*upanāha*), then the five, which are cooked in ghee, oil, fat, marrow, and milk, are described as milk-based items.

Alternatively, a spiced mince (*vaiśavāra*) made from ground carp can be used instead.<sup>487</sup>

Alternatively, [one can use] the poultice containing Bengal quince-rind, crape jasmine, deodar, turpeth, grey orchid, peas, costus, Indian dill, liquor, yogurt, and whey.

Alternatively, [one can use] the ointment prepared by mixing citron, amla, salt, and ghee with honey and horseradish tree-root. Or else, [one can use] the unctuous sesame paste.

Cite  
Hoernle  
1893-1912  
(II)  
35-177.<Hoernle  
1908: 325>

gruel (*tuṣodaka*), etc" (सुरासौवीरकतुषोदकादिभिः Dalhaṇa on 4.5.7 (Su 1938: 425)). The text does not make clear what it is that is being moistened.

We have added "the patient" as the recipient but the syntax would allow the object to be the site of the blood letting.

- 487 On वैशवार "minced meat" see *Mahākośa*: 1, 787, citing *Carakasamhitā* 1.27.269 (Ca 1941: 169) and *Suśrutasaṃhitā* 4.2.25 (Su 1938: 409). The Nepalese manuscripts use the form वैशवार (also *Carakasamhitā* 6.25.73 (Ca 1941: 595)) while other sources and dictionaries cite वैशवार, वैषवार or वेसवार. The term has received much discussion amongst the commentators. Cakrapāṇidatta, on 1.27.268–270 (Ca 1941: 169), described वैशवार by citing a treatise on cookery: "According to tradition, in the discipline of Cookery, the proper वैशवार is: one should cook deboned meat, well-steamed and repeatedly ground on a stone, and mixed with long pepper, ginger, black pepper, sugar, and ghee all together (वैशवारः सूदशास्त्रे -- "मांसं निरस्थिं सुस्विन्नं पुनर्दृषदि पेषितम् । पिप्पलीशुण्ठिमरिचगुडसर्पिःसमन्वितम् ॥ ऐक्यं विपचेत् सम्यग् वैशवार इति स्मृतः ।"). The vulgate text of the *Suśrutasaṃhitā*, 1.46.365–366ab (Su 1938: 240), has this exact passage, although it is not present in the Nepalese version. Cakrapāṇidatta did not say he was citing the passage from the *Suśrutasaṃhitā*, so it may not have been in the version of the text available to him. Dalhaṇa (*idem*) glossed वैशवार in much the same terms, as, "debonded meat that has been ground, oiled, and steamed" (निरस्थिस्विन्न-स्निग्धपिष्टमांस). Meulenbeld (1974b: 205) described a variant of this dish based on the the *Madhukośa* and gave the term a detailed discussion at *ibid.*, pp. 502–504. Witness H reads the hapax legomenon नलपीन as the name of the fish in this dish, but Dalhaṇa on 4.5.7 (Su 1938: 425) reported reading नलमीन at this point in some manuscripts, identifying it as a type of carp, see carp (*nalamīna*), and we adopt that attested reading.

- 8 When the [condition of wind-blood] has a predominance of bile, the patient should be made to drink a decoction of grapes, ??-fruit, **Indian ipecac**, **liquorice**, **sandalwood**, and **white teak**. This decoction is sweetened with honey and sugar before consumption. Or, the decoction of **wild asparagus**, **pointed gourd**, **malabathrum**, *triphalā*, **kutki**, and **heart-leaved moonseed** should be given. [The patient should be administered] ghee that is prepared with sweet, bitter, and astringent [remedies].<sup>488</sup>

[The patient] should be sprinkled with a decoction of ??, **lotus stalk**, **white sandalwood**, and **wild Himalayan cherry** mixed with goat-milk<sup>489</sup>, or with rice water that is mixed with milk, sugarcane juice, honey, and sugar, or with whey and sour rice gruel mixed with a decoction of grapes and sugarcane. Or else, [the patient] should be sprinkled with ghee that is prepared with *jīvanīya*<sup>490</sup> or sprinkled with ghee that is purified for one hundred times.

The poultice [to be applied] should be made of rice flour or of the paste of sour rice gruel mixed with **tall reed**, **Indian willow**, **scramberry**<sup>491</sup>, ??, ??, **turmeric**, **horned pondweed**, **sacred lotus**, etc. The poultice should be mixed with ghee.

Draft tr. from here

- 9 The [condition of wind-blood] with a predominance of blood should be treated in the same way. Also, blood-letting should be done repeatedly.
- 10 However, when the [condition of wind-blood] has a predominance of phlegm, the patient should be made to consume a decoction of **emblic myrobalan** and **turmeric** that is sweetened with honey, or a decoction of *triphalā*, or a paste of **liquorice**, ??, **chebulic myrobalan**, and ??. He should be made to drink **chebulic myrobalan** with water mixed with a little urine. He should be sprinkled with oil, urine, salty water, and liquor that are acidic<sup>492</sup>. Or, he should be

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

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

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

491 तालीस should be read तालीश

492 Reading the word सुक्त in H as शुक्त

sprinkled with a decoction of golden shower tree, etc. The patient should be massaged with ghee cooked with sour cream, urine, liquor, ??<sup>493</sup>, liquorice, ??<sup>494</sup>, and wild Himalayan cherry.

The poultice should be made of either the paste of white mustard, or the paste of sesame and Withania, or the paste of ??<sup>495</sup>, Indian cherry, and wood-apple, or the paste of honey, horseradish tree, and hogweed,<sup>496</sup> or the paste of dry ginger, long pepper, black pepper,<sup>497</sup> hare foot uraria, and hairy-fruited eggplant.<sup>498</sup> These five poultices are prepared with salty water. Thus, they have been described.

- 11 In case of combined aggravation of two humours or simultaneous aggravation of all three humours, the stated methods of treating those aggravations should be combined.<sup>499</sup>
- 12 In all [aggravations], one should consume chebulic myrobalan with jaggery. Or, one should have a diet of rice cooked in milk for ten days and should drink a mixture of long peppers crushed in milk, with increasing by five long peppers each night. Then one should reduce them again by the order of five more [each night].<sup>500</sup> In this way, one should [reduce] all the long peppers. This is called Pippalīvarddhamānakam (Increasing Long Peppers). It indeed cures wind-blood, intense fever,<sup>501</sup> loss of appetite, jaundice, abdominal affection, piles, heavy breathing, cough, wasting disease,

493 Monier Williams states Rumex Vesicarius for śuktā

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

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

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

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

498 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.

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

500 In H, the letter च् in भूयञ्च should have been श्.

501 Perhaps

विषमज्वर could mean irregular fever.



weak digestion, and heart disease.  
 The poultice is a paste of bluebell barleria,  
 sandalwood,  
 rajmahal hemp,  
 charoli nut,  
 wild asparagus,  
 bulrush,<sup>502</sup>  
 country mallow,  
 wild Himalayan cherry,  
 liquorice,  
 Indian dill,  
 ??,  
 ??,  
 ??,  
 heart-leaf sida,  
 country mallow, and Holostemma creeper mixed with milk. Or  
 it is a paste of white teak,  
 liquorice, and ?? mixed with ghee and cream. Or it is  
 olibanum  
 cooked with milk that is mixed with ??,  
 ??,  
 resin of white dammer tree,  
 liquorice and the group of sweet herbs.  
 Old ghee that is cooked with emblic myrobalan and chir pine  
 and sweetened with sugar and honey is for drinking. Old  
 ghee that is cooked with *jīvanīya* or that is cooked with a  
 decoction of bitter melon is for sprinkling.  
 Cooked  
 heart-leaf sida oil is for  
 sprinkling,  
 bathing,  
 enema, and eating<sup>503</sup>. One should eat food preparations  
 made of rice, ??,  
 barley and wheat

502 H has कशेरुका.

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

accompanied with milk, meat  
 soup, or mung beans  
 soup that is not sour.  
 Blood-letting also [should be done]. The treatments of  
 vomiting,  
 purging of bowels,  
 enema, and oily enema  
 should be conducted  
 when the humours are highly  
 aggravated.

13

14 There  
 are  
 verses  
 in this  
 regard.<sup>504</sup>

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

15-16

*Poultice, sprinkling [oil], plaster, oil  
 massage,<sup>505</sup> spacious and comfortable rooms<sup>506</sup> with  
 no wind, soft pillows, comfortable beds, and soft  
 massages are recommended in the condition of  
 wind-blood.*

504 The  
 word  
 भवति  
 in H  
 should  
 have  
 been  
 भवन्ति.

505 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.

506 In H, read the स सरणानि as श.

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

### Seizures

- 18 One should treat the person who is affected with seizures (*apatānakina*),<sup>507</sup> who does not have droopy eyes and crooked eyebrows, whose fingers have not become rigid, who is not perspiring or trembling, who is not in a state of delirium, who is not bed-ridden,<sup>508</sup> and who is not restrained externally. There at the beginning itself,<sup>509</sup> after rubbing the patient with oil and making him perspire, one should treat him with a strong *avapīḍa*<sup>510</sup> in order to clear his head. Then, the patient should be made to drink filtered ghee that is properly cooked with a decoction of *beggarweed* and other herbs, sugarcane juice, milk, and yogurt. In that way, the wind does not spread exceedingly. Thereafter, one should gather wind-alleviating herbs such as *deodar*, etc. and other constituent parts, along with

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

507 Cf. p. 83.

508 V. S. Apte has खट्वापति. The *Āyurvedīya Śabdakośa* has the entry खट्वापातिन् which means "one who is inclined to fall from bed." Perhaps the reading in H has an error of the letter या which should have been पा.

509 In H, प्रागेव should have been प्रागेव.

510 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*.

barley, ??, and horse gram, and the flesh of a freshwater aquatic creature all at one place and prepare a decoction of them. One should take this decoction and mix it properly with sour substances and milk, and then cook the *pratīvāpa*<sup>511</sup> of liquorice in this mixture along with ghee, oil, body fat, and bone marrow. This is *trivṛt* that should be recommended in treatments of sprinkling, oil massage, applying a poultice, oral consumption, oily enema, and errhine for patients having spasmodic contractions.

The patient should then be made to sweat by the methods described earlier. If the wind is stronger then the patient should be immersed in [a vessel] filled with lukewarm fluid used for sprinkling (*trivṛt*). Or he should be kept in the hot fireplace of a blacksmith.<sup>512</sup> Or else he should be made to sweat by [a mixture of] ??, *veśavāra*,<sup>513</sup> and milk.

Oil cooked with the juice of radish, ??, ??, spurge, and clove bean should be used in sprinkling, etc. for patients with spasmodic contractions.<sup>514</sup> Sour yogurt mixed with black pepper and drunk on an empty stomach alleviates spasmodic contractions. Or else, ghee, oil, body fat, or bone marrow [can be consumed on an empty stomach].

This procedure of treatment thus described is for spasmodic contractions caused only by wind. When mixed humours cause it then the treatment should also be mixed. And when the spasms subside the patient should be given *avapīḍa*-s. One should also consider the fats of cock, crab, black fish, and porpoise.<sup>515</sup> Milk prepared with wind-alleviating medicines. Gruel prepared with barley, ??, horse gram, radish, yogurt, ghee, and oil.

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

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

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

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

515 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.

- One should treat this recurring spasm for ten nights with oil massage, purging of bowels, enemas, and oily enemas. One should also look up the treatment of diseases caused by wind. One should also undertake preventive measures.
- 19 One should treat the paralytic (hemiplegic) patient whose limbs are not languid, who is in pain, and who is self-composed. There, at the beginning itself the patient should be massaged with oil and made to sweat. After cleansing the patient with a mild purifier,<sup>516</sup> he should be administered with an oily enema and then a non-oily enema. Then at the appropriate time, he should be treated with special enemas of the brain and the head according to the method prescribed in the treatment of *ākṣepaka*.<sup>517</sup> *Anutaila* should be used for massage.<sup>518</sup> *Sālvala* should be used for poultice.<sup>519</sup> heart-leaf *sida* oil should be used for oily enema. In this way, the unremitting patient should take the treatment for three to four months.

20

## 21 Paralysis

- 22 One should treat the patient with *ardita* who is strong and possesses the means with the method prescribed in treating wind diseases.<sup>520</sup> The unique thing is the treatment with enemas of the brain and the head, errhine, smoke, poultice, and steam bath through tubes. Then, one should take the great five roots (*pañcamūlī*) with grass and prepare its decoction in milk mixed

<sup>516</sup> According to P. V. Sharma, this refers to mild evacuatives (purgatives).

<sup>517</sup> Refer *Nidānasthāna* 1.50-51 for *ākṣepaka*.

<sup>518</sup> For the procedure of preparing *anutaila*, refer *Cikitsāsthāna* 4.28.

<sup>519</sup> For the procedure of preparing *sālvala*, refer *Cikitsāsthāna* 4.14-15.

<sup>520</sup> On paralysis (*ardita*), see p. 85 above.

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

Make the first letter of sentence capital.

with twice the water. Then, the decoction with the milk remaining<sup>521</sup> should be brought down [the stove] and filtered. It should then be mixed with a *prastha*<sup>522</sup> of oil and again placed over fire and cooked thoroughly. Then, the oil mixed with milk should be brought down [the stove] and then churned after it cools down. This is called *kṣīrataila* that should be used in drinks, etc. for patients with *ardita*.

- 23 In the diseases of *gr̥dhrasī*, *viścañcī*, *kroṣṭukaśīrṣa*, *paṅgukalāya*, lameness, *vātakantaka*, burning sensation in the foot, numbness of the foot, *avabāhuka*, deafness, and *dhamanīvāta*, one should pierce the blood vessel as described earlier and, barring the case of *avabāhuka*, one should look up the treatment for wind diseases.
- 24 However, in the case of *karnāmūla*,<sup>523</sup> lukewarm juice of ??<sup>524</sup> mixed with *liquorice*, oil, and salt should be put into the ears.<sup>525</sup> Or else one can use goat urine, *liquorice*, and oil. Or else one can use oil that is cooked with *citron*, *pomegranate*, ?? juice, and urine.<sup>526</sup> Or else one can use oil that is cooked with sour liquor, buttermilk, and urine. One should also make the patient sweat with a steam bath through tubes. One should also look up the treatment for wind diseases. More will be said later.
- 25 In the case of *tūnī* and *pratitūnī*, one should make the

521 It means that the water has evaporated.

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

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

524 शङ्खवेर appears to be a name of ginger. Refer to the Sanskrit dictionary of Monier Williams.

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

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

- patient drink ghee and salt with hot water. Or else one should administer the powder of long pepper and other herbs with hot water. Or else one should make the patient drink ghee that is made thick with asafoetida and barley ash.<sup>527</sup> One should also treat the patient with enemas.
- 26 In the case of *ādhmāna*,<sup>528</sup> however, one should do *avatarpaṇa*,<sup>529</sup> heating the hands, *phalavartikriyā*,<sup>530</sup> stimulation of digestion, and [administer] digestives. One should also employ the purging of bowels and enemas. In the case of *pratyādhmāna*,<sup>531</sup> one should employ vomiting, fasting, and stimulation of digestion.
- 27 In the case of *aṣṭhīlā* and *pratyāṣṭhīlā*,<sup>532</sup> the procedure is that of *gulma* and internal abscess.
- 28 The beneficial asafoetida, the three pungent spices (long pepper, black pepper, and dry ginger), sweet flag, ?? grains, wild spider flower, pomegranate, ??, velvet-leaf, leadwort, ??, rock salt, ??, ??, barley ash, natron, long pepper root, ??, ??, ??, ?? (juniper berry), and ?? (cumin seeds) should be powdered. This powder should be mixed with a lot of citron juice. Then it should be made into pills each weighing one *akṣa*. Thereafter the patient of wind disease should consume one pill every morning. This medicine indeed cures *gulma*, rapid breathing, cough, loss of appetite, heart disease, *ādhmāna*, *pārśvodara*, *bastiśūla*, *anāhamūtra*, painful piles, *plīhodara*, and *pāṇḍuroga*. Also,

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

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

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

530 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.

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

532 Refer to *Nidānasthāna* 1.90 and 1.91.

this medicine is excessively used in cases of *tūnī* and *pratitūnī*.

29 There are verses in this regard.

*The wind that has entered into the body tissues should be correctly understood as either pure or vitiated by humours<sup>533</sup> and should be cured accordingly.*

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

31 *When the wind accompanied by phlegm and fat enters the thighs, it causes pain in and immobility of the thighs due to numbness, pain, and fever.*

32 *Also, the thighs become pained, stiff, cold, and do not quiver due to sleep. They become heavy and as if belonging to someone else.<sup>534</sup>*

33 *That is called ūrūstambha. Others call it ādhyavāta. In that case, one should drink the ṣaṇḍharāṇa powder with cool water.*

34 *Similarly, consuming the powder of long pepper and other herbs with hot water is beneficial. Or else, one should consume the powder of triphalā with honey and kutki.*

35-38 *Or else, one should drink the best guggul 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.*

533 In H, the reading लक्षणोन्यामंश्च 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.

534 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.



*One should employ salty urine [therapy], sudation, and hard rubbing. One should also apply [the paste of ] mustard and pongame oiltree fruits mixed with urine.<sup>535</sup>*

*One should eat old ??s, koda millet, ??, etc. along with uncooked<sup>536</sup> flesh of wild animals and unsalted vegetables that are beneficial.*

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

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

536 The vulgate has the reading अघृतैः that means without ghee.



# Cikitsāsthāna 15: On Difficult Delivery

## Literature

Meulenbeld offered an annotated overview of this chapter on fetal malpresentation and a bibliography of earlier scholarship to 2002.<sup>537</sup> R. P. Das made observations about the afterbirth (*aparā*) that is mentioned in 4.15.17 ([Su 1938](#): 432).<sup>538</sup> Selby has explored gynecological narratives in ayurveda.<sup>539</sup>

## Translation

- 1 And now we shall explain the difficult delivery medically treated.
- 3 Nothing else is more difficult than the extraction of a foetus since it has to be performed in the region of vagina, liver, spleen, intestines and the uterus. Actions like pushing up, pulling down, cutting off, incising, removing, pressing and straightening must be done using one hand, without hurting the foetus or the pregnant woman, Therefore, having considered that and obtaining permission, one should proceed with care.
- 4 Eight types of the positions of difficult foetus have earlier been mentioned briefly. Even if, in the natural birth process also the large / wrong way of the head, shoulders or hips of a foetus / child cling firmly in the passage.

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<sup>537</sup> [HIML](#): IA, 271–272.

<sup>538</sup> R. P. Das [2003](#): 517.

<sup>539</sup> Selby [2005a,b](#).

- 5 In the case of a live foetus, the delivering ladies should attempt to deliver it. And, during this process, they should be made to hear the sacred verses repeatedly meant for expulsion of a foetus.
- 6 *O beautiful woman, may the divine nectar and the moon and the sun and Uccaiśravas reside icumbhalakan your house.*
- 7 *O lady, may this nectar extracted from the water release this tiny foetus of yours. May the fire, wind, sun and Indra together with the ocean bestow upon you the peace.*
- 9 And, as mentioned before (3.10.16-20) the medicine should be administered. In the case of a dead fetus, (the physician) having inserted (his) hand lubricated with the *dhanvaka*, *mṛttikā* – soil, the *śālmālī*- the *seemul* and ghee into the vagina of a woman lying on her back, whose thighs are bent with the elevated waist with the support of the cloth of *cumbhalaka* should take away the fetus. In the case, the fetus coming out with both the thighs, should be stretched out in a normal way. If the fetus has reached with only one thigh, spreading out its other thigh it should be taken out. If the fetus is coming out with its buttocks portion, squeezing the buttocks upward, spreading the thighs it should be taken out. A fetus having come in a transverse position like an oblique (तिर्यक्चीनस्य ?) iron club, lifting upward its half of the lower part from behind, straightening its half of the upper part, bringing it to the passage of vagina, it should be taken out. The last two positions of the dead fetus cannot be accomplished. Thus, in this state, instrument should be employed / surgery should be undertaken.
- 10 But, the live fetus should not be torn apart in any case. As, the live fetus may kill the mother and self soon.
- 12 Next, assuring safety to the lady, cutting the head of the fetus with the instrument that has disc on the top (मण्डलाग्र) or finger shaped instrument (अङ्गुलिशस्त्र); removing the skull, the fetus should be taken out holding the forceps at its chest and armpit. If the head of the fetus is not separated, the fetus should be drawn out from its orbital regions or cheek (with the forceps); if the shoulders are stuck up in the passage, the fetus should be taken out by cutting its arm / arms at the shoulder region; tearing the abdomen when bloated with wind just like a stretched leather bag used for holding water, casting off the intestine,

the loosened fetus should be taken out. Or else, if its thighs are adhered to the passage, the bones of the thighs should be cut and fetus is removed.

- 13 The fetus is adhered to the passage from whichever its body part, the physician by separating that part should remove the fetus carefully and by all means the woman should be protected.
  - 14 For, irritated wind causes different movements of the fetus. In this situation, the wise physician should act intelligently.
  - 15 And, the learned physician should not delay even for moment in removing the dead fetus as it kills mother in no time like a breathless animal.
- If impacted with hip, the hip bones should be cut and then delivered.



## **Part 5. Kalpasthāna**

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# Kalpasthāna: Introduction

The *Kalpasthāna* of the *Compendium of Suśruta* is one of the most important treatises on toxicology surviving from the ancient world.<sup>540</sup> Other treatises, such as the *θηριακά* (*On Wild Animals*) and *Ἀλεξίφάρμακα* (*Antidotes*) of Nicander of Colophon (possibly fl. second century BCE) or the *Περὶ τῶν ἰοβολῶν θηρίων καὶ δηλητηρίων φαρμάκων* (*On Venomous Beasts and Poisonous Drugs*) by Aelius Promotus (fl. ca. first century BCE–first century CE) do not approach the *Kalpasthāna* in length, taxonomic detail or organization.<sup>541</sup>

## The Sequence of Chapters

The Nepalese version of the *Suśrutasaṃhitā* reverses the sequence of chapters six and seven (see Table 5).

This difference in sequence does not have an immediately obvious significance, but it appears to be the most original known sequence of chapters, since it was already known to Jejjāta.<sup>542</sup>

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540 Liu (2021) provides a valuable overview of poison treatises in the ancient world, inexplicably omitting mention of the *Kalpasthāna*.

541 On Nicander, see Gow and Scholfield 1953, the facsimile of MS Paris BNF Greek suppl. 247 published by Touwaide, Aslanoff, and Förstel (1997), and Touwaide 2019. On Aelius Promotus, see W. Smith 1870: 29; Gostomiris 1897: 363–368; Ihm 1995.

542 See note 806 below.

Table 5: Chapters of the *Kalpasthāna*.

<i>Chapter title</i>	<i>Nepalese</i>	<i>vulgate</i>
Annapānarakṣākalpa	1	1
Sthāvaraviṣavijñāna	2	2
Jaṅgamaviṣavijñāna	3	3
Sarppadaṣṭavijñāna	4	4
Sarppadaṣṭacikitsita	5	5
<b>Mūṣikākalpa</b>	<b>6</b>	<b>7</b>
<b>Dundubhisvana</b>	<b>7</b>	<b>6</b>
Kīṭakalpa	8	8

## The Spread of Indian Toxicological Lore to Medieval Islamic Authors

### The *Kalpasthāna*'s diffusion

From the late eighth century onwards, the *Kalpasthāna*, or parts of it, began to circulate beyond the Indian subcontinent and to influence medical literature in early Persia, Tibet and Cambodia.

In the late eighth century, the *Kalpasthāna*, as part of the *Suśrutasamhitā*, was translated into Persian and Arabic at the Abbasid court of Baghdad by an Indian physician who is often known by the name Mankah.<sup>543</sup> The principle source of information about this translation is the *ʿUyūn al-anbāʾ fī ṭabaqāt al-aṭibbā* of Ibn Abī Uṣaybiʿah (ca. 1201–1270).<sup>544</sup> Ibn Abī Uṣaybiʿah mentioned that al-Rāzī used the *Suśrutasamhitā*, among other Indian

543 On the name and its variants, see [HIML](#): IB, 202, notes 2, 3. For an account of this translation process see the account of Kahl (2015: 14–18) and especially his useful reconstruction of likely historical events (16–17).

544 On Ibn ʿAbī Uṣaybiʿah, see Hilloowala 2019. This author based his information on the earlier authors Abū Ḥafṣ al-Kirmānī (fl. ca. 800) and on an-Nadīm (d. 990). Al-Kirmānī's treatise is unfortunately lost to history and known only through citations in other authors (see Bosworth 1994; van Bladel 2011).

works, and that it had been translated into Arabic at the orders of the Barmakid Yaḥyā ibn Khālid.<sup>545</sup> The *Suśrutasaṃhitā* passages used by al-Rāzī have been identified and printed in parallel with the Arabic translation by Kahl.<sup>546</sup>

Ibn Abī Uṣaybiʿah gave a detailed description of the translation in Baghdad of a work that was almost certainly the *Kalpasthāna*:

Shānāq was the author of several books, notably: 1. On poisons, in five parts. Mankah al-Hindī translated it from Sanskrit into Persian, and a man by the name of Abū Ḥātim al-Balkhī was assigned the task of transcribing it in Persian writing; he then expounded upon it to Yaḥyā ibn Khālid ibn Barmak. The work was subsequently translated [into Arabic] for the caliph al-Maʾmūn by his client, al-ʿAbbās ibn Saʿīd al-Jawharī. The latter was also assigned the task of reading it aloud to al-Maʾmūn.<sup>547</sup>

There are several interesting features of this account, some of which have been discussed elsewhere.<sup>548</sup> As the pioneering work of Strauss showed, the *Poison Book* of “Shanaq” contained material directly translated from the first chapter of the *Kalpasthāna*.<sup>549</sup> The reception of these materials from the

545 Savage-Smith, Swain, and van Gelder 2019: 3.2, 987. Ibn Abī Uṣaybiʿah said the work consisted of ten chapters, which does not match the six books of the known *Suśrutasaṃhitā*. He listed separately a work on poisonous snakes that could have been the *Kalpasthāna* (*ibid*, 989). On the transmission of Sanskrit medical knowledge to Baghdad through the influence of the Barmakids, see van Bladel 2011; Shefer-Mossensohn and Hershkovitz 2013; Kahl 2015; Dominik Wujastyk 2016a.

546 Kahl 2015: 76–82. Unfortunately, Kahl (p. 14) accepted the impossible dating of a medical author Suśruta to the sixth century BCE, in spite of citing Meulenbeld, *HIML*, amongst his references. However, his remarks dating the redaction of the *Suśrutasaṃhitā* to the period third-sixth century CE are not incorrect.

547 Savage-Smith, Swain, and van Gelder 2019: 3.2, 990.

548 E.g., in the notes to the translation of Savage-Smith, Swain, and van Gelder, in *HIML*: IA, 352 and elsewhere. It has not been remarked before that the interpreter Abū Ḥātim al-Balkhī was from Balkh, the original home of the Buddhist Barmakid family.

549 The passages cited by Strauss (1934: 14–19) include quite literal translations of *Kalpasthāna* 1.37, 1.40, 1.42, 1.29–34cd, 1.47, 1.51cd–52, 1.69, and the famous characterization of a poisoner at 1.19cd–23 (see above, p. ??). The translator of this Arabic work may only have been aware of chapter 1 of the *Kalpasthāna*.

*Suśrutasaṃhitā* under the name “Shanaq” remains a historical puzzle.<sup>550</sup> Several other Islamic authors knew and cited the *Suśrutasaṃhitā*.<sup>551</sup>

The *Suśrutasaṃhitā* was also a formative source for later Arabic works on toxicology. One of the earliest mentions of Shanaq is made in ibn Wahshiya’s *Book on Poisons* (ca. 950). He refers to Shanaq’s book as great and important. This statement is attested to by the fact that much of Shanaq’s work was used by ibn Wahshiya.<sup>552</sup>

The author Suśruta was also cited as a famous authority in Tibetan lexicographical literature of the early ninth century.<sup>553</sup>

Shortly after this time, inscriptional evidence by King Yaśovarman I (r. 889–910) shows that the *Suśrutasaṃhitā* was known in Cambodia.<sup>554</sup>

550 Most scholars agree that this is a Perso-Arabic reception of the Sanskrit name Cāṇakya, but that name was associated not with the *Suśrutasaṃhitā*, but with the *Arthaśāstra* during or after the time of the Gupta empire (Olivelle 2013: 33–36). The suggestion that it may be “Śaunaka” is not supportable [HIML](#): 1A, 150–152.

551 Listed with references in [HIML](#): 1A, 352.

552 Levey 1966: 6.

553 [HIML](#): 1A, 352.

554 *Idem*.

# Kalpasthāna 1: Protecting the King from Poison

## Introduction

### The meaning of “kalpa”

What does “kalpa” mean in the context of this section of the *Suśrutasamhitā*? In medical contexts, this polysemic term can mean an appropriate drug recipe, a suitable medication, or any proper therapy. The present section of the *Suśrutasamhitā* deals with poisonous herbs, animals and insects, so one might expect the term to refer to antidotes or at least drugs. However, the usage here points more to the sense “procedure,” or “formal procedure,” a sense that, in a secular context, echoes the *kalpa* of the *Kalpasūtras*, the “formal procedures” of Vedic ritual.<sup>555</sup> The twelfth-century author Aruṇadatta,<sup>556</sup> glossed *kalpa* simply as *prayogaḥ* “procedure” and as *yojanam* “usage”.<sup>557</sup>

## Chapter 1 of the Kalpasthāna

The first chapter of the Kalpasthāna of the *Suśrutasamhitā* addresses the topic of protecting a king from those who would assassinate him using

<sup>555</sup> Winternitz (1981–85: 252) translated कल्प in the Vedic context simply as “ritual.” He went on to describe the *Kalpasūtras* as, “born out of the necessity to compile the rules for the sacrificial ritual...for the practical purposes of the priests.” Gonda (1977: 467) also used “ritual practice,” giving useful further notes from classical authors in footnote 8.

<sup>556</sup> “A learned man with a great command of a number of sciences,” (HIML: 1A, 661).

<sup>557</sup> *Sarvāṅgasundarī* on *Aṣṭāṅgaḥṛdayasamhitā* 1.16.17ab (Ah 1939: 246) and 5.1 *gadyasūtre* 2 (Ah 1939: 735) respectively.

poison. The king's kitchen is presented as the site of greatest vulnerability. The staff in the kitchen must be vetted carefully and watched for signs of dissimulation. The description of the body-language that tells a poisoner (verses 18–25) are engaging and vivid. These verses are closely parallel in sense to a passage in the *Arthaśāstra* that says,

The signs of a poisoner, on the other hand, are as follow: dry and dark look on the face, stuttering speech, excessive perspiration and yawning, trembling, stumbling, looking around while speaking, agitation while working, and not remaining in his place.<sup>558</sup>

Next, the text discusses the signs of poison in toothbrushes, in food, drink, massage oil and other items that are likely to come into physical contact with the king. In passages that are again paralleled in the *Arthaśāstra* the work describes how poisoned food kills insects and crackles in a fire, flashing blue and the reactions of various birds to poison are described.<sup>559</sup>

The work then moves on to the various symptoms experienced by the king after being poisoned, and remedies appropriate to each case. Poison exhibits characteristic signs when added to milk and other drinks.<sup>560</sup> Further forms of poisoning, their symptoms and treatments are described and finally the king is advised to live amongst trusted friends and to protect his heart by drinking various ghee compounds. He should eat the meat and soup made from various animals, including peacock, mongoose, alligator, deer. The chapter ends with the description of an emetic.

## Literature

A brief survey of this chapter's contents and a detailed assessment of the existing research on it to 2002 was provided by Meulenbeld.<sup>561</sup> Translations of this chapter since Meulenbeld's listing have appeared by Dominik Wujastyk (2003b: 131–139), P. V. Sharma (1999–2001: 3, 1–15), and Srikantha Murthy (2000–02).<sup>562</sup>

<sup>558</sup> *Arthaśāstra* 1.21.8 (Kangle 1965: 1, 30), translation by Olivelle (2013: 97).

<sup>559</sup> Cf. *Arthaśāstra* 1.21.6, *ibid.*, Olivelle (2013: 96).

<sup>560</sup> Cf. *Arthaśāstra* 1.21.6 again.

<sup>561</sup> HIML: IA, 289–290.

<sup>562</sup> For a bibliography of translations to 2002, including Latin (1847), English (1877), Gujarati (1963) and Japanese (1971), see HIML: IB, 314–315. Singhal and Dwivedi

## Translation

- 1–2 And now I shall explain the procedure (*kalpa*) for safeguarding food and drink, as were declared by the Venerable Dhanvantari.<sup>563</sup>
- 3 Divodāsa, the king of the earth, was the foremost supporter of religious discipline and virtue. With unblemished instruction he taught his students, of whom Suśruta was the leader.<sup>564</sup>

Is Dh. the teacher of Su. else-where?

### [Threats to the king]

- 4–5 Evil-hearted enemies who have plucked up their courage, may seek to harm the king, who knows nothing of it. He may be assailed with poisons by or by his own people who have been subverted, wishing to pour the poison of their anger into any vulnerability they can find.<sup>565</sup>
- 6 Therefore, a king should always be protected from poison by a physician.

(1976) translated this sthāna.

- 563 MS H adds in the margin अथ खलु वत्स सुश्रुतः “Now begins Vatsa Suśruta.” This phrase has been copied here by the scribe from the beginning of the *Suśrutasaṃhitā* chapter in the *sūtrasthāna* on the rules about food and drink (1.46.3 (Su 1938: 214)). The scribe presumably felt, not unreasonably, that this section had common subject matter with the present chapter. Further, SS 1.46.3 is one of the few places in the Nepalese transmission of the *Suśrutasaṃhitā* that names Dhanvantari and integrates him into the narrative of the *Suśrutasaṃhitā* as the teacher of Suśruta.

The mention of Dhanvantari here is one of the few times in the Nepalese transmission that this authority is cited as the source of Ayurvedic teaching, and the unique occurrence of this actual phrase, “as was declared by the Venerable Dhanvantari.” See the discussion by Klebanov (2021a: 28–32), who concluded that the earliest recoverable recension of the *Suśrutasaṃhitā* may have had the phrase only at this point and not elsewhere in the work. See the further discussion by Birch, Dominik Wujastyk, Klebanov, Parameswaran, et al. (2021). “Dhanvantari” is mentioned in the Nepalese version at 1.1.21, 1.19.37, 1.46.3, 1.29.71, 1.34.1.1, 2.1.3, 2.7.3, 3.19.13.3, 4.2.3, (5.1.2, note), 5.4.3, 6.60.2, 6.64.84.

- 564 This is a quite different statement from the vulgate which has Dhanvantari as the teacher, and calls him the Lord of Kāśī (*kāśīpati*) (Su 1938: 559). Ḍalhana followed the vulgate but explicitly noted the reading before us with small differences: दिवो-दासः क्षितिपतिस्तपोधर्मश्रुताकरः “Divodāsa, the king of the earth, was a mine of traditions about discipline and virtue.”

- 565 Verses about the use of Venemous Virgins as a weapon do not appear in the Nepalese manuscripts. Cf. Dominik Wujastyk 2003b: 81 f., 132. This material is present in the commentary of Gayadāsa.

- 7 The racehorse-like fickleness of men's minds is well known. And for this reason, a king should never trust anyone.<sup>566</sup>
- 8–11 He should employ a doctor in his kitchen (*mahānasa*) who is respected by experts, who belongs to a good family, is orthodox, sympathetic, not emaciated, and always busy.
- 12–13 The kitchen should be constructed at a recommended location and orientation. It should have a lot of light,<sup>567</sup> have clean utensils and be staffed by men and women who have been vetted.<sup>568</sup>
- 17–18ab The chefs, bearers (*voḍhāra*), and makers of boiled rice soups and cakes and whoever else might be there, must all be under the strict control of the doctor.<sup>569</sup>
- 18cd–19ab An expert knows people's body language (*iṅgita*) through abnormalities in voice, movement and facial expression. He should be able to identify a poisoner by the following signs.
- 19cd–23 Wanting to speak, he gets confused, when asked a question, he never arrives at an answer, and he talks a lot of confused nonsense, like a fool. He laughs for no reason, cracks his knuckles and scratches at the ground. He gets the shakes and glances nervously from one person to another. His face is drained of colour, he is grimy (*dhyāma*) and he cuts at things with his nails.<sup>570</sup> A poisoner goes the wrong way and is absent-minded.
- 25–27 I shall explain the signs to look for in toothbrush twigs, in food and drink as well as in massage oil (*abhyāṅga*) and combs (*avalekhana*); in dry rubs (*utsādana*) and showers, in decoctions (*kaṣāya*) and massage ointment (*anulepana*); in garlands (*sraja*), clothes, beds, armour and ornaments; in slippers and footstools, and on the backs of elephants and

Cf.  
Arthaśāstra  
1.21.8.

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

567 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).

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

569 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-grhyasūtra* 2.10.54 (Shastri 1920: 68). More pertinently, perhaps, सूपोदन is attested in the Bower Manuscript, part II, leaf 11r, line 3 (Hoernle 1893–1912: vol. 1, p. 43).

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



horses; in snuff (*nasya*), 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*) served from the king's portion, die on the spot.

29 Such food makes a fire crackle violently, and gives it an overpowering colour like a peacock's throat.

30–33 After a **chukar partridge** partridge looks at food which has poison mingled with it, its eyes are promptly drained of colour; **grey peacock-pheasant** drops dead. A **koel** changes its song and the **common crane** rises up excitedly.<sup>571</sup> It will excite a **Indian peafowl** and the terrified **parakeet** and the **common myna** screech. The **swan** trembles very much, and the **racket-tailed drongo** churrs.<sup>572</sup> The **bull** sheds tears and the monkey releases excrement.<sup>573</sup>

34cd Vapour rising from tainted food gives rise to a pain in the heart, it makes the eyes roll, and it gives one a headache.<sup>574</sup>

35, 36cd **In such a case, an errhine and a collyrium that are costus, lemongrass,**

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

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

573 MS Kathmandu KL 699 reads "bull (*vṛṣabha*)" for "chital deer (*prṣata*)." 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.

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

spikenard and honey (*madhus*);<sup>575</sup> a paste of sandalwood on the heart may also provide relief.<sup>576</sup>

- 37 Held in the hand, it makes the hand burn, and the nails fall out. In such a case, the ointment (*pralepa*) is beautyberry, velvet-mite, soma and blue water-lily.<sup>577</sup>
- 38–39 If he eats that food, through inattention or by mistake, then his tongue will feel like a pebble (*aṣṭhīlā*) and it will lose its sense of taste. It stings and burns, and his saliva (*śleṣman*) dribbles out.<sup>578</sup> In such a case, he should apply the treatment recommended above for vapour (*bāṣpa*), and what will be stated below under “toothbrush twigs”.<sup>579</sup>

575 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.

576 Singhal et al. (1972–82: 350) discussed the difficulties in identifying लामज्ज, a plant cited more often in the *Suśrutasamhitā* than in the *Carakasamhitā*; Ḍalhaṇa adopted the common view that it is a type of *uśīra* or vetiver grass. The grammatical neuter form मधुस् “sweetness” of the Nepalese manuscripts is less common than neuter मधु “honey, sweetness, liquorice.”

577 “Beautyberry” (*Callicarpa macrophylla* Vahl.) is one identification of श्यामा, but vaidyas and commentators have different ideas about the plant’s identity (see glossary).

On translating इन्द्रगोप as “velvet-mite,” see Lienhard 1978. Ḍalhaṇa’s remarks show that he had a reading इन्द्रगोपा before him, and he tries to explain इन्द्रा and गोपा as separate plants. But he also says that some people read इन्द्रगोप.

Ḍalhaṇa curiously parsed the name सोमा (f.) out of the compound; this feminine noun is almost unknown to Ayurvedic literature. Some dictionaries and commentators consider it a synonym for गुडूची, others for ब्राह्मी or चन्द्रतरु. Ḍalhaṇa also mentioned that some people think the word refers to the soma creeper (सोमलता), which might explain his choice to take the word as feminine. But the compounded word is far more likely to be सोम (m.), the well-known mystery plant (see Dominik Wujastyk 2003b: 76–78, 125). If this can be taken as rue (*Ruta graveolens*, L.), as some assert, one can point to a pleasing passage in Dioscorides where rue plays an antitoxic role: “...it is a counterpoison of serpents, the stinging of Scorpions, Bees, Hornets and Wasps; and it is reported that if a man be anointed with the juice of the Rue, these will not hurt him; and that the serpent is driven away at the smell thereof when it is burned; insomuch that when the weasel is to fight with the serpent she armeth herself by eating Rue, against the might of the serpent” (cited from Potter: 262; not found in Osbaldeston and Wood 2000).

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

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

- 40 On reaching his stomach, it causes stupor (*mūrcchā*), vomiting, the hair stands on end, there is distension, a burning feeling and an impairment of the senses.<sup>580</sup>
- 41 In this case, vomiting must quickly be induced using the fruits of emetic nut, gourd, red gourd, and ??, taken with milk and watered buttermilk, or alternatively with rice-water.
- 42 Reaching the intestines (*pakvāśaya*), it causes a burning feeling, stupor, diarrhoea, thirst, impairment of the senses, flatulence (*āṭopa*) and it makes him pallid and thin.
- 43 In such a case, purgation with the fruit of indigo (*nīlī*), together with ghee, is best. And ‘slow-acting poison antidote (*dūṣṭviṣāri*)’ should be drunk with honey and curds (*dadhi*).<sup>581</sup>
- 44 When poison is in any liquid substances such as milk, wine or water, there are various streaks, and foam and bubbles form.
- 45 And no reflections are visible or, however, if they can be seen once more, they are distorted, fractured, or tenuous and distorted too.<sup>582</sup>
- 46 Vegetables, soups, food and meat are soggy and tasteless. They seem to go stale suddenly, and they have no aroma.
- 47 All edibles lack aroma, colour or taste. Ripe fruits rapidly rot (*prakuth*) and unripe ones ripen.<sup>583</sup>
- 48 When a toothbrush twig has poison on it, the bristles are corroded and the flesh of the tongue, gums and lips swells up.<sup>584</sup>
- 49 Then, once his swelling is lanced, one should rub (*pratisāraṇa*) it with

I'm still unhappy about this verse.

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

fn about sadyas+

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

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

582 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*.

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

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

- fire-flame bush flowers jambul, mango stones and chebulic myrobalan fruit mixed with honey.<sup>585</sup>
- 50 Alternatively, the rubbing (*pratisāraṇa*) can be done with either the roots of sage-leaved alangium, the bark of blackboard tree or siris seeds.<sup>586</sup>
- 51ab One should give advice about a poisoned tongue-scraper or mouth-wash (*kavala*) in the same way as for a toothbrush twig.
- 51cd Massage oil that has been laced with poison is slimy, thick and discoloured.
- 52 When the massage oil has been contaminated with poison, boils arise, pain, a discharge (*srāva*), inflammation of the skin, and sweating.<sup>587</sup> And the flesh splits open.
- 53–54 In such a case, sandalwood, crape jasmine, costus, and vetiver, bamboo leaves, heart-leaved moonseed and heart-leaved moonseed, white clitoria, sacred lotus, and Indian barberry should be made into an ointment (*anulepana*) for the patient, who has been sprinkled with cold water. That is also recommended as a drink with the juice and leaves of wood-apple.<sup>588</sup>
- 55 In the case of a dry rub (*utsādana*), a shower (*parīṣeka*), an infusion, a massage ointment (*anulepana*), or in beds, clothes, or armour, the physician should understand that it is the same as for oil massage (*abhyāṅga*).<sup>589</sup>
- 56–58 When a comb has poison in it, the hair falls out, the head aches and blood oozes from the follicles (*kha*) and lumps (*granthi*) appear on the head. In such a case, one should repeatedly apply an ointment of black earth soaked with bear's bile,<sup>590</sup> ghee, beautyberry,<sup>591</sup> black creeper,

Bear's bile  
instead of  
deer's bile.

585 This recipe is different from the vulgate.

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

587 The feminine स्फोट for “boils” is unattested.

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

589 See verse 52 above.

and **prickly amaranth**. Good alternatives are either the fluid extract of cow-dung, or the juice of **royal jasmine**, the juice of **purging nut tree**, or household soot.<sup>592</sup>

59 If either massage oil for the head, or a helmet for the head, in a wash, turban, or garlands that are contaminated with poison, then one should treat it in the same way as a comb.

60–61 When face make-up is poisoned, the face becomes dark and has the symptoms found with poisoned massage oil. It is covered with spots (*kaṇṭaka*) that are like lotus-spots (*padminīkaṇṭaka*).<sup>593</sup> In this case, the drink is honey and ghee, and the ointment (*pralepa*) is sandalwood with ghee, curds, honey, **verbena**, **scarlet mallow** and **hogweed**.<sup>594</sup>

62–63ab Elephants and the like become ill and they dribble saliva. And the rider gets spots (*sphoṭa*) and a discharge on his scrotum, penis, and rectum. In this case, one prescribes the same therapy as for poisoned massage oil for both the rider and the mount.

63cd–65ab When there is poison in snuff (*nasya*) or smoke, the symptom (*liṅga*) is blood coming out of the apertures of the head (*kha*), a headache, a flow of mucus (*kapha*) and impairment of the senses.

In such a case, ghee of cows etc., boiled up with their milk and **Indian aconite**, is prescribed, with **henna**, as a cold drink or errhine.

65cd–66 Flowers lose their fragrance and colour, and wilt. On smelling them, he gets a headache and his eyes fill with water. In this case, the treatment is what was proposed above for vapour (*bāṣpa*) and that which is

punarṇavā  
in the N &  
K MSS

śṛita for  
śṛta

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

591 See note 577.

592 The plant identifications in this passage follow Ḍalhaṇa’s glosses, although he noted a difference of opinion on the identity of **purging nut tree** (lit. “mouse-ear”). The expression धूमो वागारसंज्ञितः ‘...or the smoke termed “house”’ is commonly interpreted by translators and in Ayurvedic dictionaries as ‘household soot,’ and this does seem to be the meaning, in context. The term was comprehensively discussed by Meulenbeld (2008b: 443). Cf. note 696, p. 229.

593 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.

594 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 Gaṇapatiśāstri 1920–25: 20, where it is the name of a constellation).

traditional for face make-up.

- 67–68 When it is in ear-oil, there is degeneration in the ear, and painful swelling. There is also a discharge from the ear and in such a case it needs to be irrigated (*pratipūraṇa*) promptly with ghee and honey. Extracted juice (*svarasa*) of **wild asparagus** and very cold juice of **white cutch tree** are also recommended as something beneficial.<sup>595</sup>
- 69 When poison is mixed in with eye make-up (*añjana*), he gets tears and rheum (*upadeha*), with a burning feeling, pain, faulty vision (*dṛṣṭivibhrama*), and possibly even blindness.<sup>596</sup>
- 70–71 In this case, one must immediately drink ghee and have it also in an eyewash (*tarpaṇa*) with **long pepper**. One should have an eye ointment (*añjana*) of the juice of **periploca of the woods** and have the extract (*niryāsa*) of **three-leaved caper**, **wood-apple** and **periploca of the woods** and the flower of **marking-nut tree**.
- 72–73 Because of poisoned slippers there will definitely be a swelling, numbness (*svāpa*), a discharge (*srāva*) and an outbreak of spots (*sphoṭa*) on the feet. One should clean (*pra* *sādh*) footstools together with slippers.
- 74 Ornaments lose their lustre, and they do not shine as they used to. They damage their respective locations with burning, sepsis (*pāka*), and fissuring (*avadāraṇa*).<sup>597</sup>
- 75ab One should apply the stated procedure for massage oil (*abhyāṅga*) to poisoned slippers and ornaments.
- 75cd–76 In the case of the affliction (*upasarga*) by poison which has been described above, starting from ‘vapour’ and ending with ‘ornaments,’ the physician should observe the side-effects (*upadrava*) and then prescribe the therapy called the Great Fragrance (*mahāsugandha*) antidote, which I shall describe.<sup>598</sup>

Medical difference from Sharma.

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

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

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

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

598 This antidote is indeed described later, in dramatic terms, at 5.6.14–27 (*Su* 1938: 581). A recipe with eighty-five ingredients including cow’s bile, it is praised as chief of all antidotes, one that can drag the patient back from the very jaws of death, from even the poisonous fangs of Vāsuki. A useful survey of the meanings of उपसर्ग (“affliction”) was given by HIML: IB, 332



- 77–78ab He should prescribe it in drinks, liniments (*ālepana*), errhines (*nasya*), and in eye ointment (*añjana*). Also, he should use sharp purgatives and emetics. If bleeding is present, he should have the indicated veins pierced.
- 78cd–79ab If either **purging nut** or a **fern** is tied on to the King’s wrist, then all food that is mixed with poison will be rendered free of poison.<sup>599</sup>
- 79cd–80 He should always guard his heart when amongst **people who are not his friends**.<sup>600</sup> Before eating, he should drink the kinds of ghee called “Invincible” and “Immortal”.<sup>601</sup> He should drink ghee (*sarpiṣ*), **honey**, curds (*dadhi*), milk (*payas*), or cold water.
- 81 He should consume monitor lizard, peacock, **mongoose**, **chital deer**, and **blackbuck** too, that destroy poison, and their juices.
- 82 As discerning person should add well-crushed **black creeper**,<sup>602</sup> **liquorice**, and sugar to the meats of **Indian monitor lizard**, **mongoose** and **blackbuck** too.
- 83 Add sugar and **Indian aconite** to peacock flesh, together with **ginger**. And for meat from a **chital deer**, he should add **long pepper**, with **ginger**.
- 84ab **A cold neem** broth with honey and ghee is wholesome too.
- 84cd A discerning person should partake of hard and soft foods that counteract poison.<sup>603</sup>
- 85 If poison might have been drunk, a person who has protected his heart should make himself vomit using **long pepper**, **liquorice**, **honey**, **sugar**,

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

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

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

600 The *Carakasamhitā* described “protecting the heart” (हृदयावरण) as drinking several sweet, oily drinks to surround the heart and keep it safe (6.23.46 (Ca 1941: 574)). Ḍalhaṇa on 5.1.79–81 (Su 1938: 563) explained it as taking a number of anti-toxic medicines, including those listed in the present passage, in order to cover or hide (प्रच्छादन) the heart. Note that the Nepalese version reads the opposite of the vulgate: one should guard one’s heart when amongst enemies, not friends. This is far more logical; it is also the reading known to the 1.8.89 (As 1980: 79).

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

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

603 On this expression, see Yagi 1994.

sugar cane juice, and water.

The first chapter in the Kalpas.

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# Kalpasthāna 2: Poisonous Plants

## Introduction

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

In the eleventh century, Cakrapāṇidatta commentated on a similar list of poisons in the *Carakasamhitā*, and referred to the *Suśrutasamhitā* on the topic.<sup>604</sup> He also noted that,

In assigning the names to these plants, the main authorities are the Kirātas and Śābaras, who know about these things because they can explain these matters on the basis of a succession of teachers.<sup>605</sup>

About a century later, the learned commentator on the *Suśrutasamhitā*, Ḍalhaṇa, remarked,

In spite of having made the greatest effort, it has been impossible to identify these plants. In the Himalayan regions, Kirātas and Śābaras are able to identify them.<sup>606</sup>

From the view of Sanskrit authors, Kirātas and Śābaras were tribal peoples.<sup>607</sup>

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604 Cakrapāṇidatta on 6.23.11 (Su 1939: 571).

605 Cakrapāṇidatta on *Carakasamhitā* 6.23.11 (Su 1938: 571).

606 After *Suśrutasamhitā*, *kalpasthāna* 2.5 (Su 1938: 564).

607 Both communities are mentioned in Sanskrit literature from antiquity. The Kirātas

In the tenth or eleventh century, the author Bhikṣu Govinda cast his alchemical treatise as a dialogue with a Kirāta king called Madana who was a master of the alchemical art.<sup>608</sup> So there was an awareness amongst Sanskrit medical and alchemical authors of that period that different populations were a source of specialized knowledge in these domains, and the Sanskrit authors were open to these sources and indeed depended on them.

Ḍalhaṇa also recorded variant readings of these poison names from the manuscripts that he consulted of the lost commentary of Gayadāsa (fl. c. CE 1000). The identities of these poisons have thus been in doubt for at least a thousand years.<sup>609</sup> Firm identification has in many cases been equally impossible for us today.

One path for exploration in this situation is to attempt to reverse-engineer some identifications by considering the known toxic plants of India.<sup>610</sup>

## Shock

An important new topic introduced in this chapter (34–39) is that of “toxic shock” (*vega*). When a patient has been poisoned, the effect of the toxin is expressed in their body in seven waves or pulses, *vegas*. At each stage, symptoms are slightly different and a different therapeutic regime is prescribed (40–44).

The Sanskrit term *vega* has a range of uses, from “impulse” to “urge, jerk, rush, speed,” or “impetus.” It appears in the well-known passage in

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are associated especially with Eastern Nepal, the Himalayan and north-eastern regions of South Asia, while the Śabara people are mainly associated with Odisha and West Bengal. Representative studies on these communities include Elwin (1955), B. K. Roy (1970), Chatterji (1974), G. P. Singh (1990), Subba (1999), Girish P. Singh (2008), and R. Rai (2019).

608 HIML: IIA, 620.

609 See Dominik Wujastyk 2003b: 80–81.

610 Valuable reference sources on Indian plant toxicology in general include V. V. Pillay 2013: chs. 10, 11 and Barceloux 2008: parts 1.II, 3 and 4. More generally Bown (NEH: 41 et passim) comments usefully of herbs in general that “it goes without saying that if they can do good, they must contain substances that in excess can poison.” See for a general list of poisonous plants, see Wikipedia contributors 2025c.

the *Carakasamhitā* about avoiding illness not ignoring or suppressing “natural urges,” *vegas*, such as the desire to urinate.<sup>611</sup>

According to the author of the *Aṣṭāṅgasāṅgraha*, Ālambāyana was the ancient authority who declared that the seven pulses (*vega*) of toxic shocks affect, successively, the seven substrata (*āśraya*) of the body, from blood to semen, and Dhanvantari originated the idea that this applied to victims of snake-bite.<sup>612</sup>

The commentator Indu (fl. 1000–1150) cited verses by Ālambāyana asserting that the pipes in the body carry poison to the heart, but that the heart can be protected by ghee.<sup>613</sup>

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>614</sup>

611 See *Carakasamhitā* 1.7 (Ca 1941: 49–55), discussed and translated in Dominik Wujastyk 2003b: 7–8, 15–17.

612 *Aṣṭāṅgasāṅgraha* 6.40.35 (As 1980: 844): सप्तेति वेगा मूर्च्छाद्या विदेहपतिना स्मृताः ॥३४॥ रक्तमांसवसास्त्रायु तथाऽस्थ्याद्यास्त्रयः क्रमात् । आश्रयाः सप्त सप्तानामित्यालम्बायनोऽब्रवीत् ॥३५॥. The following verse named Dhanvantari as the originator of the idea that toxic pulses are experienced specifically by a person bitten by a snake (वेगान्धन्वन्तरिस्तद्वत्सर्पदष्टस्य मन्यते । 36ab). The commentator Indu noted that Dhanvantari was the teacher of Suśruta, i.e., that “Dhanvantari” was shorthand for *Suśrutasamhitā*. On Ālambāyana, see p. 262, note 828.

613 *Aṣṭāṅgasāṅgraha* 6.40.60 (As 1980): याः सिराः सर्वगात्रेषु हृदये सम्प्रतिष्ठिताः । ताभिरस्य विषं सर्वं हृदयं सम्प्रधावति ॥ घृतेन तु प्रतिच्छिन्नं विषं नाति प्रपीडयेत् । निर्वाणजननं सर्पिः प्राणिनां प्राणवर्द्धनम् ॥ हृदयावरणास्तद्वद्भक्ष्या भोज्याश्च सागदाः ॥

614 HIML: IA, 290–291.

## Translation

- 1 And now I shall explain **required knowledge** (*vijñānīya*) about stationary poisons.<sup>615</sup>
- 3 It is said that there are two kinds of poisons, stationary (*sthāvara*) and mobile (*jaṅgama*). The former dwells in ten sites, the latter in sixteen places.
- 4 Traditionally, the ten are: root, leaf, fruit, flower, bark, milky sap (*kṣīra*), pith (*sāra*), resin (*niryāsa*), minerals (*dhātu*), and the tuber.
- 5 In that context,
  - A The eight items with poisonous roots are:<sup>616</sup>
    1. liquorice,<sup>617</sup>
    2. sweet-scented oleander,
    3. jequirity,
    4. Indian aconite,<sup>618</sup>
    5. mountain gardenia,<sup>619</sup> and ending with
    6. leadwort,
    7. country sarsaparilla,<sup>620</sup> and
    8. medhshingi.<sup>621</sup>

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

616 Some South Asian plants with poisonous roots that we would expect to see in this list include *Croton tiglium*, L., *Calotropis* spp. (purple calotropis (*arka*), etc.), *Citrullus colocynthus* L. Schrad. (colocynth (*indravāruṇī*)), and *Ricinus communis* L. (castor-oil (*eraṇḍa*)), (CIPP).

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

618 The vulgate reads *snakeroot* (*sugandhā*), which can be poisonous.

619 Conjectural identification with *mountain gardenia* (*karahāṭa*); similar-sounding candidates also include *galls* (*karkaṭaka*) and *mountain gardenia* (*karaghāṭa*), but since this is a prose passage, there would be no reason to alter the word to fit a metre.

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

621 Meulenbeld (1989: 61, n. 3) argued that our text reads a masculine or neuter noun *vijaya*, which never signifies cannabis. However, unlike the vulgate, the unanimous

B The leaf-poisons include:

- poison-leaf,
- drum-giver,
- an aroid, and
- a large aroid.

C The fruits of items like: jequirity, marking-nut tree, and poison-bench are:

- water snowflake,
- pollen,
- bluebell barleria,
- unknown fruit poison,
- an aroid
- a large aroid
- spurge,
- crow.

D The flower-poisons include those of:

- musk mallow,
- Indian fumitory,<sup>622</sup>
- an aroid, and
- a large aroid.

E the bark, pith (*sāra*) and resin (*niryāsa*) of:

- gourd,
- mountain gardenia,
- an aroid, and
- munj grass.

F The milky sap of:

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readings of the Nepalese manuscripts give feminine *vijayā*. Nevertheless, even the feminine form only started to signify *Cannabis sativa* L. after the end of the first millennium (Meulenbeld 1989; Dominik Wujastyk 2002; McHugh 2021). See further notes in the glossary under *medhshingi*.

622 रेणु and रेणुक/-का are different plants (*Indian fumitory* (*reṇu*), *pollen* (*reṇukā*)). MS Kathmandu KL 699 reads the first; the scribe of MS Kathmandu NAK 5-333 added an additional -क in the margin. Three further plants are in the vulgate version of this list, *rattan* (*vetra*), *kadam flowers* (*kādamba*), and *gourd* (*vallīja*).

- water snowflake,<sup>623</sup>
- red physic nut,
- oleander spurge, and
- luffa.

G The mineral (*dhātu*) poisons include:<sup>624</sup>

- orpiment,
- cuttle-fish bone,
- ashes, and
- vermilion.<sup>625</sup>

H The tuber poisons are:

- jequirity,
- Indian aconite,
- sarṣapaka,
- leadwort,
- muddy-bulb,
- 'Virāṭa's plant',
- nutgrass,
- atis root,
- climbing diamond flower,
- radish,
- 'alas, alas',
- big poison, and
- galls

## Symptoms of poisoning

### Roots, leaves, fruits, bark, and milky sap

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

623 While the identity of this plant is uncertain, the Nepalese version of the *Suśruta-saṃhitā* does not present the hopeless problem of the vulgate's reading कुमुदग्री (see Dominik Wujastyk 2003b: 140, n. 100).

624 The following identifications are even more than usually uncertain. Note that the vulgate text specifies that there are two mineral poisons.

625 If this identification as *vermilion* (*rakta*) (cinnabar) is correct, it is an unexpectedly early mention of the substance.

writhing, and wheezing (*śvāsa*).

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

The consumption of poisons from bark, pith (*sāra*) and resin (*niryāsa*) will cause foul breath, hoarseness (*pāruṣya*), a headache, and a discharge of phlegm (*kapha*).<sup>626</sup>

The milky sap (*kṣīra*)-poisons make one froth at the mouth, cause loose stool, and make the tongue feel heavy.<sup>627</sup> The element (*dhātu*)-poisons give one a crushing pain in the chest, make one faint and cause a burning feeling on the palate.

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

#### 11–17 Symptoms of tuber poisoning

The tuber-poisons, though, are severe. I shall talk about them in detail.<sup>628</sup>

With **jequirity**, there is numbness and very severe trembling.

With **Indian aconite**, there is rigidity of the neck, and the faeces, and urine become yellow.

With **Indian mustard derivative**, the wind becomes defective (*vātavaiṣṇya*), there is constipation (*ānāha*), and lumps (*granthi*) start to appear.

With **leadwort**, there is weakness in the neck, and speech gets jumbled.<sup>629</sup>

With the one called **muddy-bulb**, there is a discharge (*praseka*), the faeces pour out, and the eyes turn yellow.

The '**Virāṭa's plant**' causes pain in the body and illness in the head.

626 At 1.2.6 (*Su 1938*: 11), Ḍalhaṇa glossed hoarseness (*pāruṣya*) as *vāgrūṣatā*, "a rough, dry voice."

627 At 6.54.10 (*Su 1938*: 773), Ḍalhaṇa glossed loose stool (*viḍbheda*) as *dravapurīṣatā*, "having liquid stool."

628 See Ḍalhaṇa's comments on the impossibility of identifying the following plants, p. 207 above. All the following plant identifications are tentative in the extreme; see the glossary for discussion.

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

- Paralysis of one's arms and legs and trembling are said to be caused by **nutgrass**.<sup>630</sup>
- 15b With **big poison**, one's limbs grow weak, there is a burning feeling and swelling of the belly.<sup>631</sup>
- 16a With **white lotus**, one's eyes go red, and one's belly becomes distended.<sup>632</sup>
- 16b With **radish**, one's body is drained of colour and the limbs are paralysed.<sup>633</sup>
- 17a With '**alas, alas**', a man turns a dark colour (*dhyāma*), and gasps.<sup>634</sup>
- 17b With **atis root** one gets violent knots (*granthi*) and stabbing pains in the heart.<sup>635</sup>
- 18a With **monkey**, one leaps up, laughs, and bites.
- 18b-19a There are thirteen tuber-poisons that are said to be fiercely potent. These ones that have been stated are connected with ten **positive** qualities.<sup>636</sup>

630 The substitution in MS Kathmandu NAK 5-333 affecting 15cd is caused by an eye-skip to the word *viṣeṇa* in 2.17.

*Mustaka*

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

632 The word *punḍarīka* very commonly means white lotus. The entire plant is edible and cannot be the poison intended here. T. B. Singh and Chuneekar (GVDB: 252) noted that this poison is unidentified and that it is also listed as a poison in *Caraka-saṃhitā* 6.23.12571. At that locus, the commentator Cakrapāṇidatta referred to the present chapter in the *Suśrutasamhitā* and also said that the identities of these poisonous plants could only be ascertained by consulting Śabarāś and Kirātas, since they alone were experts in receipt of traditional wisdom from their lineages of teachers (एतेषां च संज्ञासंबन्धे शबरकिरातादय एव तद्विद्याः प्रमाणं, ते हि गुरुप्ररंपरया व्याख्यानयन्ति ॥).

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

634 Identification of *hālāhala* is uncertain. It may simply be a mythical poison, or its specific identity may have been lost over the centuries. Late *nighaṇṭus* identify it as *stomaka* = *vatsanābha*, i.e., *Aconitum napellus*, L. (*Soḍhalanighaṇṭu* p. 43).

Ḍalhaṇa on 5.2.17 (*Su* 1938: 564) interpreted our "gasps" as "the man laughs and grinds his teeth." But this gloss is probably displaced and intended to apply to verse 2.18.

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

636 This verse reads differently, and scans poorly, in the vulgate. The vulgate's प्रत्युक्तानि "are contradicted" is awkwardly explained by Ḍalhaṇa as "are stated individu-



19cd–20ab The ten are, traditionally:

- dry,
- hot,
- sharp,
- rarefied,
- fast-acting,
- pervasive,
- expansive,
- limpid,
- light, and
- indigestible.

- 20b Because of dryness, it may cause inflammation of the wind; because of heat it inflames the choler and blood. Because of the sharpness it unhinges the mind, and it cuts through the connections with the sensitive points (*marman*). Because it is rarified it can infiltrate and distort the parts of the body.<sup>637</sup>
- 22 Because it is fast-acting it kills quickly, and because of its pervasiveness it affects one's whole physical constitution (*prakṛti*).<sup>638</sup> Because of its expansiveness it enters into the humour (*doṣa*)s, bodily constituents (*dhātu*)s, and even the impurities. Because it is limpid it overflows, and because it is light it is difficult to treat. Because it is indigestible it is hard to eliminate. Therefore, it causes suffering for a long time.
- 24 Any poison that is instantly lethal, whether it be stationary, mobile, or artificial, will be known to have all ten of these qualities.

### Slow-acting poison

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

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ally" (Ḍalhaṇa on 5.2.18cd (Su 1938: 535)). "Positive" translates कुशलानि, which is not present in the vulgate.

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

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

- lost its features,<sup>639</sup> becomes a slow-acting poison (*dūṣṭviṣa*).<sup>640</sup> Because it has lost its potency it is no longer perceived. Because it is surrounded by phlegm (*kapha*) it has an aftermath that lasts for a very long time.
- 27 If he is suffering from this, the colour of his stools changes, he gets a sour, bad taste and is very thirsty. Speaking nonsensically and close to death, wandering about, he may feel faint, giddy, and aroused.<sup>641</sup>
- 28 If it lodges in his stomach (*āmāśaya*), he becomes sick because of wind and phlegm; if it lodges in his intestines (*pakvāśaya*), he becomes sick because of wind and 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.<sup>642</sup> and it rapidly becomes inflamed on days that are nasty because of cold and wind.
- 29d–31 Listen to its initial symptoms (*liṅga*): it causes heaviness due to sleep, yawning, disjunction (*viśleṣa*) and horripilation (*harṣa*) and a bruising of the limbs (*aṅgamarda*).<sup>643</sup> Next, it causes intoxication from food (*annamada*) and indigestion, loss of appetite (*arocaka*), the condition of having a skin disease (*koṭha*) with round blotches (*maṇḍala*),<sup>644</sup> **dwindling away (*kṣaya*) of flesh**, swelling of the feet, hands, and face, **the fever called *pralepaka***, vomiting and diarrhoea.<sup>645</sup> The slow-acting poison might cause **wheezing, thirst and fever, and it might also cause distension of the abdomen.**
- 32 These various disorders are of many different types: one poison may produce madness, while another one may cause constipation (*ānāha*),

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

640 Ḍalhaṇa cited this verse at 1.46.83 (Su 1938: 222) while explaining *dūṣṭviṣa* (see p. 217).

641 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.

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

643 Ḍalhaṇa 5.2.30ab (Su 1938: 565) glossed “disjunction” as the loss of function of the joints in regard to movement. On अङ्गमर्द “bruising of the limbs” see footnote 411.

644 The last ailment could perhaps be ringworm.

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

and yet another may ruin the semen. One may cause **emaciation**, while another pallid skin disease (*kuṣṭha*).

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

#### 34- The stages of toxic shock

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

- 35 In the second, he trembles, feels exhausted, has a burning feeling, as well as a sore throat. When the poison reaches the stomach (*āmāśaya*), it causes pain in the chest (*hṛd*).
- 36 In the third, his palate goes dry, he gets violent pain (*śūla*) in the stomach (*āmāśaya*), and his eyes become weak, swollen and yellow.
- 37 In the fourth shock, it causes the intestines and stomach to be exhausted (*sāda*), he gets hiccups, a cough, a rumbling in the gut (*antra*), and his head becomes heavy too.
- 38 In the fifth he dribbles phlegm (*kapha*), goes a bad colour, his **ribs crack** (*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.<sup>646</sup>

#### Remedies for the stages of slow poisoning

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

<sup>646</sup> Here at 5.2.24 (*Su* 1938: 566) Ḍalhaṇa glossed *sannirodha* as “complete cessation, i.e., of breath” (*sannirodhaḥ samyagannirodhaḥ, ucchvāsasya iti śeṣaḥ*). The manuscripts all read *skanda* where *skandha* must be intended; this confusion is known from Buddhist Hybrid Sanskrit (Edgerton 1953: 2, 608).

- 41b on the third, drink an antidote and a beneficial nasal medicine (*nasya*) as well as an eye salve (*añjana*).
- 42a In the fourth, the physician should make him drink an antidote that is salt with a little oil.<sup>647</sup>
- 42b In the fifth, he should be prescribed the antidote together with a decoction (*kvātha*) of honey and liquorice.
- 43 In the sixth, the cure (*siddhi*) is the same as for diarrhoea. And in the seventh, he perishes.<sup>648</sup>
- 44 In between any one of these shocks, once the above treatment has been done, he should give the patient the following cold gruel (*yavāgū*) together with ghee and honey, that will take away the poison.
- 45–46 A gruel (*yavāgū*) made of the following items in a stewed juice (*niḥ-kvātha*) destroys the two poisons: luffa,<sup>649</sup> wild celery,<sup>650</sup> velvet-leaf, sunflower,<sup>651</sup> heart-leaved moonseed, myrobalan siris, and Indian

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

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

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

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

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

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

cherry, white siris, the two kinds of turmeric,<sup>652</sup> and the two kinds of hairy-fruited eggplant,<sup>653</sup> hogweed, peas, the three heating spices, the two kinds of Indian sarsaparilla<sup>654</sup> and blue water-lily.

### The Invincible Ghee

- 47–49 There is a famous ghee called “Invincible”. It rapidly destroys all poisons but is itself unconquered. It is prepared with a mash (*kalka*) of the following plants: liquorice, crape jasmine, costus, deodar, peas, Indian madder, cardamom and cherry, cobra’s saffron, blue water-lily, sugar, embelia, sandalwood, malabathrum, foxtail millet, rosha grass, the two turmeric,<sup>655</sup> the two Indian nightshades,<sup>656</sup> the two kinds of Indian sarsaparilla,<sup>657</sup> beggarweed, and heart-leaf sida.

### Curing the ‘slow-acting’ poison

- 50–52 Someone suffering from “slow-acting poison (*dūṣṭviṣa*)” should be well sweated, and purged both top and bottom. Then he should be made to drink the following eminent antidote which removes “slow-acting poison:”  
Take long pepper, rosha grass, spikenard, lodh tree, cardamom, natron, scented pavonia, red ochre, as well as ??, and pondweed.  
This antitoxin, taken with honey, eliminates slow-acting poison. It is called the “enemy of slow-acting poison (*dūṣṭviṣāri*),” and it is not prohibited in other situations.
- 53–54 If there are any other side-effects (*upadrava*), such as fever, a burning feeling, hiccups, constipation (*ānāha*), depletion of the semen, distension, diarrhoea, fainting, skin problems, bellyache (*jaṭhara*), madness,

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

652 I.e., turmeric and Indian barberry.

653 I.e., hairy-fruited eggplant and yellow-berried nightshade.

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

655 I.e., turmeric and Indian barberry.

656 I.e., hairy-fruited eggplant and yellow-berried nightshade.

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

trembling, then one should treat each one in its own terms, using anti-toxic medicines.

- 55 For a prudent person, the slow-acting poison can be cured (*sādhya*) immediately. It is treatable (*yāpya*) if it is of a year's standing. Other than this, it should be avoided for the person who eats unwholesome things.

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# Kalpasthāna 3: Poisonous Insects and Animals

## Introduction

The Sanskrit names of the creatures, especially insects, described in this chapter present a special challenge.<sup>658</sup> In particular, in the early passages of this chapter, there are long compound words containing lists of insect-names and it is not obvious where word-division should take place. For example, the Nepalese version of 5.3.5 (Su 1938: 567), has the compound *citraśīrṣaśārāvakurdiśatadārukārimeḍakaśārikā*. The first name is not hard: *citraśīrṣa* “Speckle-head.” But should the second insect be called *śārāva*, followed by *kurdiśata*, or *śārāvakurdi* followed by *śatadārukā*, or *śatadārukāri*, etc. No past translators have given serious attention to this problem. In 1844, Hessler (1844–55: 219) thought the list was to be divided thus: *śārāva*, *kurdi*, *śatadāruka*, *arimeḍa*, and “*Gracula religiosa*,” i.e., *śārikā* (see Table 6). In 1907, Kunjalal Bhishagratna (1907–16: v. 2, 696) used *śārāva*, *kurdiśata*, *dāruka*, *arimeḍaka*, and *śārikā-mukha*. Singhal and Dwivedi (1976: 56) chose similarly, but preferred *dārukārika* and *meḍaka*. P. V. Sharma (1999–2001: v. 3, 27) preferred *dārukāri* and *meḍaka*, as did Valiathan (2007: 608). None of these authors attempted translation or identification of the insects, and it seems clear from the randomness of their choices that none of them had concentrated on this problem. In such a case, one hopes for help from the medieval commentators, but Ḍaḥaṇa did not comment on these names either. As mentioned below (p. 277), he abdicated responsibility insect names, delegating the topic to the “people who lived in various localities.”

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<sup>658</sup> This is discussed in more detail on p. 277 below.

1884	<i>sarāva</i>	<i>kurdi</i>	<i>śatadārūka</i>	<i>arimedaka</i>	<i>śārika</i>
1907	<i>sarāva</i>	<i>kurdiśata</i>	<i>dārūka</i>	<i>arimedaka</i>	<i>śārikāmukha</i>
1976	<i>sarāva</i>	<i>kurdiśata</i>	<i>dārukārika</i>	<i>medaka</i>	<i>śārikāmukha</i>
1999	<i>sarāva</i>	<i>kurdiśata</i>	<i>dārukāri</i>	<i>medaka</i>	<i>sārikāmukha</i>

Table 6: Variant word-division of creature names.

In dealing with these names, I have mostly been guided by dictionaries. Thus, Monier-Williams, Leumann, Cappeller, et al. (MW) have the lexemes *śarāvakurda*, *śatadārūkā* and *arimedaka*, so that is how I have divided the compound.<sup>659</sup> This evidence is somewhat flimsy; it would be much better to have some parallels from Indo-European on one side, or MIA or NIA languages on the other.<sup>660</sup> But unfortunately, dictionary searches of these languages have so far not helped. The only other source of help is the scribe of MS Kathmandu NAK 5-333 (fl. ca. 1543), who inserted *daṇḍas* between the compound words. These correspond to the word-division of Monier-Williams, Leumann, Cappeller, et al. (MW), above.

659 References to the *Suśrutasamhitā* in Monier-Williams, Leumann, Cappeller, et al. (MW) are taken from PW, which cited the *editio princeps* of S. M. Gupta (1835–36) (PW: 1, xi and Gildemeister 1847: 149–150).

660 Could *kurda* be related to *kuṇa* “louse”? The lexeme *śarāva* puzzled even Mayrhofer (KEWA: 3, 307, EWA: 2, 617).



## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>661</sup>

## Translation

- 1 And now we shall explain the formal procedure (*kalpa*) that is the required knowledge about mobile poisons.<sup>662</sup>
- 3 The full explanation about the sixteen carriers (*adhiṣṭhāna*) of the mobile poisons, that have been mentioned by me in brief, will be stated.<sup>663</sup>
- 4 In that context, they are:<sup>664</sup>

<ol style="list-style-type: none"> <li>1. gaze</li> <li>2. breath,</li> <li>3. fangs,</li> <li>4. nails,</li> <li>5. mouth,</li> <li>6. urine,</li> <li>7. feces,</li> <li>8. menstrual blood,</li> <li>9. semen,</li> </ol>	<ol style="list-style-type: none"> <li>10. tail,</li> <li>11. contact with saliva,</li> <li>12. nipping with the mouth,</li> <li>13. farts,<sup>665</sup></li> <li>14. anus,<sup>666</sup></li> <li>15. bones,</li> <li>16. bile,</li> <li>17. bristles, and</li> <li>18. corpses.<sup>667</sup></li> </ol>
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<sup>661</sup> [HIML](#): 1A, 291–292.

<sup>662</sup> In contrast to stationary, plant poisons. No reference is made to Dhanvantari (see Birch, Dominik Wujastyk, Klebanov, Parameswaran, et al. [2021](#)).

<sup>663</sup> “Carrier” for base, foundation (*adhiṣṭhāna*) aims to capture the idea that the author will describe the anatomical parts in which poisons inhere in different creatures. Meulenbeld ([HIML](#): 1A, 291) paraphrased this difficult passage, giving important notes on most of the creatures mentioned.

<sup>664</sup> The content of this section is presented as tables, for clarity for the contemporary reader and mindful of the theoretical issues surrounding notational variation, including the “symbolic rewriting” and the modification of “expressive capacities” discussed by Sarukkai ([2016](#): 321 ff). For further discussion, see Dominik Wujastyk [2021](#): 81–83.

<sup>665</sup> This interpretation, farts (*avaśardhita*), comes from Ḍalhaṇa on 5.3.4 ([Su 1938](#): 567), but he read *viśardhita*.

<sup>666</sup> Ḍalhaṇa on 5.3.4 ([Su 1938](#): 567) noted this reading, anus (*guda*), but did not include it in his text of the *Suśrutasaṃhitā*.

<sup>667</sup> This list has grown in transmission by two items.

5 In that context,<sup>668</sup>

Table 7: Passage 5, expressed in tabular format.

	<i>creatures</i>	<i>location of the poison</i>
5.1	divine snakes	in their breath and gaze
5.2	earthly snakes <sup>669</sup>	in their fangs
5.3	cats, dogs, monkeys, men ( <i>nara</i> ), <sup>670</sup> crocodiles, frogs, cook-fish insect, <sup>671</sup> monitor lizards, cone snails, ??, house geckos, <sup>672</sup> four-footed insects and others	in their nails, mouths and fangs
5.4	lice ( <i>kiṭiṇa</i> ), 'flat insects' ( <i>picciṭā</i> ), 'orange-dwellers' ( <i>kaṣāyavāsika</i> ), 'mustard snakes' ( <i>sarṣapaka</i> ), 'angry beetles' ( <i>toṭaka</i> ), dung beetles ( <i>varcaḥkīṭa</i> ), and 'pot insects' ( <i>kaunḍinya</i> )	in their urine and faeces
5.5	rats	in their semen
5.6	scorpions, wasps, scorpion-fish, <sup>673</sup> crickets, and wing-scorpions	in their stings ( <i>śūla</i> )
5.7	spiders	in their saliva, nails, urine, feces, blood, semen and fangs

668 The sequence of the following texts is not the same in the Nepalese version as in the vulgate. The numbering below represents the Nepalese version; in the vulgate, 5.7 and 5.6 are reversed, and also 5.9 and 5.8.

669 Ḍalhaṇa on 5.3.5 (Su 1938: 567) cited the otherwise unknown authority Sāvitra on the topic of poisonous snakes (HIML: IA, 377, IB 497, n. 105).

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

671 The scribe of MS Kathmandu KL 699 separated the words पाक and मत्स्य with a daṇḍa, indicating that they were separate terms (see 281).

672 The scribe of MS Kathmandu NAK 5-333 noted in the margin that some of his sources read गलगोडिका, which is the name of a snake known also in the *Carakasamhitā* and elsewhere in literature (cf. note 315, p. ??).

673 Ḍalhaṇa on 5.3.5 (Su 1938: 568) remarked that some interpreted वरकिमत्स्य as two items, "stinger and fish," others as a single one, "stinger-fish."

	<i>creatures</i>	<i>location of the poison</i>
5.8	bees, hornets and leeches	in the bites of their mouths
5.9	speckle-heads, dish-creepers, hundred-woodys, enemy-liquors, and common mynas	in the bites of their mouths, their fangs, their stings ( <i>asi</i> ), piles, farts, anuses and feces
5.10	the bones of one killed by poison, and the bones of snakes, fish-bone, and scorpion-fish	in their bones
5.11	mudfish, red-stripe, and vaki fish <sup>674</sup>	have poison in their bile
5.12	thin-beaks, crickets, wasps, centipedes, valabhikas, horns, and bees	have poison in their bristles;
5.13	the lifeless bodies of insects, and snakes	have poison in their corpses;
5.14	and the rest that have not been mentioned	should be counted amongst those that have poison in their mouths and fangs.

## Pollution of the environment

- 6 The enemies of the king pollute the waters, roads and foodstuffs in enemy territory. The experienced physician, who has learned how to purify things, should clean up those polluted things.
- 7 Polluted water is slimy and smells of tears.<sup>675</sup> It is covered with froth and covered with streaks. The frogs and fish die, the birds are crazed and, along with the wetland creatures, they wander about aimlessly.
- 8 Men, horses and elephants who swim in it experience vomiting, delusion, fever, swelling and sharp pains.<sup>676</sup> He should try to purify that polluted water, after curing their ailments.
- 9 And so, he should burn axlewood and garjan oil tree, as well as corky coral tree, and small-flowered crape myrtle and weaver's beam tree,

<sup>674</sup> One would expect pufferfish, known in Indian coastal waters, to be in this list.

<sup>675</sup> अस normally means "tears," but rarely means "blood."

<sup>676</sup> On the polysemy of elephant/snake (*nāga*), see Semeka-Pankratov 1979.

- and with golden shower tree and white cutch tree.<sup>677</sup> Then he should sprinkle that ash, cold, on the waters.
- 10–11 And in the same way, putting a handful of the ash in a pot, one may also purify water that one wants. If any one of the limbs of cows, horses, elephants, men or women, touch a place on the ground that enemies have spoiled with poison, or a ford or rock or a flat surface, then it swells up and burns and its hair and nails fall out on that place.<sup>678</sup>
- 12 In that situation, he should grind up country sarsaparilla together with all the aromatic items, with alcoholic drinks. And then he should sprinkle the paths that need to be used with waters mixed with mud.<sup>679</sup> And if there exists another path, he should go by that.<sup>680</sup>
- 13 When grasses and foods are polluted, people collapse, fall unconscious. And others vomit. They get loose stool or they die.<sup>681</sup> One should apply to them the therapy as described.
- 14–15 Alternatively, one should smear various musical instruments with antidotes that remove poison and then play them. What is called the most excellent paste for a musical instrument is certain minerals<sup>682</sup> together

677 Cf. with the recipe at *Suśrutasaṃhitā* 5.6.3 (Su 1938: 580) for a paste to put on drums etc., p. 271 below.

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

679 Our “alcoholic drinks” translates सुरा. For a discussion of this term at our period see McHugh 2021: 37–39 *et passim*.

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

681 In “they get loose stool,” the verb आर्च्छन्ति (√ऋ), transmitted in both Nepalese manuscripts, has an irregular initial strong vowel. Alternatively, and perhaps more likely, it is a combination of आ+√ऋ, conjugated unusually as a class 6 verb, but with an appropriate sense of “to fall into (misfortune).”

682 “Certain minerals” translates तारावितार, the unanimous reading of the Nepalese witnesses. But the meaning of this expression is not clear and may even refer to plants, like the other ingredients. The vulgate reads तारः सुतारः, which is also not very clear. However, Ḍalhaṇa on 5.3.14 (Su 1938: 568) identified these as “silver” and “mercury.” This is highly unlikely to be a correct understanding of the passage. Historically, mercury is not naturally present in the South Asian peninsula (Watt<sub>Dict</sub>: 5, 233) and the word पारद that Ḍalhaṇa used is probably a loan-word from Persian (sub *paranda*, *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

with gold and sarsaparilla, and a portion of of nutgrass equal to that, together with the bile called “brown cow”.<sup>683</sup> By the sound of the musical instrument, even terrible poisons that may be present at that place are destroyed.

- 16 If there is smoke or wind that is affected by poison then birds are dazed and fall to the ground. People get coughs, colds, and head illnesses, and acute eye diseases.<sup>684</sup>
- 17 The smoke and air can be purified by putting into the air: lac, turmeric, Indian aconite, and myrobalan, with Himalayan mayapple, costus, cardamom,<sup>685</sup> as well as peas, and foxtail millet.

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

## The origin of poison

- 18 As it is told, the arrogant demon called Kaiṭabha created an obstacle for lotus-born Brahmā, at the very time that he was creating these creatures.<sup>686</sup>
- 19 Pitiless Fury took a body and burst out of the mouth of furious Brahmā's store of fiery energy.<sup>687</sup>
- 20 He burned that great, thundering, apocalyptic demon. Then, after bringing about the annihilation of that demon, his amazing fiery energy increased.
- 21 And so, there was a sinking down (*viṣāda*) of the Daityas. Observing that, it was named “poison (*viṣa*)” because of it's ability to produce a “sinking down.”

the *Arthaśāstra* that is datable to 175–300 CE (Olivelle 2013: 29–31) does not mention mercury (*ibid*, 534). See further the study by Dagmar Wujastyk (2013: 17, *et passim*).

- 683 सुरेन्द्रगोप and कुरुविन्द are both uncertain; see s.v. in the glossary of flora, p. 438 below. Ḍalhaṇa's opinion has been followed here, but it seems fair to say that all commentators were guessing.

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

685

- 686 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 2009. On “as it is told” for किल, see M. B. Emeneau 1969.

- 687 “Fury” is here anthropomorphised.

- 22 After that, the Lord created beings and subsequently made that fury enter into creatures still and moving.

### The working of poison

- 23–24 Water that falls from the sky to the earth has no obvious flavour. The savour of the different places it lands on enters into it. In the same way, whatever substance a poison reaches, it establishes itself there and by its nature it takes on that substance's savour.<sup>688</sup>
- 25 Generally speaking, in a poison, all the qualities are really sharp. For this reason, every poison is known to irritate all of the humours.
- 26 Irritated and afflicted by the poison, they leave their natural functions. Poison does not get digested, so it blocks the breaths.<sup>689</sup>
- 27 Breathing is obstructed because its pathway is blocked by phlegm. Even if life continues, a man remains without consciousness.
- 28 Similar to semen, the poison of all angry snakes pervades the whole body, and goes to the limbs like semen because of being stirred up.
- 29 The fang of snakes is like a hook. When it gets there, it sticks inside them. That is why the unagitated poison of a snake is not released.
- 30 Sprinkling with very cold water is traditional for all cases of poisoning, because poison is declared to be extremely hot and sharp.<sup>690</sup>
- 31 Poison in insects is slow and not very hot, having a lot of wind and phlegm. So in cases of insect poisoning, sweating is not forbidden.
- 32cd In cases of a strike or a bite, the poison may, of its own accord, stay there.
- 33–35ab †Having come upon a body,<sup>691</sup> in the case of corpses that have been pierced by a poisoned arrow and bitten by a snake, someone who eats the poisoned flesh of a recent corpse out of carelessness will suffer with illness according to the poison, or even die. And therefore, the flesh of those should not be eaten when they have just died.

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

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

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

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

It is admissible after three quarters of an hour, but without the poisoned arrow and the snakebite.<sup>692</sup>

35.add1–add3 However, flowing in those whose bodies are injured by wasting, in pregnant women, in those suffering from skin diseases or urinary disorders, in those who are dehydrated, and in those who are weak, because of its fineness, sharpness and heat, and also because of its expansiveness,<sup>693</sup> poison that is connected with these qualities permeates a wound.<sup>694</sup> When it is struck by wind and heat, it loses its potency. Therefore, not everything that is killed by poison and eaten causes death.<sup>695</sup>

35cd & 36cd One designates a person who has diarrhoea of feces looking like soot (*grhadhūma*) with wind,<sup>696</sup> and who vomits foam, as “someone who has drunk poison.”

37 Therefore, fire burns a heart that is pervaded by poison. For, having pervaded of its own accord the location of consciousness, it abides.<sup>697</sup>

Check this  
and cf.  
5.3.39.

## Patients beyond help

38 Patients who should not be accepted include: those who have been bitten under a **peepul tree**, in a temple, in a cemetery, at an ant-hill, at

692 *Mādhavanidāna*, 69.20–21 (MN<sub>1</sub>: 480) has verses that are directly parallel to this section: *दर्वाकराणां विषम् आशुघाति सर्वाणि चोष्णे द्विगुणीभवन्ति ॥ अजीर्णपित्तातपपीडितेषु बालेषु वृद्धेषु बुभुक्षितेषु ॥२०॥ क्षीणक्षते मोहिनि कुष्ठयुक्ते रूक्षे ऽबले गर्भवतीषु चापि ॥ शस्त्रक्षते यस्य न रक्तम् एति राज्यो लताभिश्च न संभवन्ति ॥२१॥*. This passage is the only occurrence in the Ayurvedic text corpus that relates to the Nepalese version of the *Suśrutasamhitā* at this point. This suggests that Mādhavakara (fl. ca. 700, Bengal) knew and used the Nepalese version.

693 Here, a verse in imperfect upajāti metre is added in the margin of MS Kathmandu KL 699 but is not fully legible; the version of the text at 3.39.2 in MS Kathmandu NAK 5-333 is also incomplete and not fully comprehensible.

694 “Permeates” translates *समनुधावति*, which etymologically means “completely runs after.”

695 At this point, MS Kathmandu NAK 5-333 inserts a marginal *Indravajrā* verse about diseases that afflict immoral women.

696 *गृहधूम* is not a plant in this context, *pace* MW: 362. See the discussion in note 592, p. 203 above.

697 *Ḍalhaṇa* said that someone who has died from drinking poison has a heart that cannot be burned because it is pervaded by poison (5.3.37 (*Su* 1938: 570)). But the sense of the Nepalese MSS is the opposite.



dawn or dusk, at a crossroads, under Yama's asterism,<sup>698</sup> under the Great Bear and people who have been bitten in lethal spots.

- 39 The poison of cobras kills rapidly. They all gain twice the intensity in those who have indigestion, those who are afflicted by bile or wind, old people, children and the hungry.

- 39.1 In those whose who are mad or intoxicated, or who suffer from anxiety, or who are unable to tolerate its various strengths, it becomes sharp. †...

39.2

<sup>699</sup>

- 3.40cd–3.43ab One should reject someone overcome by poison who **does not bleed** when cut with a knife, where weals do not appear as a result of lashes,<sup>700</sup> or where there is no horripilation because of cold water, whose mouth is **crooked**, whose hair is falling out of his head. A man who is fatigued and those who stammer,<sup>701</sup> one who has a black and red swelling at the site of the bite, with lockjaw, should be avoided. The same goes for someone who has a solid plug emerge from their mouth and someone who has blood running from above and below. The physician should also avoid a person who has fangs that have not fallen out quickly.<sup>702</sup>

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

699 Material corresponds to SS.1.45.205ab, where it describes how alcohol produces intoxication because it is fine, hot and sharp and travels through the vessels disturbing the senses and the mind and intoxicating the potency.

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

701 nāsāvasāda & plural sakaṇṭhabhaṅgāḥ

702 The grammatical verb-form परिवर्जयित "he should avoid," opt., 3rd, sg., is unusual. Renou (1940: 10 ff) documented such forms from the *Aitareyabrāhmaṇa* onwards. Oberlies (2003: ¶6.3.3 "Peculiar optative endings", pp. 176–177) showed that the form is well-documented in *manuscripts* of the *Mahābhārata*, but has been edited out of the printed critical edition in almost all cases. Cf. also Kulikov 2006.

The concern about a patient who "has fangs that have not fallen out" is hard to understand. The word दंष्ट्रा does not mean human teeth (दन्त). We therefore prefer to understand this as describing a patient where the fangs of a venomous creature remain in the bite-wound. This requires construing the expression as a *bahuvrīhi* compound: दंष्ट्रा or दंष्ट्र + अनिपातः.



# Kalpasthāna 4: Snakes and Envenomation

## Introduction

The fourth chapter of the Kalpasthāna of the *Suśrutasamhitā* addresses the topic of snake bites and snake venom. Exceptionally for the Nepalese version of the *Suśrutasamhitā*, the discussion is framed as a question from Suśruta to the wise Dhanvantari. Suśruta's questions are about the number of snakes, how they are classified, the symptoms of their bites and the pulses or stages of toxic shock experienced by a victim of snakebite, and related topics. The taxonomy of snakes is presented in tabular form in Figures 5 and 6.<sup>703</sup>

The *Carakasamhitā* also addressed this topic of snake taxonomy, but only included the first three of the *Suśrutasamhitā*'s five types, namely Darvīkara, Maṇḍalī and Rājimān.<sup>704</sup> These three categories of snakes were framed within a humoral scheme, aggravating wind, bile and phlegm respectively, a scheme that was carried forward into symptoms and therapy.<sup>705</sup> The *Suśrutasamhitā* did not use this snake–humour parallelism. By contrast, the system of seven pulses or toxic shocks (*vega*) that was central to the *Suśrutasamhitā*'s understanding of envenomation is absent from the *Carakasamhitā*.<sup>706</sup>

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

704 6.23.124 ff. (Ca 1941: 577).

705 *Carakasamhitā* 6.23.165–176 (Ca 1941: 579). Note that the *Carakasamhitā* then described symptoms and therapies without reference to the three-humour scheme: 6.23.177–254 (Ca 1941: 579–582).

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

## The Seven Stages of Toxic Shock

A prominent feature the *Suśrutasamhitā*'s interpretation of envenomation symptoms is the concept of seven successive stages or pulses (*vega*) of toxic shock after a bite. This is interestingly coordinated with the *Suśrutasamhitā*'s concept of the *kalās*, which are either seven skin-like membranes that come into existence during embryonic development or seven interstitial tissues that separate the various parts of the body.<sup>707</sup>

Contemporary clinical studies of snake envenomation and treatment do not show any awareness of such a seven-stage symptomatology as found in traditional Indian medicine.<sup>708</sup> Exceptionally, the studies by Barceloux and Özbulat, Açıkalin, Akday, et al., do identify and tabulate three stages of envenomation.<sup>709</sup> The symptoms of these three stages are mainly characterized by increasing degrees of edema. This differs from the *Suśrutasamhitā*'s detailed characterization of changes in skin colour etc.<sup>710</sup>

(6.3.70 (Ca 1941: 404)). In other contexts, it had the ordinary-language meaning of a natural "impulse" or "pressure" that should not be suppressed (1.25.40 et passim (Ca 1941: 131–132)).

707 The system of the कला is described at 4.4.4–20 (Su 1938: 355–357); see p. 131. Cf. *Mahākośa*: 1, 183–184, *Śabdāsindhu*: 227–228, Kutumbiah 1962: 6, HIML: 1, 247–248 and notes. This system of dermal and interstitial कला was not known to the *Carakasamhitā* as such. Rather, the *Carakasamhitā* mentioned six kinds of त्वच् with different names and characteristics. These were classified not according to appearance, as in the *Suśrutasamhitā*, but mainly according to the diseases that they supported (4.7.4 (Ca 1941: 337)). This contradiction between the *Carakasamhitā* and the *Suśrutasamhitā* was discussed by the commentator Cakrapāṇidatta (*Idem*). The *Suśrutasamhitā*'s concept of seven membranes appears in later works such as the fourteenth-century *Śārṅgadharasamhitā* (1.5.60 (Śāstrī 1931: 40)).

708 E.g., Ellenhorn 1997; Mehta and Sashindran 2002; Weinstein, Dart, Staples, and White 2009; V. V. Pillay 2013: 1747–1749; WHO 2019: 19; Hamza, Knudsen, Gnanathan, et al. 2021; A. M. Deshpande, Sastry, and Bhise 2022.

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

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

## Literature

A brief survey of this chapter's contents and a detailed assessment of the existing research on it to 2002 was provided by Meulenbeld.<sup>711</sup> There also exists a substantial herpetological literature from colonial India as well as more recent studies of snakes in the context of cultural and religious life.

Chevers (1870) gave a characteristically evidential and gripping nineteenth-century account of death by snakebite in the context of homicide. He discussed the specific species of snake most associated with envenomation and their common geographical distribution. He also provided numerous vivid case histories of envenomation as well as murder and execution by deliberate snakebite.<sup>712</sup>

The properly ophiological literature of the colonial period began in the late nineteenth century with the work of Joseph Fayrer, whose publication included striking colour paintings of snakes.<sup>713</sup> Fayrer provided a biological taxonomy of snakes as well as chapters on mortality statistics during the nineteenth century, treatment and effects of poison, and experimental data. Ewart (1878) included descriptions of the appearance and behaviour of poisonous snakes and sometimes their local names and reproduced Fayrer's illustrations.<sup>714</sup> Wall (1913: 75–124) provided a useful analysis of the medical effects of snake envenomation in India arranged by the varied symptomatology of different snakes. He also discussed the difference between the symptoms of toxicity and fright (69–75) and also the difficulties arising out of uncertainty about the effects of snake-bite (124–126). The *Suśrutasaṃhitā* too recognized the emotional and somatic effects of fright (see note 727 below). Wall (1921) provided a wealth of detail of the snakes of Sri Lanka, including line drawings.

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

711 HIML: IA, 292–294. In addition to the translations mentioned by Meulenbeld (HIML: IB, 314–315), a translation of this chapter was included in P. V. Sharma 1999–2001: 3, 35–45. The classic work of Jolly (1951: ¶93) offered a short but accurate overview of Indian toxicology.

712 Chevers 1870: 368–386.

713 Fayrer 1874, first published in 1872.

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

*et passim*) discussed the *Suśrutasamhitā*'s *Kalpasthāna* as a precursor and influence on later Tantric traditions of snake-bite interpretation and therapy. In particular, the Tantric *Kriyākālaguṇottara* text that Slouber presented divided snakes into two basic categories, divine and mundane, as the *Suśrutasamhitā* does.<sup>715</sup> But unlike the *Suśrutasamhitā*, in the *Kriyākālaguṇottara* the chief taxonomic principle for both groups is the four *varṇas*.<sup>716</sup>

A discussion of this chapter specifically in the light of the Nepalese manuscripts was published by Harimoto.<sup>717</sup> After a close comparative reading of lists of poisonous snakes, Harimoto concluded that, "the Nepalese version is internally consistent while the [vulgate] editions are not." Harimoto showed how the vulgate editions had been adjusted textually to smooth over inconsistencies, and gave insights into these editorial processes.<sup>718</sup>

## Translation

- 1 Now we shall explain the procedure (*kalpa*) that is required knowledge (*vijñānīya*) concerning the venom in those who have been bitten by snakes.<sup>719</sup>
- 3 Suśruta, grasping his feet, questions the wise Dhanvantari, the expert in all the sciences.
- 4 "My Lord, please speak about the number of snakes, and their divisions, the symptoms of someone who has been bitten, and the knowledge about the toxic reactions of poisoning".<sup>720</sup>

<sup>715</sup> Slouber 2016a: 144–145.

<sup>716</sup> Hidas 2019: passim, in his work on the *Vajratuṇḍasamayakalparāja*, which may be considered part of the Gāruḍa cycle of literature, mentions snakes in several agricultural contexts relating to Nāgas and propitiations for inducing rainfall and occasionally in invocations for controlling snakes' poison.

<sup>717</sup> Kengo Harimoto 2011: 101–104.

<sup>718</sup> The two editions that Harimoto noted, Su 1938 and Su 1889, present identical texts.

<sup>719</sup> The *Sarvāṅgasundarī*, commenting on *Aṣṭāṅgahṛdayasamhitā* 1.16.17 (Ah 1939: 246), glossed कल्प as प्रयोग.

<sup>720</sup> The expression "toxic reactions" translates वेग, which in other contexts may mean "(natural) urge." Here, it is rather the discrete stages or phases of physiological reaction to envenomation. Cf. the symptoms of cobra poisoning described by Wall (1913: 80).

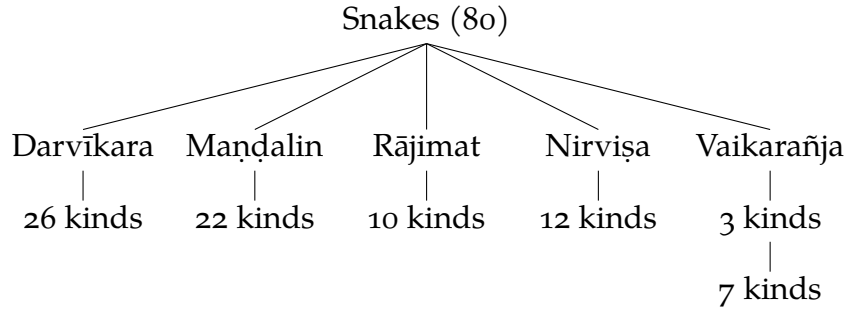


Figure 5: The taxonomy of snakes in the vulgate, 5.4.9–13ab (Su 1938: 571).

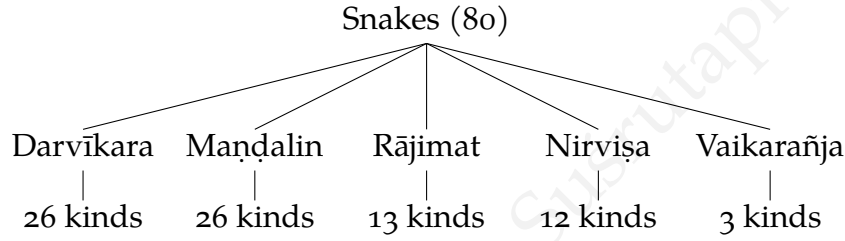


Figure 6: The taxonomy of snakes in the Nepalese version of the *Suśruta-saṃhitā*.

## The Taxonomy of Snakes

5 On hearing his query, that distinguished physician spoke.

“The venerable snakes such as Vāsukī and Takṣaka are uncountable.

6–9ab “They are snake-lords who support the earth, as bright as the ritual fire, ceaselessly roaring, raining and scorching. They hold up the earth, with its oceans, mountains and continents. If they are angered, they can destroy the whole world with a breath and a look. Honour to them. They have no role here in medicine.

“The ones that I shall enumerate in due order are those mundane ones with poison in their fangs who bite humans.<sup>721</sup>

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

<sup>721</sup> The next few verses are discussed in detail by Kengo Harimoto (2011: 101–104), who shows that in the taxonomy of snakes, the Nepalese version of the *Suśrutasaṃhitā* has greater internal coherence than the vulgate recension.

Darvikaras, Maṇḍalins, Rājīmats, and Nirviṣas. And Vaikarañjas that are traditionally of three kinds.<sup>722</sup>

- 11 “Of those, there are twenty and six hooded snakes, and the same number of Maṇḍalins are known. There are thirteen Rājīmats.<sup>723</sup>
- 12 “There are said to be twelve Niriviṣas and, according to tradition, three Vaikarañjas.

### Behaviours

- 13–14ef “If they are trodden on, ill-natured or provoked or even just looking for food, those very angry snakes will bite. And that is said to happen in three ways: serpented (*sarpita*), torn (*darita*) and thirdly without venom (*nirviṣa*). Some experts on this want to add “hurt by the snake’s body”.<sup>724</sup>
- 15–16 “The physician can recognize the following as “ophidian (*sarpita*)”: Where a rearing snake makes one, two or more puncture-marks of its teeth, when they are deep and without much blood,<sup>725</sup> accompanied by a little ring of spots (*cuñcumālaka*),<sup>726</sup> lead to degeneration, and are close together and swollen.

722 Kengo Harimoto (2011) translated these names as “hooded,” “spotted,” “striped,” “harmless,” and “hybrid.” Figure 5 shows the taxonomy described in the vulgate text; Figure 6 shows the different and more logical division of the Nepalese version of the *Suśrutasamhitā*.

723 The phrasing of this śloka is awkward.

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

725 The word उद्धृत “aroused” was glossed by Ḍalhaṇa at 5.4.15 (Su 1938: 571) as उन्मोद्य, a word not found as such in standard dictionaries (MW; KEWA; *Mahākośa*; Apte). Semantic considerations suggest that the word is not related to *muṭ* “break” or *mūta*/*mūṭa* “woven basket.” Perhaps it is related to the Tamil *மோதி* (*mōṭi*), whose meanings include “arrogance, grandeur, display” (DED<sub>2</sub>: #5133) or to faintly-documented forms like *moṭyate* “is twisted” (CDIAL: #10186). Ḍalhaṇa’s उन्मोद्य may thus mean “twisting up” or “making an arrogant display.” Note that पद “puncture-mark” (more literally, “footprint”) is being used in the same sense as in 1.13.19 (Su 1938: 57) when describing the marks on the body where a knife scarifies the skin before leeching. See footnote 78.

726 The usual dictionary lexeme is चञ्चु, not चुञ्चु as in the Nepalese witnesses. We translate “spots” following Ḍalhaṇa and Gayadāsa on 5.4.15 (Su 1938: 571), where they described a group of spots or swellings at the site of the bite. On the history of the word मालक, see Kieffer-Pülz 1996.

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

- 17 Where there are streaks with blood, whether it be blue or white, the physician should recognize that to be “torn (*darita*),” having a small amount of venom.
- 18 The physician can recognize the locations of the bites of a person in a normal state as being free from poison, when the location is not swollen, and there is little corrupted blood.
- 19 The wind of a timid person who has been touched by a snake can get irritated by fear. It causes swelling.<sup>727</sup> That is “hurt by a snake’s body.”
- 20 Locations bitten by sick or frightened snakes are known to have little poison. Similarly, a site bitten by very young or old snakes has little poison.
- 21 Poison does not progress in a place frequented by eagles,<sup>728</sup> gods, holy sages, **spirits**, and saints, or in places full of herbs that destroy poison.<sup>729</sup>

### [Characteristic Features of Snakes]

- 22 Darvīkara snakes are known to have hoods, to move rapidly, and to have rings, ploughs, umbrellas, crosses, and hooks on them.
- 23 Maṇḍalin snakes are known for being large and slow-moving. They are decorated with many kinds of circles. They are like a flaming fire because of their poisons.
- 24 Rājimat snakes are smooth and traditionally said to be, as it were, mottled with multicoloured streaks across and above.

<sup>727</sup> 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.

<sup>728</sup> Ḍalhaṇa on 5.4.21 (Su 1938: 571) identified the सुपर्ण as a गरुड. On the bird called सुपर्ण, Dave (1985: 72 ff, 514) too noted that it may be a synonym for Garuḍa, and in some contexts may refer to the Golden Eagle, Golden Oriole, Lammergeyer, etc. Dave (1985: 199 ff, 492) noted again that the Garuḍa is a mythical bird but may refer to the Himalayan Golden Eagle and other species of eagle. He pointed out that historically, The original physical basis for गरुड as the नागाशी (snake-eater) was most probably the Sea-Eagle who picks up sea-snakes from the sea or sand-beach and devours them on a nearby tree... (Dave 1985: 201).

Dave continued with interesting reference to Śrīharṣa’s *Nāgānanda*.

<sup>729</sup> For “spirits” the Nepalese version has भूत while the vulgate reads यक्ष.



## [Classes of Snake]

- 25 Snakes that are shine like pearls and silver, and that are amber and that shine like gold, and smell sweet are traditionally thought of as being of the Brāhmaṇa caste.
- 26 Warrior snakes, however, are those that look glossy and get very angry. They have the mark of the sun, the moon, the earth, an umbrella and bitumen.
- 27 Merchant snakes may traditionally be black, shine like diamond or have a red colour or be grey like pigeons.
- 28 Any snakes that are coloured like a buffalo and a tiger, with rough skin and different colours are known as servants.<sup>730</sup>
- 31 All snakes that are variegated (Rājīmats) move about during the first watch of the night. The rest, on the other hand, the Maṇḍalins and the Darvīkaras, are diurnal.<sup>731</sup>
- 29 Wind is irritated by all hooded snakes; bile by Maṇḍalins and phlegm by those with many stripes.
- 30 Because of the two classes having greater, lesser or equal class, there is the characteristic of irritating two humours. And he will explain the opposing view that is to be known as a result of the non-union of a male and female.<sup>732</sup>

## Enumeration of Snakes

- 34.1 In that context, here are the Darvīkaras.
- |  |  |
|--|--|
| 1. The Black snake ( <i>kṛṣṇasarpa</i> );              | ( <i>śvetakapota</i> ); <sup>734</sup> |
| 2. The Big Black ( <i>mahākṛṣṇa</i> );                 | 6. The Rain Cloud ( <i>valāhako</i> ); |
| 3. The Black Belly ( <i>kṛṣṇodara</i> );               | 7. The Great Snake                     |
| 4. The All Black ( <i>sarvakṛṣṇa</i> ); <sup>733</sup> | ( <i>mahāsarpa</i> );                  |
| 5. The White Pigeon                                    | 8. The Conch Keeper                    |

730 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)).

731 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.

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

733 Not in the vulgate.

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



- (*śaṃkhaṇḍapāla*);
9. The Red Eye (*lohitākṣa*);
  10. The Gavedhuka (*gavedhuka*);
  11. The Snake Around (*parisarpa*);
  12. The Break Hood (*khaṇḍaphaṇa*);
  13. The Kūkuṭa (*kūkuṭa*);
  14. The Lotus (*padma*);
  15. The Great Lotus (*mahāpadma*);
  16. The Grass Flower (*apuṣpa*);
  17. The Curd Mouth (*dadhimukha*);
  18. The Lotus Mouth (*puṇḍarīkamukha*);
  19. The Brown Hut Mouth (*babhrūkuṭīmukha*);
  20. The Variegated (*vicitra*);
  21. The Flower Sprinkle Beauty (*puṣpābhikīrṇābha*);
  22. The Mountain Snake (*girisarpa*);
  23. The Straight Snake (*rjusarpa*);
  24. The White Rip (*śvetadara*);
  25. The Big Head (*mahāśirṣa*);
  - and
  26. The Hungry Sting (*alagarda*);

#### 34.2 Here are the Maṇḍalins

1. The Mirror Ring (*ādarśamaṇḍala*);
2. The White Ring (*śvetamaṇḍala*);
3. The Red Ring (*raktamaṇḍala*);
4. The Speckled (*prṣata*);
5. The Gift of God (*devadinna*);
6. The Pilindaka (*pilindaka*);
7. The Big Cow Snout (*vṛddhagonasa*);
8. The Jackfruit (*panasaka*);
9. The Big Jackfruit (*mahāpanasaka*);
10. The Bamboo Leaf (*veṇupatraka*);
11. The Kid (*śīśuka*);
12. The Intoxicator (*madanaka*);
13. The Morning Glory (*pāṇḍaka*);
14. The Stretch (*tantuka*);
15. The Pale as a Flower (*puṣpapāṇḍu*);
16. The Six Part (*ṣaḍaṅga*);
17. The Flame (*agnika*);
18. The Brown (*babhrū*);
19. The Ochre (*kaṣāya*);
20. The Khaluṣa (*khaluṣa*);
21. The Pigeon (*pārāvata*);
22. The Hand Decoration (*hastābharaṇaka*);
23. The Tatra (*tatra*);<sup>735</sup>
24. The Mark (*citraka*);
25. The Deer Foot (*eṇīpada*).<sup>736</sup>

<sup>735</sup> This seems implausible, but otherwise the list of Maṇḍalins would be short.

<sup>736</sup> The list is short by one item. Perhaps the one of the snakes named in the vulgate, *citramaṇḍala*, *gonasa* or *piṅgala*, should be considered here.

34.3 Here are the Rājīmats.<sup>737</sup>

- |   |  |
|---|--|
| 1. The Lotus ( <i>punḍarīka</i> );          | 7. The Grass Drier ( <i>tṛṇaśoṣaka</i> );            |
| 2. The Stripe Speckle ( <i>rājicitra</i> ); | 8. The White Jaw ( <i>svetahanu</i> );               |
| 3. The Finger Stripe ( <i>aṅgulirāji</i> ); | 9. The Grass Flower                                  |
| 4. The Two Finger Stripe                    | ( <i>darbhapuṣpa</i> ); <sup>738</sup>               |
| ( <i>dvyāṅgulirāji</i> );                   | 10. The Red Eye ( <i>lohitākṣa</i> ); <sup>739</sup> |
| 5. The Drop Stripe ( <i>bindurāji</i> );    | 11. The Ringed ( <i>cakraka</i> );                   |
| 6. The Mud ( <i>kardama</i> );              | 12. The Worm Eater ( <i>kikkisāda</i> );             |

34.4 Here are the Nirviṣas.

- |  |  |
|--|--|
| 1. The Rain Cloud                        | 7. The Year-Snake ( <i>varṣāhika</i> );    |
| ( <i>valāhako</i> ); <sup>740</sup>      | 8. The Two-day ( <i>dvyāhika</i> );        |
| 2. Thei Snake Flag ( <i>ahipatāka</i> ); | 9. The Milk Flower                         |
| 3. The White Leaf ( <i>śukapatra</i> );  | ( <i>kṣīrikāpuṣpa</i> );                   |
| 4. The Goat Swallow                      | 10. The Flower All ( <i>puṣpasakalī</i> ); |
| ( <i>ajagara</i> );                      | 11. The Chariot of Light                   |
| 5. The Stimulator ( <i>dīpyaka</i> );    | ( <i>jyotīratha</i> );                     |
| 6. The Ilikinī ( <i>ilikinī</i> );       | 12. The Little Tree ( <i>vṛkṣaka</i> );    |

## Breeding and Gender

34.5 The Vaikarañjas originate out of contrary unions amongst the three colours.<sup>741</sup> Thus:

1. The Mākuli (*mākuli*);
2. The Poṭa Throat (*poṭagala*);
3. The Oil Stripe (*snigdharāji*);

Amongst those, the Mākuli (*mākuli*); is born when a male Black Snake mates with a female Cow Snout (*gonasa*), or the reverse. The Poṭa Throat (*poṭagala*) is born when a male Rājila mates with a female Cow

<sup>737</sup> The following list is one item short. The vulgate text, however, has several names that do not appear in the Nepalese Rājīmat list, for example Sarṣapaka and Godhūmaka.

<sup>738</sup> Also in the Darvīkara list.

<sup>739</sup> Also in the Darvīkara list.

<sup>740</sup> Also in the Darvīkara list.

<sup>741</sup> The word *varṇa* in this chapter normally means “colour” not “class.” (“Class is expressed by “jāti.”) While *kṛṣṇasarpa* is clearly a colour-type, it is less obvious that *gonasī* is a special colour, and *rājīmat* is a group of snakes.

Snout (*gonasa*) or the reverse. The Oily Stripe (*snigdharāji*) is born when a male Black Snake mates with a female Rājimat, or the reverse. Their poison is like that of their father, because it is the superior one out of the two; but others say it is like the mother. Thus eighty of these snakes have been described.

- 35 Amongst them, males have large eyes, tongues and heads.<sup>742</sup> Females have small eyes, tongues and heads. Neuters have both characteristics, and are slow to exert themselves or be angry.<sup>743</sup>
- 36 In that context we shall give instruction in a general way about the sign of having been bitten by any of the snakes.

For what reason?

Because poison acts quickly, like a fire with an oblation, a honed sword, or a thunderbolt.<sup>744</sup> And ignored for even a period of time, it can drag the patient away. There is not even an opportunity to follow the literature.<sup>745</sup>

And when the symptom of being bitten is stated, there will be three ways of treating it because there are three kinds of snake. Therefore we shall explain it in three ways. “For this is good for people who are ill, and it removes confusion and in this very case it prevents all symptoms”.<sup>746</sup>

## Symptoms of Snakebite

- 37 In this context, the poison of a Darvīkara causes the skin, nails, eyes, mouth, urine, feces, and the bite-mark to be black; there is dryness, the joints hurt and the head feels heavy; the waist, back and neck feel weak; there is yawning, the voice becomes faint, there is gurgling, paralysis, dry throat, cough, wheezing, and hiccups; the wind goes upwards, the

742 The vulgate includes the snake’s mouth in this and the next list.

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

744 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.

745 The idea seems to be that there is no time to consult the verbose āyurvedic teachings. The “extensive meaning of the collection of statements (वाक्समूहार्थविस्तार)” is singled out as one of Āyurveda’s virtues in 5.8.142 (Su 1938: 594). Alternatively, perhaps the patient is unable to understand what the doctor is saying to him.

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

patient convulses with sharp pain, black saliva dribbles out, foam appears, the tubess (*srotas*) are blocked and every kind of pain that is due to wind.<sup>747</sup>

The poison of a Maṇḍalin causes the skin, nails, eyes, teeth, mouth, urine, feces, bitemark to be yellow; there is a desire for cold, a temperature, giving off fumes,<sup>748</sup> a burning feeling, thirst, intoxication, fainting, fever, haemorrhaging (*śonitāgamana*), and the degeneration of the flesh and fat above and below. There is swelling, suppuration of the bite, metamorphopsia (*viparītadarśana*), anger caused by the suffering, and every kind of pain that is due to bile.<sup>749</sup>

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

- 38 In that context, “someone bitten by a male gazes upwards, by a female horizontally, and by a neuter, downwards.” One bitten by a pregnant snake has a pale face and becomes swollen (*ādhmāta*). One bitten by a recently-delivered snake is afflicted with abdominal pain and urinates with blood. One bitten by a hungry snake craves food. Those bitten by an old snake have delayed and slow reactions. And one bitten by a young snake is fast and keen. One bitten by a non-venomous snake has the characteristic mark of non-poisoning.<sup>750</sup> Some that are bitten by a

747 Cf. the similar symptoms of snake venom poisoning by the so-called Brahmin warriors of Harmatelia, described by the classical author Diodorus Siculus (fl. ca. 30–60 BCE) (Eggermont 1975: 108).

748 The term “giving off fumes (परिधूपयन)” is not in MW: 596 as such, although परिधूपन, परिधूमन and परिधूमायन are cited and referred to the *Suśrutasaṃhitā*. “Giving off fumes (परिधूपन)” is listed at *Suśrutasaṃhitā* 2.6.13 (Su 1938: 291) amongst the symptoms of urinary disease caused by phlegm. The editors note a variant reading परिधूमायन but do not tell us in which manuscript (Su 1938: 291, n. 3). Dalhaṇa on 2.6.13 (Su 1938: 292) glossed परिधूपन as “hot all over (समन्ततस्तापः)” and in our current passage as “hot over the whole body (सर्वाङ्गसन्तापः)” (Su 1938: 573). See also *Mahākośa*: 1, 429: धूमायन “अङ्गानां धूमोद्धमनमिव” citing the *Suśrutasaṃhitā*.

749 Ghosh, León-Ruiz, S. Das, et al. (2023) describes visual disturbances due to snake envenomation.

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

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

### [Toxic reactions]

39 In that context, all snake toxins have seven toxic reactions.<sup>751</sup>

### [*Darvīkaras*]

Thus, at the first pulse of the *Darvīkaras* the poison corrupts the blood. That corrupted blood turns black. Because of that, blackness and a feeling of ants crawling about on the body develop.<sup>752</sup>

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

In the third, it corrupts the fat. That causes a discharge at the bite, heaviness of the head and an eclipse of the vision.<sup>753</sup>

In the fourth, it penetrates the trunk of the body (*koṣṭha*). From there, it irritates the humors, particularly phlegm. That causes exhaustion and oozing phlegm, and dislocation of the joints.

In the fifth pulse, it penetrates the bones. That causes breaking of the joints, hiccups and burning.

In the sixth pulse, it penetrates the marrow. That causes humours in the seat of fire in the gut (*grahaṇī*), heaviness of the limbs, diarrhoea, pain in the heart and fainting.<sup>754</sup>

In the seventh, it penetrates the semen and greatly irritates the *vyāna* breath (*vyāna*), and causes the phlegm (*kapha*) to run imperceptibly out of the tubes (*srotas*). That causes the appearance of mucous (*śleṣman*), breaking of the hips, back and shoulders, impediment to all movements and shortness of breath.

<sup>751</sup> Cf. the same concept in the context of plants, at 217

<sup>752</sup> Strictly, we would expect a dual verb here, instead of the plural of the witnesses.

<sup>753</sup> Ḍalhana on 5.4.39 (*Su* 1938: 574) glossed the last expression as “blockage of the vision (दृष्ट्यवरोध).”

<sup>754</sup> The “seat of fire in the gut (ग्रहणी)” is an ayurvedic organ in the digestive tract that does not correspond to any specific organ known to contemporary anatomy. For discussion, see *Mahākośa*: v. 1, 304; Meulenbeld 1974b: 619; R. P. Das 2003: 544–545.

[*Mandalins*]

Thus, at the first pulse of the Mandalins, the poison corrupts the blood. Corrupted by that, it turns yellow. That causes a yellow appearance and a feeling of heat all over (*paridāha*).

In the second pulse, it corrupts the flesh. And that causes the limbs to be very yellow and an extreme feeling of heat all over (*paridāha*), and swelling at the bite.

In the third, it corrupts the fat. That causes a discharge at the black bite and sweating.

In the fourth, it penetrates as before and brings on fever.

In the fifth, it causes heat in all the limbs.

In the sixth and seventh, it is the same as before.

[*Rājīmats*]

Thus, in the first pulse of the Rājīmats, the poison corrupts the blood. Corrupted by that, it turns yellow. It causes a person to have hair standing on end and a pale appearance.

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

In the third, it corrupts the fat. That causes moistness of the bite and runny eyes and nose.

In the fourth, it is the same as before. After penetrating, it brings on stiffness of the neck (*manyāstambha*) and heaviness of the head.

In the fifth, speech is slurred and there is a cold fever.

In the sixth and seventh, it is the same as before.

## Summary Verses

40 There are verses on this.

*It is well known that there are seven membranes (kalā) in between the bodily tissues (dhātu). Poison passing through these one by one produces the toxic reaction (vega).<sup>755</sup>*

<sup>755</sup> See note 707 above.

- 41 The interval taken by the deadly substance (*kālakalpa*), propelled ( $\sqrt{\text{ūh}}$ ) by air (*samīraṇa*), to cut the layers of skin is known as the “pulse interval (*vegāntara*)”.<sup>756</sup>
- 42 In the first pulse, an animal has a swollen body, is distressed and broods.<sup>757</sup>  
In the second, it dribbles somewhat,<sup>758</sup> the hair stands up on its body, and it has pain ( $\sqrt{\text{pīḍ}}$ ) in the heart.
- 43 The third stage brings headache and it breaks the *ears* and necks.<sup>759</sup>  
In the fourth, the bewildered creature trembles and gnashing its teeth, it gives up life.
- 44–45 Some experts say that elephants have three toxic reactions.<sup>760</sup>  
So, at the first toxic reaction, an bird becomes bewildered and is confused from that point on. At the second, the bird is distressed and, crying out, it dies.  
Some people claim that where birds are concerned, there is really just a single toxic reaction (*vega*) and that amongst animals like cats and mongooses, poison does not take much effect.<sup>761</sup>

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

757 The verb  $\sqrt{\text{pradhyai}}$  “meditate, be thoughtful, brood” is unexpected here and in the second class, an epic form. Ḍalhaṇa on 5.4.42 (Su 1938: 574) noted that some manuscripts did not include the text about animals from this point on. The fact that these verses are present in the Nepales witnesses testifies to their antiquity.

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

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

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

761 See on this subject: Brunton and Fayrer 1909: 39–40; S. A. Minton and M. R. Minton 1969: 88–89 (references taken from HIMAL: 1B, 399, n. 124).





# Kalpasthāna 5: Therapy for those Bitten by Snakes

## Introduction

### Literature

A brief survey of this chapter's contents and a detailed assessment of the existing research on it to 2002 was provided by Meulenbeld.<sup>762</sup>

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<sup>762</sup> [HIML](#): IA, 294–295. In addition to the translations mentioned by Meulenbeld ([HIML](#): IB, 314–315), a translation of this chapter was included in P. V. Sharma [1999–2001](#): 3, 35–45.

## Translation

Passage numbers refer to the canonical numbering of the vulgate edition (Su 1938).

- 1 Now we shall explain the formal procedure (*kalpa*) that is the therapy for someone bitten by a snake.<sup>763</sup>
- 3 For a person bitten on a limb by any snake, one should first of all make a strong binding, at four fingers measure above the bite.<sup>764</sup>
- 4 Poison does not move around into the body if it is prevented by bandages (*ariṣṭā*) or by any other soft items of cloth (*plota*), leather (*car-mānta*) or bark.<sup>765</sup>
- 5 Where a bandage (*bandha*) is not suitable, one should **raise the bite up** and then cauterize it.<sup>766</sup> Suction, cutting and cauterizing are recommended in all cases.
- 6 Suction will be good after filling the mouth with **earth** (*pāṃśu*).<sup>767</sup> Alternatively, the snake should be bitten **by the person who knows** that they have just been bitten.<sup>768</sup>

763 On कल्प, see note 719.

764 Application of a tourniquet is deprecated by modern establishment medicine, which relies on antivenom medications (e.g., V. V. Pillay 2013: 150–151 et passim in the literature).

The vulgate introduces the word अरिष्टा at this point. This may be a borrowing from Ci.23.251cd (Ca 1941: 582).

765 It is hard to translate the word अरिष्टा otherwise than “bandage,” as referred to by बध्नीयात् in the previous verse, and apparently similar to items of cloth etc., and called a बन्ध in the next verse. But in general Sanskrit literature, including medical literature, the word (in masc. gender) means either “an alcoholic tonic” or “an omen of death,” (1.30.3 (Su 1938: 137)), or is a plant name. This raises a question mark over its unique meaning in the present context. The *Aṣṭāṅgahṛdayasaṃhitā* (Utt.36.42cd (Ah 1939: 910)) seems to be a gloss on अरिष्टा, saying “An expert in mantras may bind using a braid made of silk etc., empowered with mantras” (see also 5.5.8 (Su 1938: 575)). On problems that can arise from tying a bandage too tightly, see 5.5.56 (Su 1938: 577) below.

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

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

768 The syntax is odd here, and the vulgate has removed the difficulties. Ḍalhaṇa on 5.5.6 (Su 1938: 574) noted that one should hold the snake firmly and give a good bite to its head and tail (हस्ताभ्यामुपसंगृह्य पुच्छे वक्त्रे च सर्पः सम्यग् दष्टव्यः). Our colleague Dr Madhu K. Paramesvaran reports that this procedure is known in Malayalam

- 7 Now, one should in no way cauterize someone bitten by a Maṇḍalin. Because of the over-abundance of poison in the bile (*pittaviṣa*), that bite will be lethal as a result of cauterization.<sup>769</sup>

## The Application of Mantras

- 8 An expert in mantras should tie on a bandage (*ariṣṭā*) too, with mantras. But they say that a bandage that is tied on with cords and so on causes the poison to be purified.<sup>770</sup>
- 9 Mantrās prescribed by gods and holy sages (*brahmarṣi*), that are imbued with truth and religious power (*tapas*) are inexorable and they rapidly destroy intractable poison.
- 10 Drugs cannot eliminate poison as quickly as the application of mantras imbued with religious power (*tapas*) and imbued with truth, holiness (*brahma*) and religious power.<sup>771</sup>
- 11 The mantras should be received by a person who is abstaining from women, meat and mead (*madhu*), who has a restricted diet, and who is pure and lying on a bed of halfa grass.
- 12 For the mantras to be successful, one should diligently worship the deity (*devatā*) with perfume, garlands, and oblations (*upahāra*), as well as sacrificial offerings (*bali*), and with mantra repetition (*japa*) and

*viṣavaidya* treatises and is practiced in Kerala, though rarely: “this practice has been described as one of the first-response cares for snakebite in most of the Malayalam texts of Vishavaidya. I have never seen this happening in real life and my teachers used to consider it to be a method (albeit a bit outrageously dangerous) for self-reassurance by the patient.” (Paramesvaran 2023). Cf. the Viṣavaidya text edited by Mahādeva Śāstrī (1958).

- 769 Verses 5.4.29, and 37 above note that the venom of Maṇḍalins particularly irritates the bile.
- 770 Ḍalhaṇa on 5.5.8 (Su 1938: 575) clarified that on the one hand the bandage must be accompanied with mantras, but on the other hand, it may also be used without mantras. The verse seems to put two points of view.
- 771 Ḍalhaṇa on 5.5.10 (Su 1938: 575) noted that mantras like “kurukullā” and “bheruṇḍā” are explained in other treatises and therefore not explained further in his commentary. These two mantras are the names of tantric Śaiva and Buddhist goddesses. For a study on this specific subject see Slouber (2016b). HIML: IIB, 151, n. 344 provides a bibliography to 2002 of studies on Kurukullā, who is mentioned in Māhuka’s *Haramekhalā*, and Meulenbeld 2008a: 30–34 includes discussion of Bheruṇḍa as a bird, with related terms.

rituals.<sup>772</sup>

- 13 But mantras pronounced illicitly or that are deficient in accents (*svara*) and letters do not give success. So antitoxic (*agada*) procedures need to be employed.

## Blood Letting

- 14 A skilled physician should puncture a duct (*sirā*) which is located on the limb (*śākhāśrayā*), and comes from the bite and the general area. If the poison has spread, one on the forehead should be pierced.
- 15 The blood being drawn out draws away all the poison.<sup>773</sup> Therefore one should cause blood to flow, for that is his very best procedure.
- 16 After incising (*pracchāna*) the area around the bite, one should smear it with antidotes and sprinkle it with water infused with sandalwood and vetiver.<sup>774</sup>

## Internal Medications

- 17 One should make him drink various antidotes together with milk, honey and ghee. If they are unavailable, the earth of black ants can be good.<sup>775</sup>
- 18 Alternatively, he should consume orchid tree, siris and purple calotropis or white siris too. He should not drink sesame oil or horse gram, nor wine or Indian jujube.
- 19 But after drinking any other liquid at all, he should throw up after drinking it. For on the whole, poison is easily removed by means of vomiting.

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

773 The Nepalese version uses a present passive participle construction here, that is less common than the vulgate's locative absolute. The Nepalese version states that it is the blood coming out of the patient that carries away the venom; the vulgate text says merely that the venom emerges while the blood comes out.

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

775 This refers to earth taken from an anthill. In South Asia, there is a long tradition of considering such earth to be beneficial and even holy (e.g., Irwin 1982).

## Therapies at Each Pulse of Toxic Reaction

- 20 In the case of hooded snakes, when there is a toxic reaction (*vega*) first one should let blood. At the second, **one** should make him drink an antidote (*agada*) together with honey and ghee.<sup>776</sup>
- 21 At the third one should use errhines and collyrium (*añjana*) that destroy poison.<sup>777</sup> At the fourth, when he has vomited, the physician should make him drink a gruel (*yavāgū*) that destroys poison.
- 22 At the fifth and sixth toxic reactions one should make the person drink something that aids cooling, that is cleansing and sharp (*tikṣṇa*), and a well-regarded gruel too.
- 23 **But at the seventh, one should purge (  $\sqrt{\text{śodh}}$  ) his head with a sharp sternutatory.**<sup>778</sup>

## In the case of Maṇḍalins

- 24 Amongst Maṇḍalins, the earliest toxic reaction (*vega*) should be treated in the same way as with Darvīkaras.<sup>779</sup>
- 25 **At the second, one should make him drink ghee and honey and then make him vomit.**<sup>780</sup>

<sup>776</sup> This section reproduces some of the therapies from *Suśrutasamhitā* 5.2.40–43 (*Su* 1938: 566) on the stages of slow poisoning (*dūṣīviṣa*) by plant poisons; see translation on p. 217 above.

<sup>777</sup> The rare word नस्तः “from or into the nose” in नस्तःकर्म “errhine” is supported by both Nepalese manuscripts. The term is more common in the *Carakasamhitā*, occurring eleven times, e.g., at 1.20.13 (*Ca* 1941: 114), 2.1.36 (*Ca* 1941: 203), *et passim*.

The *Carakasamhitā* describes how collyriums, especially रसाञ्जन, cause phlegm to flow, thus clearing the eyes (1.5.14–19 (*Ca* 1941: 38–39)). This could be appropriate in expelling poisons.

<sup>778</sup> The vulgate adds a half-verse here recommending the application of a collyrium (*añjana*) to a cut made on the patient’s head.

<sup>779</sup> The vulgate again adds a half-verse here, recommending the “crow’s foot” incision on the patient’s head. On this procedure, described in *Carakasamhitā* 6.23.66–67 (*Ca* 1941: 574), see Dominik Wujastyk 2003b: 145. This text is not supported here, as it was not in the Nepalese text at *Suśrutasamhitā* 5.2.43 (*Su* 1938: 566) either. See footnote 648, p. 218 above. As stated there, it appears that this procedure was known in the tradition of the *Carakasamhitā*, but not in the earliest text of the *Suśrutasamhitā*.

<sup>780</sup> Again, the vulgate text differs substantively, adding another half-verse. But the general idea of the treatment is the similar.

- 26 At the third, one should give the purged patient healthy gruel. At the fourth and the fifth too, one should do the same as for the Darvīkara.
- 27 At the sixth, wholesome things from the group of plants starting with **cottony jujube** should be drunk and a sweet antidote.<sup>781</sup> And at the seventh, a wholesome antidote that destroys poison in a sternutatory (*avapīḍa*).<sup>782</sup>

### In the case of Rājimats

- 28 **Now, Amongst Rājimats, one should let blood at the first toxic shock.**<sup>783</sup>
- 29 At the second, a patient who has vomited should be made to drink an antidote that destroys poison. At the third, fourth and fifth, the rule that applies to the Darvīkara is suitable.
- 30 At the sixth, use a very sharp collyrium (*añjana*), and at the seventh a sternutatory (*avapīḍa*). There is a prohibition on using blood-letting for pregnant women, children and the elderly.
- 31ab In those who are in pain because of poison, it is advised that the prescribed procedures be applied gently.

### 31ab In animals

- In goats and sheep, bleeding and collyriums are the same as for people.
- 32cd In cows and horses, that is twice as much; three times as much for buffaloes and camels, four times for elephants and simply (*kevala*) for all birds.<sup>784785</sup>

write note  
on par-  
isekān pra-  
dehāms

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

782 The अवपीड is described at *Suśrutasamhitā* 4.40.44–45 (*Su 1938*: 556), where it is also recommended for victims of snakebite. It is a type of head-evacuant. Commenting on that passage, Ḍalhaṇa cited “other treatises” as saying that अवपीड treatment was suitable for restoring the consciousness of those who have been poisoned. He also quoted a text by an authority called Videha, that says the same. Videha was an author known to Ḍṛḍhabala (according to Cakrapāṇidatta) and often cited in the *Madhukośa* on the topic of eye diseases (*HIML*: IA, 132 *et passim*). See also *Mahākośa*: 1, 62–63.

783 The vulgate text says that the blood-letting should be done with a **gourd**. It also has an extra half-verse here, prescribing an antitoxin to be drunk together with honey and ghee.

784 Ḍalhaṇa on 5.5.32 (*Su 1938*: 576) explained “simply for all birds” as meaning that birds should receive just drugs, and not blood-letting or collyriums. See p. 245 for

## Subsequent Therapies

- 34 One should consider carefully with one's intellect the location, constitution (*prakṛti*), suitability (*sātmya*), the season, the poison, and the strength or weakness of the toxic reaction and then proceed with therapy.<sup>786</sup>
- 47–48ab One should eliminate this poison completely. It is extremely hard to overcome. For even a small amount remaining can strongly bring about a toxic reaction.<sup>787</sup>
- 48cd–49 Or it may lead to dejection, pallor, fever, cough and headaches, dessication, swelling, catarrh, poor vision, disinterest in food (*aruci*) or rigidity (*jāḍyatā*).<sup>788</sup> And in such cases one should apply the cure as appropriate.<sup>789</sup>
- 50–51ab One should also treat the secondary ailments (*upadrava*) of a poisoned

the toxic reactions in birds and other animals.

- 785 The vulgate includes several verses after this sentence that give a recipe and also a list of specific items like place and constitution that should be given careful consideration. Ḍalhaṇa on 5.5.33 (*Su 1938*: 576) cited the opinions of Gayadāsa and Jejjāta on this recipe but stated that he preferred to follow the contrasting opinions of Vṛddhavāgbhaṭa (1.25.24cd–25ab (*As 1980*: 184)) and Suśruta (4.31.29cd–30ab (*Su 1938*: 511)) on this topic, as well as several citations “another work” (तन्त्रान्तर) that is unidentified.
- 786 The vulgate here has twelve verses not found in the Nepalese version. These verses explicitly switch subject away from assessments according to toxic reactions and to the treatment of both mobile and immobile poisons, starting from physical symptoms such as swelling and discolouration as well as humoral theory. At the point where the vulgate summarizes the extra verses, saying that cases should be treated “according to their humors” (यथादोष), the Nepalese witnesses have “as is appropriate” (यथायोगं, 5.5.49cd (*Su 1938*: 577)). This suggests that the text has been edited to fit the insertion of the verses referring to humoral therapy. These verses also include therapies such as the crow's foot treatment (see footnotes 648 and 779, pp. 218, 251 above) and the beating of drums that have been smeared with antidotes, as discussed in *Suśrutasaṃhitā* 5.6 (*Su 1938*: 580–582) (see p. 271 below).
- 787 The word अवतिष्ठ “remaining” is hard to parse. It cannot be a णमुल् formation (Pāṇini 3.4.22 ff), because of the root's reduplication, and should not be a present participle because it is not neuter. However, lack of gender concord is not unknown in Epic Sanskrit; several of the examples cited by Oberlies (2003: § 10.2.1) even involve present participles without gender concord. Cf. Edgerton 1953: 1, § 6.12 for examples in BHS.
- 788 Ḍalhaṇa on 5.5.49ab (*Su 1938*: 577) reported a reading from Jejjāta of स्तैमित्य “immobility” instead of प्रतिश्याय “catarrh.”
- 789 The vulgate introduces दोष theory here, which is absent in the Nepalese version.



patient each as appropriate.

Now, after the bandage (*ariṣṭā*) has been removed and after the place marked by it has been quickly incised (*pracchāna*) one may see poison that has leaked out there, and a toxic reaction may strongly result.

### Treatment of secondary ailments

- 52.1 Once the poison has disappeared one can conquer irritated wind using items that restrain the wind.<sup>790</sup>
- 53 One can conquer bile using substances that remove bile-fever (*pittajvara*), with decoctions, oleation and purges, combined with substances that remove poison, with the exception of sesame oil (*taila*), **wine**, **horse gram**, and **mangosteen**.<sup>791</sup>
- 54 One can conquer phlegm with the group that starts with **golden shower tree**, together with honey.<sup>792</sup>

### Formal verses

- 56 If the the bandage (*ariṣṭā*) is bound tightly, or if it is incised (*pracchita*) with sharp ointment or **with the remnants of the poison**, then, when the limb swells up, the flesh weeps, smells a great deal and is **is putrid** (*śīrṇa*), it is designated “**poison-stink** (*viṣapūti*).”<sup>793</sup>
- 57–58ab One may be certain that a person has been **struck by something poisoned** (*digdha*) if their wound immediately starts to suppurate has black blood that flows and is inflamed, as well as having black, weeping and exceptionally foul-smelling flesh coming out of the wound and also someone who has thirst, fainting (*mūrcchā*), fever and a temperature.<sup>794</sup>

790 This half-verse is not present in the vulgate, but has broadly the same sense as 5.5.52cd (Su 1938: 577), that is not present in the Nepalese version.

791 The vulgate reads “fish” in place of “wine.”

792 The आरग्वधगण is listed at *Suśrutasaṃhitā* 1.38.6 (Su 1938: 164). These herbs are there explicitly said to pacify phlegm and to remove poison, etc. (1.38.7 (Su 1938: 164)).

793 *Suśrutasaṃhitā* 5.5.16 (Su 1938: 575) (p. 250 above) suggests smearing an incised area with antidotes.

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



- 58.1–60 One who is known to have these exact symptoms may have poison in their wound that is † given by mistake.† And they may have a wound that has been hit by something poisoned (*digdha*) and is full of poison. And others are sick because of a wound that stinks because of poison. The wise person debrides the excess flesh of such people and then, after removing the blood by means of leeches and after removing the humours from above and below, he should irrigate with cold bark decoctions from milky trees. And he should apply items that destroy poison such as cloths containing ointments together with cold liquids mixed with ghee.
- 61ab When the bone is **injured** by poisons, the very same rule should be followed as for bile poison.

### Antitoxin drugs

- 61cd–63ab The following items are powdered, mixed with honey and stored in a horn: **turpeth**, **weaver's beam tree**, **liquorice**, the two kinds of **turmeric**, **Indian madder** and **Himalayan mayapple**,<sup>795</sup> and all kinds of salt.<sup>796</sup> This antidote, taken with drinks, collyrium (*añjana*), oil rubs (*abhyañjana*), errhines and drugs, destroys poison. With its relentless potency (*vīrya*) and as a destroyer of the toxic reaction (*vega*) to poison, it is called “mahāgada (*The Great Antidote*) and has great power.
- 63cd–65ab Very fine **embelia**, **velvet-leaf**, **the three myrobalans**, **wild celery**, and **devil's dung**, as well as **Himalayan mayapple** and **the three pungent drugs**, the whole group of salts, together with **leadwort** and honey should be placed in a cow's horn and covered with something made of cow's horn. It should be set aside for two weeks. This antidote is called “Unbeaten” because it conquers both stationary and mobile poisons.
- 65cd–68ab One should make a fine powder of the following items and place them in a horn, together with honey: **climbing diamond flower**, **deodar**, **grey orchid**, **black creeper**, **kutki**, **Himalayan yew**, **rosha grass**, **wild Himalayan cherry**, **Alexandrian laurel**, **??**, **natron**, **sedge**, **cardamom**, **blue Indian symphorema**, **powdered ruffle lichen**, **costus**, **crape jasmine**, **fox-tail millet**, **lodh tree**, **Indian bdellium-tree**, **red ochre**, **rock salt**, **long**

795 There is no मञ्जिष्ठा group, but there is a plant वक्र.

796 There is a लवणवर्ग, (1.46.313–321 (*Su* 1938: 236–237)).

pepper, and dried ginger. This antidote (*agada*) is identified as “Garuḍa (*tārksya*).” It can even destroy the poison of the snake prince Takṣaka (*takṣaka*).

- 69cd–72ab One should make powder of the following items and place it in a horn: spikenard, peas, the three myrobalans, horseradish tree, Indian madder, liquorice, wild Himalayan cherry, embelia, ??, Indian sarsaparilla, cardamom, cinnamon, costus, Himalayan mayapple, sandalwood, verbena, bitter gourd, white siris, velvet-leaf, colocynth, hare foot uraria, black creeper, Asoka tree, mulberry, toothed-leaf limonia, and the flower that is the blossom (*prasūna*) born from the fruit of the marking-nut.<sup>797</sup> The bile derived from boars, monitor lizards, peacocks, and porcupines is to be added, with honey, and the products of civet, chital deer and mongoose.<sup>798</sup> This properly-prepared antidote is called “Bull.” Someone who has it in the house is called “Bull Amongst Men.” There will be no snakes there, nor even insects: they lose their potency and their toxins too.
- 72cd–73ab Drums and tabors smeared with this rapidly destroy poison when they are sounded. Smeared flags flags being looked upon easily and quickly overcome poison.
- 73ab–75ab One should make a powder of the following items and place the collection in a cow’s horn, mixed with turmeric, and mingled with honey and ghee. As before, there is a cover: lac, the two peass, spikenard, fox-tail millet, Indian madder, liquorice and gummy gardenia. It should then be used with collyrium (*añjana*), drinks and errhines. This antidote is called “Resuscitator (*sañjīvana*)” because it brings to life the dead whose breath is almost gone.
- 75cd–76ab The best antidote for the poisons of Darvīkaras and Rājilas is Indian cherry,<sup>799</sup> bayberry, citron, white clitoria, winged-stem canscora, white siris, and sugar, taken with amaranth.<sup>800</sup>
- 76cd–78ab The best antidote for the poison of Maṇḍalins is grapes, Withania, In-

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

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

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

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

dian frankincense, ground white clitoria, combined in equal amounts and given with two parts of the leaves of holy basil, and those from wood-apple, Bengal quince and pomegranate, as well as one measure from those of white Indian symphorema sage-leaved alangium seed as well as red ochre.<sup>801</sup>

- 84ab–86 The following group is known as the One Essence (*ekarasa*):<sup>802</sup> beauty-berry, hibiscus, weevil wort, and mango, as well as maloo creeper, Indian pennywort, three-leaved caper, spurge, hogweed, smooth angelica, croton tree, and Indian snakeroot as well; black earth (*bhūmī*),<sup>803</sup> and bluebell barleria. Whether used separately or in pairs, it removes poison.<sup>804</sup>

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

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

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

804 R. P. Das (1983: 55–56) discussed this passage, suggesting that भूमीकुरबक may be a plant-name.



# Kalpasthāna 6: Rats and Rabies

## Introduction

A notable macro-difference between the vulgate and the Nepalese versions of the *Suśrutasamhitā* is that this chapter and the next are reversed in the vulgate. In the Nepalese version, this is chapter six and the chapter on antitoxic drumming is chapter seven.<sup>805</sup> Jejjāta too read the chapters this way round, as reported by Ḍalhaṇa.<sup>806</sup>

## Mouse or Rat?

In 2004, Umberto Eco published a characteristically subtle and enlightening book about translation entitled *Mouse or Rat?*.<sup>807</sup> The title alluded to Eco's discussion of the example of translating words for mice and rats across several European languages that do not always distinguish these animals from each other, or confuse them in other ways. In Sanskrit too, *mūṣikā*, the subject and title of this chapter, does not distinguish between mouse and rat. The same is true for MIA and NIA derivatives.<sup>808</sup> It is hard to know quite how to translate the term since "rodent" is too broad a term. In what follows, I have chosen "rat" for *mūṣikā* in order to produce a working translation of a text about an animal that is viewed as potentially toxic and threatening. "Mouse" does not have quite these connotations for a contemporary English speaker.<sup>809</sup>

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805 See p. 191 above.

806 Ḍalhaṇa on 5.6.32 (Su 1938: 582): जेज्जटस्तु मूषिककल्पानन्तरं दुन्दुभिस्वनीयं कल्पं पठति.

807 Eco 2004.

808 CDIAL: #10258.

809 Kunjalal Bhishagratna made the same choice (Kunjalal Bhishagratna 1907–16: 2, 728–736).

The rodents that may be described as mice or rats in contemporary South Asia and that are especially associated with the spread of disease include the house or black rat (*Rattus rattus*, L.), the brown rat (*R. norvegicus*, Berkenhout), the house mouse (*Mus musculus*, L.) and bandicoots (*Bandicota*).<sup>810</sup> Also present in SA are the Indian desert gerbille (*Meriones hurrianae*, Jerdon), the Indian gerbille (*Tatera indica*, Hardwicke), the spiny field mouse (*Mus platythrix*, Bennett), the Indian field mouse (*M. booduga*, Gray), the Metad (*Millardia meltada*, Gray), the Indian bush rat (*Golunda ellioti*, Gray), the longtailed tree mouse (*Vandeleuria oleracea*, Bennett), Royle's vole (*Aticola roylei*, Gray), the Indian mole-rat (*Bandicota bengalensis*, Gray & Hardwicke),<sup>811</sup> the bandicoot rat (*B. indica*, Bechstein), the shorttailed bandicoot (*Nesokia indica*, Gray & Hardwicke), the whitetailed wood rat (*Madromys blanfordi*, Thomas), the bay bamboo rat (*Cannomys badius*, Hodgson), and other similar rodents.<sup>812</sup> However, plausibly matching these creatures to the Sanskrit names listed in this chapter is hard to impossible.<sup>813</sup> Almost no works engage directly with the representation or identity of rodents in pre-modern India.<sup>814</sup>

## Rabies

Passages 43 ff. (p. 268) describe rabies fairly unambiguously, including the symptoms of hydrophobia.<sup>815</sup> As Meulenbeld noted, the idea that the bite-victim displays the behaviours of the creature that bit them is not unique to South Asia.<sup>816</sup>

A sympathetic description was given in the seventeenth century by Emperor Jahangir, in his *Memoirs* (*Tuzuk-e-Jahangiri*), of the death of two of his elephants resulting from the bites of a mad dog.<sup>817</sup>

<sup>810</sup> BIA: 194.

<sup>811</sup> "Recent studies...show that the mole-rat forms 98% of the total rodent population of Calcutta," BIA: 206.

<sup>812</sup> BIA: ill. plates 45, 46 *et passim*. See also Menon 2014: *passim*.

<sup>813</sup> Mouse-words that we do not see in this chapter include the *kirika*, *giri*, *girikā* group (EWA: 1, 353, 488, 566).

<sup>814</sup> One of the few is van der Geer 2008: ch. 3.

<sup>815</sup> For a short historical bibliography on rabies, see HIML: IB, 400, note 163.

<sup>816</sup> HIML: IB, 400, note 164.

<sup>817</sup> Alvi and Rahman 1968: 132–134; Thackston 1999: 145–146.

## Literature

A brief survey of this chapter's contents and reference to the limited existing research on it to 2002 was provided by Meulenbeld.<sup>818</sup>

Chevers provided a characteristically vivid nineteenth-century discussion of injuries inflicted by wild animals, including details of those killed by wolves, tigers, dogs, jackals and other animals, and in his classic survey of the diseases of India, he discussed rabies specifically.<sup>819</sup> The experiments with cannabis anesthesia conducted by William O'Shaughnessy in Calcutta earlier in the nineteenth century were largely aimed at palliative care for rabies patients, an incurable, lethal disease.<sup>820</sup>

A rich description of Indian rodents is available by Prater, including several useful illustrations.<sup>821</sup> Unfortunately, Prater rarely provided Indian-language names for the animals he described.

In Sanskrit literature, the *Arthaśāstra* referred to the problem of rats more than once. For example, to rid a country of the threat of rats,

When there is a danger from rats, cats and mongooses should be released. If these are captured or killed, the fine is 12 Paṇas, as also for not keeping dogs confined, except in the case of foresters. He should strew grains smeared with the milk of the Snuhi-plant or mixed with secret compounds. Or, he should institute a rat tax; or thaumaturgic ascetics should perform a pacificatory rite. On the days of the moon's change ..., moreover, he should have rites of rat worship carried out.<sup>822</sup>

818 HIML: IA, 295–296. 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, 67–77. Sekhar Namburi (2023) omitted mention of this type of poisoning, although he discussed rabies, a subsection of this chapter.

819 Chevers 1870: 359–368; 1886: 426–440.

820 Dominik Wujastyk 2002: 50–55.

821 BIA: ch. 13, esp. 205–215.

822 *Arthaśāstra* 4.3.20–26, tr. Olivelle 2013: 230.

## Translation

- 1 Now I shall explain the procedure (*kalpa*) relating to rats (*mūṣikā*).<sup>823</sup>
- 3 Learn concisely about aforementioned eighteen kinds of rats that have poison in their semen, according to their names, characteristics and the herbal treatments.<sup>824</sup>

### The Types of Rat

- 4–6 The eighteen rats are traditionally called,<sup>825</sup>
  1. Fondling rat,
  2. Sonny rat,
  3. Black rat,
  4. Gajpipul rat,
  5. Little rat,
  6. House shrew
  7. Arala rat,<sup>826</sup>
  8. Red-toothed shrew,
  9. Bad-marked rat,
  10. Invincible rat,
  11. Fidgety rat,
  12. Brown rat,
  13. the one called Mole-rat and
  14. Tawny rat,
  15. the large black rat,
  16. White rat, together with the
  17. the large Brown rat,
  18. and the Pigeon rat-like rat.<sup>827</sup>
- 7 If a part of the body has their sperm fall on it or if they touch it with their nails or teeth, etc., that have been touched by sperm, then the blood is corrupted.<sup>828</sup>

823 The word मूषिका does not distinguish between rats and mice. See Introduction above.

824 Rats with poisonous semen were mentioned in 5.3.5 (Su 1938: 567) (see p. 224 above).

825 Ḍalhaṇa on 5.6.4 (Su 1938: 582) gave no comment on any of these names. The identifications are mostly guesswork and sometimes whimsical. The glossary gives lexical discussion of individual names.

826 The word अरल is a hapax legomenon and has not previously been identified as a lexeme because it did not appear in earlier editions of the *Suśrutasaṃhitā*. It is a loan-word from Dravidian (see glossary).

827 The Nepalese list has वसिर (Gajpipul rat) for the vulgate's हंसिर. The terms आखु, मूषिका and उन्दुरु are here used as generic names of rat/mouse rodents.

828 On this, Ḍalhaṇa on 5.7.7 (Su 1938: 582) quoted an authority called Ālambāyana who elaborated on this subject (see HIML: IA, 658 for references to this author of a lost treatise on toxicology). Ḍalhaṇa also cited Ālambāyana elsewhere on the topics of insects and spiders (HIML: IB, 722, note 5). See also the *Aṣṭāṅgasaṃgraha*'s assertion that Ālambāyana was responsible for the doctrine of toxic pulses (*vega*), p. 209 above. Ālambāyana, who was already known as “the famous soul of compassion” in the





Figure 7: “‘Little ears’ (*karṇika*) look like the seed pod in the middle of a lotus — Ḍalhaṇa on 5.7.8 (Su 1938: 582).” Credit: Pexels, CC license.

- 8–10ab It happens that there are lumps (*granthi*), swellings, small ear-like growths (*karṇika*) and rings, accumulations of severe blisters (*piṭaka*), spreading rashes (*visarpa*) and dark, rough patches of skin (*kiṭibha*).<sup>829</sup> There are severe conditions such as pain in the joints,

*Mahābhārata* (13.18.4), was also known in Buddhist literature. Book 22, tale 543 of the Jātakas includes mention of an Ālambāyana who claimed to be a doctor and specialist in snakebite poisons: *nāhaṃ diḍādhipo homi, na diṭṭho garuḷo mayā, āsīvisena vitto ti vejjo maṃ brāhmaṇaṃ vidū ti* 793 (Fausbøll 1877–96: 6, 181, tr. Cowell, R. C. Chalmers, W. H. D. Rouse, et al. 1895–1907: 6, 95). In the same tale, there is a herbal “Ālambāyana mantra” given to an ascetic by a Garuḍa who has just caught and eaten a Nāga, thus invoking the Garuḍa-snake-poison motif (Cowell, R. C. Chalmers, W. H. D. Rouse, et al. 1895–1907: 6, 93–94). The Jātakas were translated into Chinese in the third century CE.

See further discussion by Slouber (2016a: 33–34), who calls the mantra “Ālampāyana,” adopting the reading of the Burmese MS Bd against the Fausbøll’s critical reading “Ālambāyana” (see Fausbøll 1877–96: 2 & 3, Preliminary remarks 3 and 7).

- 829 “Little ears” was strikingly described by Ḍalhaṇa on 5.7.8 (Su 1938: 582) as looking like the seed pod in the middle of a lotus (कमलमध्यबीजकोशाकृतिः), a graphic image (see also Ḍalhaṇa on 5.8.136 (Su 1938: 594)). See Figure 7. Perhaps similar to hypergranulation. The Nepalese version has पिटक “blisters” for the vulgate’s पीडक “boils” (itself perhaps a typo for पिडक). किटिभ “dark rash” was described by Ḍalhaṇa on 1.11.7 (Su 1938: 46) as a kind of कुष्ठ, which is variously a skin disease of pallor, leucoderma, or leprosy (Emmerick 1984). But it was described in the *Carakasaṃhitā* as being dark and as rough as a callous to the touch (6.7.21cd–22ab (Ca 1941: 451))

pain, fever, fainting, weakness, loss of appetite, exhaustion, nausea and horripilation.<sup>830</sup>

This is a concise description of the appearance of someone who has been bitten. Now listen to a longer version.

## Detailed Symptoms

- 10cd–11ab The **Fondling rat** causes a flow of saliva, vomiting and hiccups. For that, one should lick a paste of **prickly amaranth** with honey.
- 11cd–12 The **Sonny rat** causes the limbs to droop and creates a pale **beauty**,<sup>831</sup> and the body is heaped with lumps like the young of a rat.<sup>832</sup> One should lick **siris**, **odal oil plant** and **malabathrum** with honey.<sup>833</sup>
- 13 The **Black rat** causes one to vomit blood, especially when the weather is bad. One should drink **siris** and **malabathrum**, with **costus** and **cardamom**, with the **flame-of-the-forest** ashes.<sup>834</sup>
- 14 The **Gajpipul rat** causes a person have a revulsion for food, to yawn, and makes their body-hair **leprous**.<sup>835</sup> They should drink items like **golden shower tree** and be quickly made to vomit.
- 15 The **Little rat** causes headache, swelling, hiccups and nausea. One

(*Mahākośa*: 1, 208).

830 पर्वभेद “pain in the joints” was glossed by Ḍalhaṇa on 5.7.9 (*Su* 1938: 582) as “spots on the joints” (सन्धेः स्फोटः). This seems unlikely, since symptoms on the surface of the body were described in the previous verse, and also because of the obvious etymological meaning of the compound.

831 The expression -वल्गु “beauty” in the Nepalese MSS, for the vulgate’s simpler -वर्ण “complexion,” is unusual.

832 The grammar here is very loose. शिशुर् cannot stand outside the compound, which should read मूषिकशिसुसंस्थितैः. The vulgate text has the simpler and grammatical आ-खुशावकसन्निभैः “resembling the offspring of a rat.”

833 Ḍalhaṇa on 5.7.11–12 (*Su* 1938: 582) here cited a passage by an unknown author called Nāgārjuna, about the visible symptoms of a bite by this kind of rat (cf. P. V. Sharma 1982: 45–46, *HIML*: IB, 497, note 100) as well as variant readings by Gayadāsa and Jejjāta on the exact formulation of the lickable medication.

834 Ḍalhaṇa on 5.7.13 (*Su* 1938: 583) explained “with the ashes of **flame-of-the-forest**” as “water with the ashes of **flame-of-the-forest**.”

835 The qualifier कुष्ठता (रोम्णां) is odd; the vulgate’s हर्षण “horripilation” reads more easily. कुष्ठ has a lesser-known meaning “prominent part, mouth or opening” which might perhaps be considered here, though it is hard to see how.

- should have thorough emesis using decoctions of *luffa*, and he should drink the juice of *sage-leaved alangium*.
- 16cd–ab The *House shrew* causes constipation, paralysis of the neck, and gasping (*vijṛmbhikā*).<sup>836</sup> In this case, one should administer a caustic made of *barley ash* and *velvet bean* as well as the two *hairy-fruited eggplants*.<sup>837</sup>
- 18cd–19 The *Arala rat* causes stiffness of the neck and pain in the area of the bite. In that case, one should lick The Great Antidote (*mahāgada*), that is of great potency (*vīrya*), together with honey.<sup>838</sup>
- 19cd–20ab The *Red-toothed shrew* causes sleep and especially emaciation. In that case, one should lick the sap and seeds of *siris* with honey.<sup>839</sup>
- 20cd–21ab The *Bad-marked rat* causes pains, swelling and lines up to the area of the bite. In that case, one should lick the two kinds of *bluebell barleria*, together with *Indian symphorema* and honey.
- 21cd–22ab The *Invincible rat* causes nauseous fainting, heart-seizure (*hṛd-graha*) and blackness of the limbs. In that case, one should lick *Indian madder* mixed with the milky latex of *oleander spurge* and honey.
- 22cd–23ab The *Fidgety rat* causes vomiting and fainting together with thirst. One should drink the *three myrobalans* with wood-ash, *spikenard*

836 विजृम्भिका is one of the eighty wind diseases listed in the *Kāśyapasaṃhitā* and glossed by Hemarājaśarman as “yawning” (Hindī जंभाई, 1.27.19–28 (Hemarājaśarman 1938: 41–42)). However, in the *Carakasamhitā* it is a term for one of the disorders of an improperly treated post-partum umbilical cord (glossed by Ḍalhaṇa as मुहुर्मुहुर्वृद्धिमती “growing larger moment by moment,” 4.8.45 (Ca 1941: 348–349)) and translated by P. Sharma (1994: 1, 480) as “umbilical hernia.” Cf. *Mahākośa*: 1, 756.

837 Note that half-verses 16cd and 16ab are reversed compared to the vulgate edition. This makes the caustic a remedy for the bite of the *House shrew*, while the earlier *luffa* remedy is for the *Little rat*, which makes better sense.

The vulgate has text at this point, 17 and 18ab, that are not present in the Nepalese version. They are about further symptoms and treatment of stiffness of the neck, anosmia, etc., presumably arising from the bite of the *House shrew*. Ḍalhaṇa on 16cd–17 (Su 1938: 583) recorded different readings from Gayadāsa’s commentary here (see edition notes); it seems these verses became slightly confused at an early period. We would expect symptoms of the bite of the *Arala rat* at this point in the text, and the Great Antidote treatment in the next line would be its therapy.

838 “The great antidote” recipe is described at *Suśrutasaṃhitā* 5.6.63 (p. 255 above).

839 The difficult expression शिरीषस्य सारमाषकान् probably accounts for the easier version of the vulgate, with its dvandva सारफलत्वचः. Taking सारमाषकान् as a dvandva, we can read माषक as in the compound शिरीषमाषक “*siris seeds*.”

- and honey.
- 23cd–24ab The **Brown rat** causes a wound, hives (*koṭha*), fever, and an outbreak of lumps (*granthi*).<sup>840</sup> In this case, **white clitoria** or white **hogweed** should be licked with honey.
- 24cd–25ab The **Mole-rat** is said to cause lumps, fever, and an intense feeling of heat (*dāha*). In that case, one should drink ghee cooked with an decoction (*kvātha*) of **indigo** and **hogweed**.

### The last five, from the **Tawny rat** on

- 25cd–26 The **Tawny rat** causes the wind to be angry, creating illnesses that originate in wind. The Large Black (**rat**) causes bile, the **White rat** phlegm, the **Large Brown rat** causes blood, and the **Pigeon rat** causes all four.<sup>841</sup>
- 27 In the bites of these ones there are lumps, rings and small ear-like growths (*karnika*).<sup>842</sup> There are accumulations of blisters (*piṭaka*) on the **body**, and severely painful swellings.
- 28–31 A half litre (*prastha*) each of curds, milk and ghee are **measured** out.<sup>843</sup> Make a broth of **pongame oiltree**, **golden shower tree**, **the three pungent drugs**, **hairy-fruited eggplant**, **beggarweed**, and **beggarweed**,<sup>844</sup> and once again make that broth into one fourth part. One should add **turpeth**, **viburnum**, **heart-leaved moonseed**, **Himalayan mayapple**, **Indian snakeroot**, **Indian frankincense**,<sup>845</sup>

840 कोठ was a skin ailment variously described by authorities as a redness that appeared and disappeared rapidly, that was itchy, that was caused by an excess of salty items, etc. (see *Mahākośa*: 1, 239, *HIML*: IIB, 76, n. 47). It may have referred to conditions such as urticaria, allergy, ringworm or vitiligo. The English word “hives” has a history going back to ca. 1500, referring to various eruptions in the skin that may feel hot (*OED*: s.v. “hives (n.)”).

841 Note the switch to humoral theory with these last five rats in the list, and the assumption of blood as a fourth humour .

842 On कर्णिका, see footnote 829.

843 The measure of a प्रस्थ is approximate and different authors have various estimates.

844 अंशुमती and स्थिरा are both normally identified as beggarweed, but when a pair are mentioned the second is probably **painted uraria**.

845 For the vulgate’s reading समृत्तिका “with earth,” *Dalhaṇa* on 5.7.29 (*Su* 1938: 583) specified “black earth” and noted that some people read अहिमृत्तिका “snake earth” meaning earth taken from anthills, while *Jejjāṭa* read अगवृत्तिका, meaning शल्लकी, “**frankincense**” (see also *GVDB*: 392). *Jejjāṭa*’s reading is essentially that of the Nepalese MSS, with a म/व alternant, if *Trikamji Ācārya*’s edition is correct on this.

wood-apple, pomegranate, and cinnamon. Mix all that together and cook it over a gentle flame. This gets rid of the poison of the five rats from Tawny rat on.

Alternatively, prepare in the juices of hedge caper and black nightshade.

- 32 Also, you should pierce the affected ducts (*sirā*) and apply purifications. As an alternative, one may apply this rule in all cases of rat poisoning.
- 33–34ab One should cauterize the bite, then bleed it and, having made small cuts (*pracchita*), smear it with a paste of siris, turmeric, Himalayan mayapple, saffron, and heart-leaved moonseed.<sup>846</sup> Emesis is with a decoction (*kvātha*) of indigo with parakeet and sage-leaved alangium.<sup>847</sup>
- 37–38 When doing a purge, turpeth, red physic nut, and the three myrobalans are recommended; when purging the head, either the juice of siris or its fruits. Juice of cow-dung with a lot of the three pungent drugs is good in collyrium.<sup>848</sup> an electuary of the juice of wood-apple and cow-dung, with the two kinds of honey, is recommended.<sup>849</sup>
- 40 The person should drink ghee cooked in roots of prickly amaranth, or either cooked with the roots of bread flower or the five products of the wood-apple.<sup>850</sup>
- 41 The poison that comes out of rats is most irritant during cloudy weather.<sup>851</sup> And in that case too, the procedure that should be carried out is the one for removing slow-acting poison (*dūṣṭviṣa*).
- 42 The physician should cut (*pra*√*chā*) the small ear-like growths

846 The vulgate substitutes कुष्ठ for वक्रा.

847 The vulgate has two and a half more verses at this point, expanding the recipe considerably and adding the appropriate verb, “he should vomit.”

848 The Nepalese MSS appear to read “juice that is cow-dung” (गोमयः स्वरसो) but the vulgate has the grammatically easier, “juice of cow-dung” (गोमयस्वरसो).

849 Verse 5.7.39 (Su 1938: 584) of the vulgate is not present in the Nepalese version.

850 Ḍalhaṇa on 5.7.40 (Su 1938: 584) glossed the last item as, “a decoction of the pulp of the fruit, roots, flowers, bark and leaves of the wood-apple.”

851 The Nepalese witnesses read निर्हृतम् “removed, taken out,” in contrast to the vulgate’s अनिर्हृतम् “not removed.” The vulgate refers to rat-poison remaining in a patient, while the Nepalese version is talking more generically about poison that comes from rats.

(*karṇika*) that are hard and slightly painful. And in every single case of poison he should perform the procedure as for a wound.<sup>852</sup>

### The Bites of Wild Animals

- 43-44 When a creature such as a dog, a jackal, wolf, tiger or hyena has the poison, the corrupted phlegm which resides in the conduits of consciousness takes away consciousness.<sup>853</sup> Then, its tail, jaw and shoulders droop down, it drools, it is deaf to unclear sounds and blind and it charges against one another.<sup>854</sup>
- 45-46ab And there is numbness in the limb of one who has been bitten by such a creature, and the blood runs black.<sup>855</sup> And it is in the main marked by the signs of someone who has been pierced by a poisoned arrow.<sup>856</sup>
- 46cd The person, repeatedly imitating the movement and cries of the creature that bit him, loses the power of movement and is destroyed.
- 47-48ab If the bitten person sees, in water or in a mirror, the one who was

852 On प्रच्छेत् “cut off, scarify” cf. the same verb at 4.9.10 (Su 1938: 443), 6.14.10 (Su 1938: 621), and derivatives प्रच्छन, प्रच्छान, प्रच्छित, etc., cited at *Mahākośa*: 1, 523. The wording of the vulgate text of this verse is quite different, and it introduced the idea of treatment according to the humour.

853 The Nepalese version does not mention wind, unlike the vulgate, but the sentence structure is harder than the vulgate.

854 The grammatical number of “it charges against one another” is odd in Sanskrit too.

855 This translation of the text is tentative and does not account for स्युः. The sentence is not clear in the witnesses or later derived versions such as *Aṣṭāṅgaḥṛdayasaṃhitā* 6.38.10 (Ah 1939: 921). Taking सुप्तः as “numbness” is not comfortable, though the vulgate seems to have taken this sense, reading सुप्ता (that Ḍalhaṇa glosses as बाधिर्यम्).

The vulgate version is a full śloka, rather than the Nepalese half-śloka, and translates as, “But there is numbness at the bite of the one bitten by such a mad, fanged, poisonous creature, and black blood overflows” (5.7.45 (Su 1938: 584)).

The main interpreters state that it is the limb or the location of the bite that becomes numb, not that the person loses consciousness. It is tempting to think that a more original text might have been referring to the victim losing consciousness. Srikantha Murthy (1991: 3, 375) took this view (against the commentator Aruṇadatta): “... the person gets into stupor ....”

856 अभिलिङ्गित “marked by” is not a common word and is perhaps a hapax legomenon. The vulgate has the simpler expression उपलक्षित.



- bitten by the creature with fangs, it is an indicator of impending death.
- 48cd–49ab If someone who has not been bitten nevertheless trembles at the sight, touch or sound, that should be known as hydrophobia (*jalatrāsa*), and that too is a sign of impending death.
- 50cd–52ab When one is bitten, one should make that bite flow and then it should be cauterized (*paridāhita*) with ghee. One should anoint it with antidotes and one should also make the patient drink aged ghee. One should also quickly give them an evacuative mixed with the latex of **purple calotropis**. One should also give them **white clitoria** and **hogweed**, together with **datura**.<sup>857</sup>
- 5.7.60–60.1 He should be made to bathe on the bank of a river or at a cross-roads, accompanied with mantras, with pots full of seeds, jewels and medicinal herbs, filled with cold water.
- 5.7.61–62ab O Yakṣa, Ruler of Mad Dogs, Lord of the Pack of Dogs, make this dog affliction free from poison, quickly, Svāhā!
- 5.7.62cd One should provide an intense evacuation (*saṃśodhana*) for the person who has been bathed.
- 5.7.63 That poison flares up again in a person who has not been evacuated, even though the wound may have healed.
- 5.7.63.1 Whether asleep or awake, a healthy person who is frightened does not succeed. And a mortal who is afraid of water as well as one who gets inflamed when bitten.<sup>858</sup>

Thus the Kalpa 6.

<sup>857</sup> At this point, the vulgate has seven and a half verses (5.7.52cd–59) that are not present in the Nepalese version. They describe a recipe that causes or aggravates the same symptoms as the bite of the animal. The interesting theory is presented that the patient will only survive if the poison is assisted in expressing its inflammatory symptoms fully (कुप्येत्स्वयं विषं यस्य न स जीवति मानवः । तस्मात्प्रकोपयेदाशु स्वयं यावत्प्रकुप्यति ॥ (5.7.58cd–59ab (Su 1938: 585)).

<sup>858</sup> The sense of this verse, which does not appear in the vulgate, is uncertain.





# Kalpasthāna 7: Beating Drums

## Introduction

This chapter is numbered 7 in the Nepalese version, but 6 in the vulgate.

## Literature

A brief survey of this chapter's contents and a detailed assessment of the existing research on it to 2002 was provided by Meulenbeld.<sup>859</sup>

## Translation

- 1 Now I shall explain the procedure (*kalpa*) on the topic of sounding the kettle drum (*duṇḍubhi*).<sup>860</sup>

## Recipe for the Caustic Antidote

- 3 One should take the ash of the following items, mix it with cows' urine and an caustic (*kṣāra*) compound, take an extract and cook it thoroughly: axlewood, garjan oil tree, sandan, neem, weaver's beam tree, corky coral tree,<sup>861</sup> cluster fig, mountain gardenia, arjun, white dammer

<sup>859</sup> HIML: IA, 295. In addition to the translations mentioned by Meulenbeld (HIML: IB, 314–315), a translation of this chapter was included in P. V. Sharma 1999–2001: 3, 61–66.

<sup>860</sup> This title suggests that the chapter may once have begun with the words “the drums are to be sounded” or at least that this is the subject of the chapter (Pāṇini 4.3.87). On the translation “kettle drum” see Hopkins 1889: 318; Rossi 2014.

<sup>861</sup> The ingredients to this point are similar to the water-detoxifier described in *Suśruta-saṃhitā* 5.3.9 (Su 1938: 568), p. 226 above.

tree, white siris (?), Indian cherry, sage-leaved alangium, Tellicherry bark, shami tree, wood-apple, maloo creeper, purple calotropis, Indian elm, oleander spurge, tree of heaven, liquorice, horseradish tree, teak, prickly-leaved elephant's foot, Himalayan birch,<sup>862</sup> viburnum, marsh barbel, woody-fruit jujube, and white-bark acacia.

One should add to this the powder of the following items, together with an equal quantity of metals: long pepper, long pepper root, prickly amaranth, cinnamon, smooth angelica, Indian madder, pongame oiltree, gajpipul, embelia, soot, Indian symphorema, soma,<sup>863</sup> chir pine, saffron, halfa grass, mango, Indian mustard, three-leaved caper, Indian laurel, itchytree, castor-oil tree, Indian willow, purging nut, blackboard tree, Indian trumpet tree, cherry, croton tree,<sup>864</sup> Indian aconite, deodar, black pepper, costus, and sweet flag.<sup>865</sup> Once it has been brought to the boil with the alkali, one should take it down and place it in a iron pot.<sup>866</sup>

### Application of the Caustic Antidote

- 4 One should smear this onto a drum as well as onto flags and carpets.<sup>867</sup> One is released from all poisons as a result of seeing and hearing

862 Note the unanimous Nepalese MS reading भूज, the Middle Indo-Aryan form of Sanskrit भूर्ज (CDIAL: #9570).

863 The literature on the identification of Soma is large and continuing (Dominik Wujastyk 2003b: 76–78, 125–131; Clark 2017). To the cited literature, the useful historical discussion by T. B. Singh and Chuneekar (GVDB: 449–455) gave special attention to the āyurvedic literature. Its presence in this recipe may add special value or power to the resulting compound.

864 Ḍalhaṇa on 5.6.3 (Su 1938: 580) glossed नागदन्ती as a type of इन्द्रवारुणी (colocynth), but he noted that Jejjaṭa had thought it was दन्ती (red physic nut).

865 Ḍalhaṇa on 5.6.3 (Su 1938: 580) noted that Gayadāsa omitted several of the above ingredients, keeping thirty.

866 Ḍalhaṇa on 5.6.3 (Su 1938: 580) explained that the above substances, from pepper onwards, should be placed in liquid alkali and then cooked until they are neither too runny nor too viscous (a phrase he copied from 1.11.11 (Su 1938: 47)). The preparation of पाक is particularly common in the *Suśrutasamhitā* and the *Aṣṭāṅgahṛdayasamhitā*. Cf. the very similar ingredients and procedure in the chapter on alkali preparations, *Suśrutasamhitā* 1.11.11 (Su 1938: 46–47), p. 37 above.

867 The vulgate has तोरण “gateways” instead of आस्तरण “carpets.” On the meaning of the latter term, see Bailey 1970: 31, 33 *et passim* and the remarks of Rotman (2008: 1, 390–391, note 171). I am grateful to Michael Willis who has drawn my attention to similar practices described in Tibetan Buddhist literature, some of which may preserve material from before the fifth century CE (Gongkatsang and Willis 2018).

these.<sup>868</sup>

- 5–6 This is called “The Caustic Antidote (*kṣārāgada*)”.<sup>869</sup> It should be given in cases of small urinary stones (*śarkarā*), urinary stones (*aśmarī*),<sup>870</sup> hemorrhoids, wind-swelling (*vātagulma*), cough, abdominal gripes (*śūla*) and swollen belly (*udara*). It should be given for indigestion, humours of the abdomen (*grahāṇīdoṣa*),<sup>871</sup> and severe aversion to food (*bhaktadveṣa*),<sup>872</sup> in swelling, mouth ulcer (*sarvasara*),<sup>873</sup> and persistent asthma (*śvāsa*).

### The Snakes’ Controlling Hook

- 7 This is to be employed in all cases where someone is suffering as a result of any poison. Thus, it is the antidote that is the Snakes’ Controlling Hook (*sarpāṅkuśa*) even for the snakes led by Takṣaka.<sup>874,875</sup>

868 The vulgate adds “and touching” 5.6.4 (*Su* 1938: 580). Note the ditransitive (द्विकर्मक) -मुच्यते; cf. *Meghadūta*, *uttaramegha* 33 (Kale 1947: ७१, 120).

869 Cf. 4.23.95–104 (*Ca* 1941: 575–576).

870 अश्मरी and शर्करा are described in *Suśrutasaṃhitā* 2.3 (*Su* 1938: 276–280), the latter being smaller and more easily expelled (2.3.13cd–14 (*Su* 1938: 279); cf. *Mahākośa*: 1, 67–68, 808–809). The commentators Cakrapāṇidatta and Ḍalhaṇa discussed the lack of a firm distinction between these categories.

871 On the organ called ग्रहणी, see the useful summary by Ramachandra Rao and Sudarshan (1985–2005: 2, 20–21, 96 *et passim*).

872 A sign of impending death according to *Suśrutasaṃhitā* 1.32.4 (*Su* 1938: 142).

873 See *Mahākośa*: 1, 888 and *Suśrutasaṃhitā* 2.16.65–66 (*Su* 1938: 336) and 4.23.3 (*Su* 1938).

874 तक्षक is an ancient name for a Nāga, mentioned in the *Kauśikasūtra* (28.1 *et passim*, Bloomfield 1890: 78). Takṣaka is mentioned briefly in the *Rāmāyaṇa* (Pollock 1991: 292, n.13) and more in later works. See further, Slouber 2016a: 22, 26, 37, *et passim*. The *Kriyākālottaratantra*, edited by Slouber, contains a similar sentence (7.26cd, p. 232): “Even someone bitten by Takṣaka will be rapidly cured of poison.”

875 There follow four verses in the vulgate, 8–11, that are not present in the Nepalese version. These list ingredients that form a ghee called The Salutory (*kalyāṇaka*). This ghee recipe with the same name is also present in the *Uttaratantra* at 6.39.229–232 (*Su* 1938: 689), where it is a treatment for mostly similar ailments: chronic fever, asthma, cough, swelling, madness and a toxic potion (*gara*) (defined at 5.8.24cd–25ab (*Su* 1938: 587) as something manufactured, कृत्रिम). However, in the Nepalese version at 6.39.232, the vulgate statement of this name “एतत्कल्याणकं नाम सर्पिर्माङ्गल्य-मुत्तमम्” is not present. Thus, in the Nepalese version, The Salutory (*kalyāṇaka*) is not named. The same named ghee also appears in the *Carakasamhitā* at 6.9.35–42ab (*Ca* 1941: 471), where it is presented as a treatment for madness (*unmāda*) as well as many other ailments including those mentioned above in the *Suśrutasaṃhitā* (ex-

## Recipe for the Immortal Ghee

- 12–13 Grind prickly chaff-flower seeds and the beans of siris, the two white clitorias and black nightshade with cows' urine.<sup>876</sup> A ghee mixed with these is the most effective means of soothing poison. It is famous under the name "Immortal (Amṛta)." It can revive even the dead.
- 14–23 Collect together the following requisites: sandalwood, agarwood, costus, crape jasmine, wild spider flower, climbing diamond flower, spikenard, chir pine, deodar, white sandalwood, plants like asthma plant and Gulf sandmat, verbena, indigo, Indian sarsaparilla, woody turmeric, wild Himalayan cherry, liquorice, thorny (*sanakha*) spikenard, Alexandrian laurel, cardamom, cherry, red ochre, rosha grass, scented pavonia, resin of white dammer tree, spikenard, Indian dill, peas, scrambleberry, cardamom, foxtail millet, sedge, sesame flowers, powdered ruffle lichen, malabathrum, black sarsaparilla, the three pungent drugs, camphor, white teak, kutki, purple fleabane, Indian aconite, gummy gardenia, colocynth, vetiver and lemon grass (?), three-leaved caper, coriander, sweet hoof, cinnamon, smooth angelica,<sup>877</sup> scutch grass,<sup>878</sup> chebulic myrobalan, the two types of clitoria, the two types of turmeric, Himalayan yew, lac, and the salts,<sup>879</sup> white water-lily, blue water-lily, sacred lotus flowers, pale Java tea and the flowers of champak, Asoka tree, royal jasmine, long-stamen Wendlandia (?),<sup>880</sup> weaver's beam tree, silk-cotton tree, Indian cherry, siris, toothed-leaf limonia, Arabian jasmine, Indian symphorema, axlewood, garjan oil tree, and sandan.

cluding swelling); it is possible that this is a case where a text from the *Carakasamhitā* was added to the *Suśrutasamhitā* after the Nepalese version.

876 On the BHS form पीषयेत्, see Edgerton 1953: 2, 346, Edgerton 1953: 1, §28.4, p. 220.

877 The plant is usually called चोरक, literally "thief." The Nepalese text here uses the unusual expression तस्करसाह्व "called the same as 'thief'."

878 The preceding three plants are in a half-verse that appears in the Nepalese version of the *Suśrutasamhitā* but not in the vulgate. It is notable that चोरक (syn. तस्कर) is distributed across Afghanistan, Himalaya and western Tibet. ग्रन्थिला (more commonly ग्रन्थिल, n.) is mentioned in the version of this Mahāsugandha recipe in the *Aṣṭāṅgas-aṅgraha*, Utt.47.69 (As 1980: 899) (but not in the *Aṣṭāṅgahrdayasamhitā*), suggesting that the *Aṣṭāṅgas-aṅgraha* at this point had access to sources similar to the Nepalese witnesses.

879 Dalhaṇa specified "the five salts" (Dalhaṇa on 5.6.19 (Su 1938: 581)).

880 The Nepalese witnesses unanimously read तिलक not the vulgate's तिल्वक. Both plants have fragrant flowers.

Collect these ingredients and then have a fine powder made out of them and place that in a horn together with cow's bile, honey and ghee.

- 24 This foremost antidote can rescue a man, with hunched shoulders and **rolling** eyes, from within the jaws of death.
- 25 This antidote can even destroy the irresistible, fire-like poison of Vāsuki, the lord of all the snakes, who is angry, and infinitely ardent.<sup>881</sup>

### The Great Perfume

- 26 Out of all the royal antidotes, this one, called The Great Perfume (*Mahāsugandha*), assembled out of eighty-five components, should always be in the king's hand.
- 27 A king anointed **with this** will become beloved of all the people. He becomes refulgent even when surrounded by his enemies.
- 28 For those afflicted by poison, the expert should apply a therapy that avoids heat. The exception is insect poison, because coldness makes that grow.<sup>882</sup>
- 31 Someone suffering from poison should avoid sleeping during the day, sexual intercourse, exercise, anger, the heat of the sun, wine (*surā*), **sesame** and **horse gram**.<sup>883</sup>
- 32 A physician can recognize that a person is free of poison if their humours are calm, if their tissues (*dhātu*) are in a normal state, if they have an appetite, if their urine and feces are regular (*sama*), and if **the movement of their senses and mind is calm**.<sup>884</sup>

881 This Nepalese MSS unanimously read सर्वनागगति "the progress of all the snakes" for the vulgate's विषं नागपति "the poison of the king of snakes." We emend to सर्वनागपति "the lord of all the snakes."

882 Verses 29 and 30 of the vulgate, giving dietary advice, are not present in the Nepalese version.

883 Ḍalhaṇa on 5.6.31 (*Su* 1938: 581) took the "and" in this sentence to mean the inclusion of a list of additional avoidances, from **long pepper** to **river dolphins** and **tortoises**.

884 This verse is much clearer in the Nepalese version. The vulgate seems to have acquired corrupted readings before the time of Ḍalhaṇa.



# Kalpasthāna 8: Poisonous insects

## Introduction

This is the last chapter of the *Kalpasthāna*. Since the chapter-colophons of the Nepalese manuscripts of the whole *Suśrutasamhitā* commonly end with the statement, “here ends the *Suśrutasamhitā* together with the *Uttaratantra*,” we can presume that an older version of the *Suśrutasamhitā*, sans *Uttaratantra*, ended with the present chapter. Added to this, the beginning of the next section of the work, the *Uttaratantra*, reads,

It being declared in the preceding 120 chapters, from here on, in the latter section, I shall explain the meanings in detail, fully.<sup>885</sup>  
Now, I shall explain the treatise called “the latter” where diseases in their diversity are fully revealed.

It is often the case with evolving works that new chapters are added at the start or, especially, at the end of a work. This has been true since the *Ṛgveda*. The *Kalpasthāna* has a different character from the rest of the *Suśrutasamhitā*, for example eschewing theoretical considerations in many situations. It may therefore itself have once been an addition to an even earlier medical work consisting of four main divisions.

## Insect names

It is more than usually difficult to equate the Sanskrit names of insects with contemporary creatures. In fact, it is mostly impossible. This is partly, at least, because historical entomology is non-existent as a discipline. Furthermore, entomology as a science in South Asia is dramatically

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<sup>885</sup> Note that this is not the reading of the vulgate, which says that the *Uttaratantra* will explain everything that was *not* completely explained before.

undeveloped when compared, for example, with botany.<sup>886</sup> There are few general surveys of insects in India and virtually none that record historical names or literary references. In the twelfth century, Ḍalhaṇa made the following remark about the commentators who lived before his time:

These different types of insects are not described by commentators like Suvīra, Nandin, Varāha, Jejjjāta and Gayadāsa, so they have to be identified by people from different localities.<sup>887</sup>

Thus, even pre-modern Sanskrit authors were not expert regarding the identities of the insects discussed in the *Suśrutasaṃhitā*.<sup>888</sup>

In general the names listed in passages 5–14 are the least recognizable. Most seem never to appear elsewhere in Sanskrit literature or even elsewhere in the *Suśrutasaṃhitā*. The names mentioned from passages 25 onwards are mostly recognizable and do appear elsewhere Sanskrit literature.<sup>889</sup> This chapter therefore gives the appearance of having two distinct parts. First, there is a taxonomy arranged according to humoral characteristics, containing otherwise unknown insect names. Second follows a concatenated treatise with more recognizable ordinary-language nomenclature coupled with creature-by-creature nosology and therapy.

## Literature

A brief survey of this chapter's contents and a detailed assessment of the existing research on it to 2002 was provided by Meulenbeld.<sup>890</sup>

The early history of entomology in India was fragmented until the study of Maxwell-Lefroy (1909) who provided a comprehensive and well illustrated reference compendium. Dover (1922) gave an overview of the early years of the field, though he admitted that, "I have not the linguistic attainments to discuss the mention of various insects in ancient Sanskrit

886 Desmond (1992) devoted a book of 368 pages to the early history of Indian botany; Dover (1922: 338–345) described the history of Indian entomology in seven pages.

887 Ḍalhaṇa on 5.8.4 (*Su* 1938: 586): एते कीटकभेदा नानादेशीयलोकादवगन्तव्याः, यतः सुवीरनन्दि-वराहजेज्जटगयदासादिभिः टीकाकारैर्न व्याख्याताः. (Varāha is called Vārāha by Ḍalhaṇa on 2.13.3 (*Su* 1938: 318).) Cf. Meulenbeld (*HIML*: IA, 387–388) on Suvīra and *mutatis mutandis* on the other commentators

888 *MW* includes 191 insect names, almost none of which are identified.

889 E.g., T. R. Mitra 2005.

890 *HIML*: IA, 296–299.



works.” Entomological studies focussed on south India include those of Baingrigge Fletcher (1914) and Ramakrishna Ayyar (1963). Meulenbeld (HIML: IB, 402) provided short bibliographies on Indian scorpions (note 214) and on spiders (note 222). Some insects were included by Ball (1888) in his study of the Indian flora and fauna known to classical Greek authors. Kaur and L. Singh (2018) provided a unique but very brief historical sketch of some arthropod references in Sanskrit literature.

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## Translation

- 1 And now I shall explain the procedure (*kalpa*) about insects.

### Taxonomy of insects

- 3 Insects originate from snakes' semen, feces, urine, the rot of corpses, and eggs.<sup>891</sup> Their characters are traditionally divided into **three**: wind, fire, and water.
- 4 Yet others hold the opinion that they are connected with the characters of all of the humours. And those insects are also very fierce and all of them are divided into four groups.<sup>892</sup>

#### The wind group

- |     |                         |                                  |
|-----|-------------------------|----------------------------------|
| 5-6 | 1. Tick-navel,          | 10. Revolver, and                |
|     | 2. Beaked,              | 11. Sheep-insect,                |
|     | 3. Horned, and          | 12. Myna-face, and               |
|     | 4. Hundred-kulimbhakas, | 13. Legume-insect,               |
|     | 5. Cricket,             | 14. Hundred-creeper,             |
|     | 6. Fire centipede,      | 15. Stripy,                      |
|     | 7. Little-voice,        | 16. Spotted,                     |
|     | 8. Vicitingas, and      | 17. Speckle-head. <sup>893</sup> |
|     | 9. Lentil insects.      |                                  |

7cd-8ab These eighteen insects, being of airy character, irritate the wind. The diseases of people bitten by one of these are caused by wind.

#### The fire group

8cd-11ab

<sup>891</sup> P. V. Sharma (1999-2001: 3, 78) omitted "snakes' " making it sound as if insects are just born of any semen, etc.

<sup>892</sup> The insects named in the following lists are all unidentifiable at the present time. The English translations are based mostly on the etymologies of the Sanskrit names. Future ethno-linguistic studies of insect-names in South Asia may solve some cases.

<sup>893</sup> The list is deficient in the Nepalese version. The vulgate text has another half-verse here listing two more names, शतबाहु "hundred-arm" and रक्तराजि "red-stripe." It does not include the Nepalese version's अल्पवाच "little voice."

1. Pitcher-like,
2. Hornet,
3. Celestial, and
4. Warding off,
5. Wing-scorpion,
6. Noseless,
7. Devout,
8. Droplet,
9. Bee,
10. Outsider.
11. Picciṭās,
12. Pot-turd,
13. Maggot,
14. Enemy-liquor,

15. Lotus-insect,
16. Drummer,
17. Mosquito,
18. Centipede,
19. Five-venom,
20. Cook-fish insect,
21. Black-beak,
22. She-ass insect.

These are the insects, as well as the

23. Worm-dish,
- and the other one that is known as the
24. Slimy.

11cd–12ab These are the twenty-four insects that have the character of fire. The diseases of people bitten by one of these are caused by bile.

### The phlegm group

- |         |   |   |
|---------|---|---|
| 12–15ab | <ol style="list-style-type: none"> <li>1. Wasp,</li> <li>2. Five-white,</li> <li>3. Five-black,</li> <li>4. Kokila-insect,</li> <li>5. Śairyaka-insect,</li> <li>6. Pravalāka,</li> <li>7. Bhaṭābha,</li> </ol> | <ol style="list-style-type: none"> <li>8. Kiṭibha,</li> <li>9. Aṭakī,</li> <li>10. Needle-mouth,</li> <li>11. Black monitor lizard,</li> <li>12. Kuṣṭa-insect,</li> <li>13. Red-dweller,</li> </ol> |
|---------|---|---|

These are the thirteen watery (*saumya*) insects that irritate the phlegm. The diseases of people bitten by one of these are caused by phlegm.

### The three-humours group

- |           |  |  |
|-----------|--|--|
| 15cd–17ab | <ol style="list-style-type: none"> <li>1. Tuṅgīnāsa,</li> <li>2. Valabhika,</li> <li>3. Tolaka,</li> <li>4. Nāhana,</li> <li>5. Koṇṭāgīrī,</li> <li>6. Krimikara,</li> </ol> | <ol style="list-style-type: none"> <li>7. Maṇḍalapuṣṭaka,</li> <li>8. Tuṇḍavakra,</li> <li>9. Sarṣapaka,</li> <li>10. Spoṭaka,</li> <li>11. Śāmbuka, and the terrible</li> <li>12. Fiery insects.</li> </ol> |
|-----------|--|--|

17ab These are the twelve that are born of the three humours.

### Symptoms

- 17cd For someone bitten by one of these, the information about the stages of toxic shock (*vega*) is the same as with snakes.<sup>894</sup>
- 20–21ab, 21.add-1 The following are found in the area of a bite, or in a body overflowing (*ākula*) with poison: an eruption of blisters, swelling, lumps and circles, ringworm (*dardru*),<sup>895</sup> small ear-like growths (*kaṇṇikā*), spreading rashes (*visarpa*), and dark, rough patches of skin (*kiṭibha*).<sup>896</sup>

### Taxonomy according to symptoms and prognosis

- 25cd From here onwards he will explain each individual class of insects separately.<sup>897</sup>

#### Hornets

- 26 These four hornets (*kaṇabha*) that cause sharp pain are described in general terms according to the symptoms of the person bitten, and according to whether they are treatable or non-treatable:<sup>898</sup>
- Triple-sting (*trikaṇṭaka*),<sup>899</sup>

<sup>894</sup> Two verses appear at this point in the vulgate that are not in the Nepalese version. They introduce a categorization of insect poisons into severe versus mild, a scheme that the Nepalese version does not reference.

<sup>895</sup> More usually ददु, a skin disease like कुष्ठ, i.e., leprosy or vitiligo, caused by an excess of bile and phlegm (*Mahākośa*: 390), although the form ददु is mentioned in the *Uṇādisūtra* commentary by Śvetavanavāsin (fl. tenth to fifteenth century), “ददुः कुष्ठ-भेदः” (I.88). Translated here as “ringworm” because that is prominent amongst the NIA usages of the lexeme and derivatives (*CDIAL*: 1, #6142).

<sup>896</sup> These symptoms are the same as those listed at 5.7.8 (*Su* 1938: 582) as being caused by rat poisoning, and similar to the list at 1.11.7 (*Su* 1938: 46). See footnote 829, p. 263. Again, the vulgate has three and a half added verses. They describe how to recognize severe poisoning and mild poisoning, developing the idea of graded degrees mentioned in note 894 above.

<sup>897</sup> On वक्ष्यते “he will explain” see note to the edition.

<sup>898</sup> The translation “hornet” is adopted in light of the Tamil *kaṭampai* and cognates described by *DED*<sub>2</sub>: #1117.

<sup>899</sup> Cf. Tamil *tēt-koṭṭāṇ* “a green insect whose touch produces the same sensation as a scorpion-sting” (*DED*<sub>2</sub>: #2064).

- Hopper (*kunī*),<sup>900</sup>
- Lion (*hastikakṣya*), and
- Undefeated (*aparājita*).

27 Someone stung (*daṣṭa*) by one of these experiences heaviness of the limbs and pain in the body, a flow of saliva and a severe rupture of the legs.<sup>901</sup>

### Iguanas

28, verses 1, 2 There are traditionally five **iguanas**:

- Counter-sun (*pratisūrya*),
- Yellow-shine (*piṅgabhāsa*),
- Multicolour (*bahuvarṇa*),
- Bighead (*mahāśiras*),
- Peerless (*nirupama*).

The information about the toxic pulses that affect someone bitten by one of these is the same as for snakes. There are pains of various kinds and extremely sore lumps.<sup>902</sup>

### Geckos

29 verses 1, 2 These are the six **house geckos**:<sup>903</sup>

- White (*śvetā*),

<sup>900</sup> The translation “hopper” gestures, with no real basis, to the Tamil word *kunī* and cognates, meaning “dance, jump, leap” (DED<sub>2</sub>: #1863). For कुनी, the vulgate has the equally unknown term करिणी, which slightly resembles Dravidian *kūra*, *kūrān* “moth, cockroach” (DED<sub>2</sub>: #1926).

<sup>901</sup> The Nepalese and vulgate texts diverge noticeably at this point. This passage, 27, is in verse in the Nepalese version, but in prose in the vulgate. At this point, the Nepalese text continues with further passages in verse, while the vulgate has a series of prose passages (5.8.28–37) and verse passages that are similar but not identical to the Nepalese version (39–41). In several cases, the Nepalese version’s verses are in irregular forms of śloka (*vipulā*), which may have prompted a redactor to recast the text as prose.

<sup>902</sup> The Nepalese reading of this passage was known to Ḍalhaṇa, who quoted it almost exactly as the reading “of some” (Su 1938: 587). It differs significantly from the vulgate. Ḍalhaṇa also quoted the description of the iguana (गोधेरक) from तन्त्रान्तर “another book,” i.e., the *Carakasamhitā* (6.23.134 (Ca 1941: 577) with minor differences).

<sup>903</sup> See n. 315, p. 112.

- Black (*kṛṣṇā*),
- Black-striped (*kṛṣṇarājī*),
- Crimson and Crimson-ringed (*raktā*),
- All-white (*sarvaśvetā*),
- Mustard (*sarṣapikā*).

### Centipedes

30, verses 1, 2 There are traditionally eight centipedes:

- Harsh (*paruṣā*),
- the two kinds of Black-pattern (*kṛṣṇacitra*),
- Brown (*kapilā*),
- Yellow (*pītikā*),
- Crimson (*raktā*),
- White (*śvetavarṇā*),
- Fire coloured (*agnivarṇā*).

Someone stung (*daṣṭa*) by one of these experiences sharp pains and tearing swelling at the sting. Spots appear at the sting and there is dreadful fainting.<sup>904</sup>

### Frogs

31, verses 1, 2 There are eight frogs that are well known to be defined as insects (*kīṭa*):

- White frog,
- Black-coloured,
- Arrow-coloured,
- Matt,
- Cavity,
- Greenish,
- Frown,
- Little point.

Someone bitten by one of these gets itchy, greenish, faint and vomits.<sup>905</sup>

904 The Nepalese and vulgate texts continue to diverge in form and content.

905 Ḍalhaṇa on 5.8.31 (*Su 1938*: 588) quoted a passage from “another book” (not the *Carakasamhitā*) that described the भृकुटी frog as follows: “When it rains, during the rainy season, a great snake may discharge semen. Then, when autumn comes, the water has froth (*maṇḍu*). In that frothy water, frogs (*maṇḍūka*) are born, which is

*Leeches*

31 add There are declared to be six leeches, with their characteristics and treatments:<sup>906</sup>

- Snake-sore,
- Sore-maker, and the
- Round-bristle Round-bristle.<sup>907</sup>

*All-supports*

32 verse There are said to be three Wasps. They bring burning, fever and pain.<sup>908</sup>  
As soon as one is bitten by one of them, there is swelling, and itching at the site of the bite.<sup>909</sup>

34 verses 1, 2 There is a discharge of foam, diarrhoea, and the appearance of dreadful hives (a).<sup>910</sup>

*Ants*

These are said to be the six kinds of ant:

- Massage-ant,
- Thick-head,
- Brahman woman ant,
- Finger-ant,

why they are called that. Experts say that a frog walks like a cow (*gogati*) so it is called a *koṭika*. Its bite kills; there is no countermeasure against it."

906 Puzzlingly, only three types are actually named. This verse occurs in the Nepalese MSS (K and H for this part of the text), but not in the vulgate.

907 The English translations are whimsical, based on the possibly-related word कोथ meaning variously, "afflicted with pain" or "putrefaction, corruption."

908 Breaking the pattern of these descriptions, the names of this animal are not listed here in the Nepalese version.

909 The next passage in the vulgate sequence, 5.8.33 (Su 1938: 588), describes an animal called *Ahiṇḍukā*. This passage does not occur in the Nepalese manuscripts, and Ḍalhaṇa's comment on this passage shows that he knew of a transmission of the text that omitted this material: "Some people do not read the symptoms of being bitten by Ahiṇḍukās, Kaṇḍūmakas, and Śūkavṛntas, because they are included as a type of Wasp (Viśvambhara). But others include each separate symptom of being bitten by Ahiṇḍukas and the others, because they need to be treated separately." The Nepalese version of the *Suśrutasaṃhitā* fits Ḍalhaṇa's description.

910 On the translation "hives" see note 840, and also *Suśrutasaṃhitā* 5.8.86 below.

- Colourless, and
- Brown.<sup>911</sup>

If one is bitten by one of them there is pain, burning and particularly itchy swelling.<sup>912</sup>

These ones are enamoured of eyes and bite the eyes in particular.

### Mosquitoes

36 verses 1–3 Five kinds of mosquito are famous:

- District,
- Mountainous,
- Black,
- Oceanic,
- and the mosquito called Elephant.

If one is stung by one of these, there is swelling in the area of the sting together with anger. There is pain; blood with much red colour (*rāga*), accompanied by itching, flows out.<sup>913</sup>

### Therapy

38 In each of the individual groups, the following cannot be treated successfully:<sup>914</sup>

- Iguana,
- Stench,
- White gecko,
- Fire-centipede,
- Frown, and
- Little point.

911 Note the marginal insertions in both MSS K and H, the latter attributed to ग्रन्थान्तरे “in another book.” The scribe of H was aware of variant readings in other manuscripts.

912 Or “pain and burning as well as itching and swelling” if these are grammatically relaxed as. The end of this verse is different in witnesses K and H. The earliest recoverable text is disturbed here. There follows a verse, दाहचोषौ... that is in H alone that corresponds to some extent to the vulgate’s 5.8.35 on bees.

913 This passage in both Nepalese witnesses not in the vulgate. The three preceding passages in the Nepalese version are somewhat corrupted and appear to treat of bees and mosquitos.

914 The reference is to the groups introduced at p. 282.



- 42 One should tend to those who have been stung by vicious insects (*kīṭa*) in the same way as for snakes. For the remaining three kinds, the therapy is three-fold.<sup>915</sup>
- 43ab One should employ sweating and multiple therapies, except for a patient who has fainted.
- 44ab And one should use the procedure for destroying poisons and one should apply evacuants.<sup>916</sup>

### Taxonomy of scorpions

- 56ef **Scorpions** are said to be of three types: having slow, medium or great toxin.
- 57cd Those born of the filth of snakes are sharp. By their poisons, they kill the person who has been stung by the poisoned tip.<sup>917</sup>
- 58 Medium ones are in the filth of cows, etc. The best are traditionally thought to be in the filth of dung.<sup>918</sup> It is declared that there are twenty-seven in number.<sup>919</sup>
- 59, 60cd, 61ab All of the following are considered slow-poison types:
- Black scorpion,
  - Brown scorpion,
  - Variegated scorpion,
  - Hairy scorpion,
  - Scorpion the colour of cow's urine,
  - Spotted scorpion,

915 The meaning of this sentence is not obvious. Ḍalhaṇa on 5.8.42 ([Su 1938: 588](#)) interpreted “three-fold” as referring to the therapies used for the three humours, and “of the three kinds” as referring to the divisions of the origin of the semen of the three classes of snake, Darvikara, Maṇḍalin and Rājila. This refers to the idea presented at the start of this chapter that it is the semen of snakes that is one of the origins of insects (*kīṭa*) and that they are divided into three kinds according to their humoral characters.

916 At this point, the vulgate has about thirteen verses that are not present in the Nepalese version. These verses describe medications against poisoning.

917 Reading हते as a rare ātmanepada third person plural.

918 This sentence in the Nepalese version is hard to construe. The vulgate text enumerates the three levels of scorpion, saying there are twelve mild (born of cow dung), three moderate (born of wood or bricks) and fifteen virulent ones (born of snake filth, etc.).

919 In contrast to the vulgate's total of thirty.



Figure 8: Husain, Shaykh, Shaykh Ali and Shaykh Hatim, “Asavari Ragini: Cropped Image of Scorpions” (Husain, Ali, and Hatim 1591). Courtesy of the Smithsonian Institution.

- Dark blue scorpion,
- White scorpion,
- Indian red scorpion,
- Hairy-head scorpion, and
- Fierce-purple scorpion.

If bitten by one of these, there is pain and trembling. The limbs are paralyzed and dark blood flows out.

61ab When pierced in the limbs, there is pain and it goes upwards. There is sweat at the site of the bite, and sharp swelling of the face.

61cd Those of medium virulence have a belly that is red yellow and brown, and they have a smoky colour.

63ab When the sting is from one of medium venom, the tongue (*jihvā*) swells up, the the sense of taste (*rasana*) is damaged and there is intense fainting.

63cd, 64cd, 65ab The following scorpions of various colours and forms are known to be terrible. They are deadly. White, variegated, dappled, blood-coloured, black, dark, white-and-blue-bellied, red, tawny, and with a single joint as before, and those with two joints, also as before.



Figure 9: The Oil-Presser. MS British Library Add.Or.1707, no. 16. "Album of Kashmiri Trades." Datable to 1850–1860.

- 66 If stung by one of these, the pulses (*vega*) associated with poison start to happen, with the appearance of spots, fever and burning, and trembling. Black blood flows copiously from the pores. After that, the person is rapidly caused to relinquish his breaths.

### Therapies for scorpion-sting

#### *Medium poison*

- 67ab One has to provide medical care for those stung with fierce or middling poison in the same manner as for someone bitten by a snake.

#### *Slow poison*

- 70 But for those stung by a slow poison one should irrigate the bite with wheel-oil.<sup>920</sup> Alternatively, the oil of *beggarweed* can be used, gently

<sup>920</sup> Ḍalhaṇa on 5.8.70 (Su 1938: 591) explained "wheel oil" as sesame oil produced from pressing on a wheel, in contrast to that pressed with an instrument by hand. The term is discussed at *Suśrutasaṃhitā* 1.44.47–48 (Su 1938: 193), where Ḍalhaṇa elaborated on the superiority of wheel-oil over hand-machine oil: "The expression 'wheel-oil'

warmed.

67cd–68ab The bite should be fomented, scarified and one should rub it with powders made from **turmeric**, **rock salt**, and the fruit and flowers of **the three pungent drugs**, and **siris**.

68cd–69ab In an ointment, the leaf-tips of **holy basil**, mashed with **citron**, **mangos-teen** and cow's urine are said to be beneficial, as is warm cow dung.<sup>921</sup>

69cd, 71cd, 72cd, 71ab, 73ab One should use the following, together with plasters that counteract poisons: ghee with honey in a drink, or milk with a lot of sugar; alternatively, healthy jaggery-water steeped with **the four jāta drugs**. Also, one should use sweating and poultices and use sesame oil, salt, and the tail-feathers of a peacock or a cock. This fumigation (*dhūpa*) rapidly destroys scorpion poison.

73cd–74 Alternatively, the flowers of **safflower**, **turmeric**, and **Indian barberry**,<sup>922</sup> should be mixed with ghee and made into a fumigant to be applied in the anal area. It can rapidly destroy poison that comes from an insect (*kīṭa*) or from a scorpion.

## Spiders

75 The poison of spiders is the most terrible and the one that is hardest to understand. It is also the most difficult for a slow-witted doctor to treat.

76 If there is any doubt about whether it is poisonous or not, treat it with unobstructive medication that destroys poison.<sup>923</sup>

means sesame oil that has been pressed on a wheel. This is meant to rule out pressing using manual instruments. Items like sesame that are pressed on a wheel are not roasted. Therefore, they are of the highest quality. The qualities of oiliness and heaviness are lost when sesame that has been roasted and dried is pressed by machine." See Fig. 9. (Dāhaṇa gave a different interpretation of the production of wheel-oil at 4.2.72 and 4.3.12 (Su 1938: 413, 415).)

Some authorities interpret चक्रतैल as referring to the oil of **sickle senna** (*cakramarda*) (normally part of a therapy for ringworm (*dadru*)) and that might fit the present context better.

921 On the wider history of the association of **holy basil** with scorpions, see Simoons (1998: 40 et passim), who cites Watt (*Watt Dict*: 5, 442).

922 रजनी and निष्या (syn. निशा), as mentioned in this passage, separately both mean turmeric. But when mentioned together, the second is understood to mean **Indian barberry** (GVDB: 227).

923 Dāhaṇa on 5.8.76 (Su 1938: 591) interpreted "unobstructive medication" as referring to food and drink that do not obstruct the body tissues (*dhātu*), rather than with an actual antitoxin (*agada*) that would block the body tissues.

- 77 The proper use of anti-toxins (*agada*) is for a person **injured** (*duṣṭa*) by poison. An anti-toxin applied to a person who has no poison itself turns into a toxin (*gada*).
- 78 For that reason, every effort must be made to achieve certain knowledge about the poison. Being ignorant of the true nature of the poison might lead the physician to harm the man.
- 79 A tree does not reveal its fully developed type by means merely of its newly formed buds. In exactly the same way, spiders' poison is extremely difficult to spot in the body when it has just started to spread.

### Seven stages of spider poisoning

- 80 On the first day, there is slight itching and moving hives (*koṭha*), and a faint colouring.<sup>924</sup>  
 On the second day, there is swelling of the extremities, a hollowing of the mid-region and a very obvious colouring.  
 By the third day, once sees the bite here.  
 On the fourth day, the poison becomes irritated.  
 On the day after that, it causes the person to have disorders that arise from the aggravation of the poison.
- 82 On the sixth day, spreading, it powerfully spreads over all the locations of the lethal spots.<sup>925</sup>  
 On the seventh, it takes possession of the whole body. It kills that mortal person who has become extremely swollen.
- 83 Spiders have sharp, fierce, dreadful, poison. They can kill a man in seven nights. And different ones that have medium-strength poison can kill in a longer period than this.
- 84 Those that have the weakest-strength poison can kill in just a fortnight. So a physician should make every effort at this point, because of the force of the harm from the poison after the bite has happened.<sup>926</sup>
- 85 Spiders emit poison in seven ways:

924 Ḍalhaṇa on 5.8.80 (*Su* 1938: 591) noted that Gayadāsa read प्रबल for प्रचल “moving,” understanding it as “on the first day there is itching of only slight strength” with increasing degrees of strength on later days.

925 “Sensitive spots” (*marman*) are points where life is close to the surface of the body and damage may be lethal (Dominik Wujastyk 2003b: 201–202, 236–244). They are described in *Suśrutasaṃhitā* 3.6 (*Su* 1938: 369–376).

926 Ḍalhaṇa here cited a verse from the ancient toxicology authority Ālambāyana, whom we mentioned on pages 209 and 262 (*Su* 1938: 591): लूतास्तीक्ष्णविषा हन्युः सप्ताष्टनवभिर्दि-

- saliva,
- nails,
- urine,
- fangs,
- menstrual fluid,
- feces and
- semen.<sup>927</sup>

It has strong, medium or weak potency.

- 86 They say that if it is caused by saliva, there are hives (*koṭha*) with itching and firmness and a small base, with mild pain.<sup>928</sup> When the sting comes from the tip of the nails, there is dryness (*coṣa*), itching, granulations (*pulāyikā*), and the appearance of smoke.<sup>929</sup>
- 87 But if the bite caused by urine, it is black in the middle and has a red surrounding, then know it to be split apart.  
If it is caused by fangs, it is fierce, rough, discoloured, and you should know that the bite is firm and circular.
- 88ab You can recognize one arising from menstrual fluid, feces or semen by the blister (*sphoṭa*) that is pale like a fully ripened **emblic myrobalan** or **toothbrush tree**.<sup>930</sup>

### The origin of spiders

- 88cd–89 This much has been declared to you. Now I shall narrate the **authoritative** origin of spiders,<sup>931</sup> and in a general way the incurable and curable

नैः। एकादशाहात्परतो विषं यासां तु मध्यमम् ॥ “Spiders that have the sharpest poison can kill after seven eight, or nine days. Those that have medium strength, after eleven or more”

927 Ḍalhaṇa on 5.8.85 (**Su 1938**: 592) confirmed the sense “semen” for इन्द्रिय in this passage.

928 Or “with a goitre and firmness,” in the reading of MS Kathmandu KL 699.

929 पुलायिका “granulations” is not found in dictionaries. I have guessed that it is connected with पुलाक “rice grain.” Cf. the cognates of *\*pūliya* “rotten” in **CDIAL**: 1, #8350. Sharma read पुलालिका with the vulgate and translated it as “horripilation” (P. V. Sharma 1999–2001: 3, 94) following Ḍalhaṇa’s gloss रोमाञ्च: **Su 1938**: 592.

930 See Figure 10.

931 The vulgate’s reading पुराणम् “ancient” is no doubt easier than प्रमाणम् “authority,” but there is no support for it in the Nepalese manuscripts.





Figure 10: Berries of the [emblic myrobalan](#) (*āmalaka*) and [toothbrush tree](#) (*pīlu*). Photos courtesy of Dinesh Valke (CC-BY-SA).

patient who has been bitten as well as the therapy and the [distinctions to be made](#).<sup>932</sup>

- 90–91, 92ab, 92ef Once upon a time there was a good king called Viśvāmitra, “Friend to All.” It is reported that he went to the ashram and somehow made Vaśiṣṭha, the best of sages, angry.<sup>933</sup> Drops of sweat from that angry sage’s forehead, as brilliant as the sun because of his countenance, reached the grass that had been cut and gathered by the sage for his cows.<sup>934</sup> They started to damage the king’s government and labours.<sup>935</sup>
- 93 Since the sage’s drops of sweat reached the cut (*lūna*) grass, spiders (*lūtā*) came into being. And they were sixteen in number.

932 The vulgate reads यथाविशेषम् “according to their specifics,” qualifying the therapies. The Nepalese version’s विशेषणम् च “distinguishing, qualifying,” seems to be a separate topic for explanation.

933 On the legendary rivalry between these two figures, see Sathaye 2015: Introduction, et passim. On “it is reported” for किल see M. B. Emeneau 1969.

934 नियेतुः, 3rd, pl., pf., √यत्, “reached, arrived,” is simplified in the vulgate to अपतन् “they fell.”

The vulgate adds half a verse here giving a subject to the next verb, वर्तन्ते: “From those were born these various, terrible creatures with great poison” 5.8.12cd (Su 1938: 592).

935 Dalhaṇa cited a different origin myth, which itself began “others say....”

### Taxonomy of spiders

- 94 Spiders are traditionally said to be of two kinds: those that are hard to treat and those that cannot be treated. Amongst those, there are eight that are hard to treat and exactly the same number that should be avoided.<sup>936</sup>
- 95 They are traditionally said to be: *Three-ring*, *White spider*, *Brown spider*, *Yellow spider*, *Sting-poison*, *Urine-poison*, *Red spider*, and the eighth is the *Cough-spider*.
- 96 When bitten by one of these, there is headache and especially itching at the site of the bite, and in particular maladies related to phlegm and wind.
- 97 They are traditionally said to be: *Goldie*, *Grain-coloured*, *Webby spider*, *Deer-foot*, *Black-face*, *Fire-face*, *Crow-egg*, and the eighth is the *Garland-virtue*.
- 98 If one is bitten by one of these, there is a sore at the site of the bite and a flow of blood,<sup>937</sup> fever, a temperature (*dāha*) and diarrhoea and the illnesses caused by the three humours.
- 99 There are also various kinds of boils and large rings, and large, soft, red and dark swellings that move about.

### Specific symptoms and treatments

- 100 This is the generic characterization of the bites of all kinds of spider. I shall now describe their specific characterization, together with the therapy.

#### *The Three-ring spider*

- 101 The bite of a *Three-ring* makes the blood bleed thick and dark. There is deafness, clouded vision, and a burning sensation in the eyes.
- 102 In such a case, the root of *purple calotropis*, *turmeric*, *Indian snakeroot* and *painted uraria* are recommended in an errhine treatment and **for the massage of the feet** and in a collyrium.

936 "Avoided" in the sense that treatment should not be attempted.

Mānasa-taraṅgiṇī (2019) makes some spider identifications, but their basis is not stated.

937 Elsewhere, Ḍalhaṇa on 6.42.13 (Su 1938: 718) glossed क्षतज "wound-born, blood," as आर्तव्रक्त "seasonal blood."



*The White spider*

- 103 At the site of a bite of a *White spider*, a white, itchy spot appears that comes with heat, fainting and fever, and causes a spreading, weeping rash and pain.
- 104 In such a case, a *sandalwood*, *grey orchid*, *cardamom*, *peas*, *tall reed*, *Indian willow*, *costus*, *lemongrass*, *Himalayan mayapple*, and *spikenard* are a healthy antidote.<sup>938</sup>

*The Brown spider*

- 105 At the site of a bite of a *Brown spider*, there is a firm, coppery spot, the head feels heavy, and *the person's eyes feel hot*.<sup>939</sup>
- 106 The following remove the poison: *sacred lotus*, *wild Himalayan cherry*, *costus*, *cardamom*, *pongame oiltree*, *arjun tree*, *cinnamon*, *beggarweed*, *kumkum tree*, *prickly chaff-flower*, *durva grass*, and *water hyssop*.

*The Yellow spider*

- 107 At the site of a bite of a *Yellow spider*, a hard, yellow spot develops, because of the yellow, accompanied by vomiting and fever,<sup>940</sup> sharp pain and the eyes may become red.
- 108 In such a case, the following are required: *arjun tree*, *vetiver*, *munj sweetcane*, *cogongrass*, *Indian willow*, *halfa grass*, *wild sugarcane*, *bamboo*, *white siris*, *siris*, *arjun tree*, and *cinnamon*.<sup>941</sup>

938 Ḍalhaṇa on 5.8.105 (Su 1938: 592) glossed several of these drugs and noted that others had different opinions. In particular, he thought that वज्जुल was *white siris* (*jalavetasa*) rather than *Indian willow* (*vañjula*). But he also noted that Jejjāta thought it was कम्बुका, an unidentified plant that Ḍalhaṇa thought should be interpreted as *white siris* (*kinihī*).

939 The vulgate reads तिमिरं भ्रम एव च, “a defect of vision and giddiness” (P. V. Sharma 1999–2001: 3, 97).

940 Reading छर्दिज्वरः as a m. sg. dvandva. Cf. p. 80.

941 The repetition of ककुभ “arjun tree” suggests an error in the Nepalese transmission.

*The Sting-poison spider*

- 109 At the site of a bite associated with the **Sting-poison**, which is like a red circle, there are spots like **Indian mustard** seeds. It burns, the palate feels dry and there is a temperature.
- 110 In such a case, the antidote is **foxtail millet**, **coleus**, **costus**, **lemongrass**, and **Indian dill**, with the shoots of **sacred fig** and **banyan**.

*The Urine-poison spider*

- 111 The bite of a smelly **Urine-poison** spreads out, with black blood accompanied by coughing and wheezing, vomiting and fainting, fever and a burning feeling.
- 112 Famously, the poison can be destroyed by the following: **realgar**, **liquorice**, **costus**, **wild Himalayan cherry**, **sandalwood**, and **lemongrass**.

*The Red spider*

- 113 The bite of the **Red spider** has pale, hot, weeping (*kleda*) spots. It can be identified because it is dry (*coṣa*) and red, with red edges.
- 114 In such a case, the treatment should be done with **coleus**, **sandalwood**, **vetiver**, **wild Himalayan cherry**, **arjun**, **Indian cherry**, and the bark of **hog plum**.

*The Cough-spider*

- 115 The bite of the **Cough-spider** makes cold, slimy blood flow. There is also wheezing and coughing. The treatment is as stated for the **Red spider**.<sup>942</sup>
- 120 The wise person should employ the bark of **Indian cherry** in the case of poisoning by any of them, and **horseradish tree** and **sacred fig** in all ailments.<sup>943</sup>

942 At this point, the vulgate has four verses that are not present in the Nepalese version. They describe the symptoms and treatment of the bites of two further spiders, the **Goldie** and the **Fire-face**. Ḍalhaṇa on 5.8.119 (Su 1938: 593) reported that the commentator Gayadāsa thought the bites of the **Goldie** group (p. 294) were all incurable so he only described them but described no treatment.

943 Ḍalhaṇa on 5.8.120 (Su 1938: 593) understood the compound अक्षीवपिप्पलम् as a tatpuruṣa, not a dvandva. I.e., “a **sacred fig** (*pippala*) that comes from an *akṣīva*,” and

### Spider poisons hard to treat

- 121 According to tradition, there are said to be eight spiders whose poison is incurable. Learn from me the symptoms of the potencies of these overpowering poisons.
- 122 The bite of the **Goldie** is dark, frothy, and smells like fish. The coughing and wheezing, fever, thirst and fainting in this case are terrible.<sup>944</sup>
- 123 When there is a bite by the **Grain-coloured**, blood runs out, dark and odorous. Heat, fainting, diarrhoea and a headache develop.
- 124 The bite of the **Webby spider** is terrible: it is striped and splits open. It causes paralysis, wheezing, increased gloominess (*tamas*) and dryness of the palate.<sup>945</sup>
- 125 The bite of the **Deer-foot** has great heat and has the form of a black sesame seed. There is thirst, fainting, fever and vomiting, accompanied by wheezing and cough.
- 125 add 1 The bite of the **Black-face** has black edges, a depressed middle and very dry (*coṣa*). There is pallor, fainting, vomiting and burning, accompanied by wheezing and cough.<sup>946</sup>
- 125 add 2 The bite of the **Fire-face** is recognized as being burnt, with spots and with pain. There is dryness, itching and horripilation, and suffering from heat and fever.
- 126 When someone is bitten by the **Crow-egg**, the bite is pale red and very painful. There is suffering from hiccuping, coughing, thirst, fainting, sleepiness, and pain in the heart.
- 127 The bite of the **Garland-virtue** is red, smells like smoke, and is extremely painful. It splits open multiple times and is accompanied by burning, fainting, and fever.

he glosses the latter word as *mahānimba* or *śobhāñjana*.

Ḍalhaṇa also here quoted a passage from the lost work of Ālambāyana (see pp. 209, p. 262): लूताविषेषु सर्वेषु पाननस्याञ्जनादिना । प्रयोज्यः पिप्पलोऽक्षीवजातः शेलुत्वचोऽथवा “in all cases of spider-poison **sacred fig** that comes from **horseradish tree**, or else the bark of **Indian cherry**, should be used as drinks, errhines or ointments.”

944 Ḍalhaṇa on 122 (Su 1938: 593) glossed ध्याम “dark” as “being the colour of burnt brick.”

945 Ḍalhaṇa on 5.8.124 (Su 1938: 593) interpreted तमोवृद्धि as, “seeing darkness again and again.”

946 The following two verses are absent in the vulgate transmission, but deal correctly with the next two spiders listed above, p. 294, as having incurable bites.

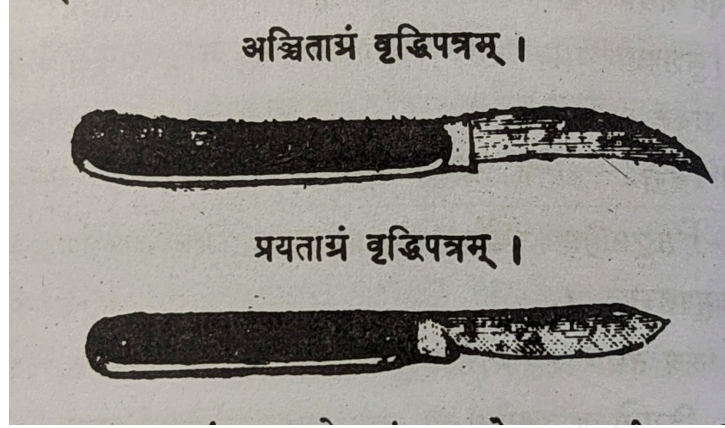


Figure 11: The big-leaf scalpels, as illustrated in Su 1938: 36.

### Curable and incurable

- 128 Even for those cases that are incurable, the physician should apply therapy, especially the elevation of the humours, with the exception of excision.<sup>947</sup>
- 129 As soon as someone is bitten by a treatable spider, the wise physician should excise the bite with a big-leaf scalpel (*vṛddhipatra*).<sup>948</sup>
- 129 add 1 To avoid spreading, one should cauterize with a very hot jambu-lip (*jambosṭha*).<sup>949</sup>
- 131ab, 133ab After that, one should smear on an antidote made of a mixture of honey and rock salt, with a decoction (*kaṣāya*) of bark from trees with milky

947 The vulgate adds a compassionate phrase here, “after explaining [the incurability] to the patient.” The vulgate also rules out cauterization.

Ḍalhaṇa on 5.8.128 (Su 1938: 593) noted a variant reading असाध्यानाम् अपि चिकित्सितं that corresponds almost exactly to the Nepalese version.

948 On this scalpel, see Mukhopādhyāya 1913: 1, 232–235, illustrated at 2, 121–122, and Dominik Wujastyk 2003b: 83–84. Two forms of this scalpel were described by Ḍalhaṇa on 1.8.3 (Su 1938: 36–37) and are illustrated in that same edition: see Figure 11.

949 This half-verse does not appear in the vulgate, but it was known to Ḍalhaṇa as a variant reading (Ḍalhaṇa on 5.8.129 (Su 1938: 593)).

The “jambu-lip” is surgical instrument used for the cauterization of fistula according to 4.8.32 (Su 1938: 440). Ḍalhaṇa described it, loc. cit., as जम्बूफलसदृशमुखाया कृष्णपाषाणरचिता वर्तिः। “a wick made out of black stone that has a tip similar to the jambu fruit.” See Mukhopādhyāya 1913: 1, 159–160, illustrated at 2, 74 (no. 4).

sap and with safflower, honey, and rock salt.<sup>950</sup>

137 Furthermore, after setting aside food that increases poison, it is good to eat the following together: yeast, Indian bdellium-tree, gypsum, and rock dove droppings.<sup>951</sup>

138 A painless, hard growth (*karṇikā*) caused by any kind of poison should be scarified and then treated with purifying substances mixed with honey.

138 add The observant physician should treat hot, ripe ones with food.<sup>952</sup>

139 The symptoms of the bites of 167 insects have been stated in a classified manner, followed by their therapies.

### Concluding remarks

140 One hundred and twenty chapters have been stated in a classified manner. In the *Uttara* I shall explain the topics that have been referred to here but not explained.<sup>953</sup>

### Contents of the *Suśrutasamhitā*

140 add 1 The *Ślokaśhāna* describes, in concise sūtra form, the discipline, the origin of the discipline, and the strengths and weaknesses of the treatments for diseases.

140 add 2 The *Nidānasthāna* states the characteristics of external illnesses with the faults pertaining to humours and diet as well as the description of their stages.<sup>954</sup>

950 The vulgate has one and a half verses, 131cd and 132, that intervene between the two parts of this passage. And following this passage, the vulgate adds several more verses, 133cd–136, mostly describing generic treatments for spider-bite.

951 The vulgate corresponding to this verse has quite different phrasing but similar sense.

952 This line, only found in the Nepalese witnesses, contrasts with the previous one. Scarification and diet are two therapeutic approaches to be applied according to whether the spider-bite is hard or soft and inflamed.

953 There now follow six verses that are present in the Nepalese version, but not in the vulgate.

954 अवस्था "stages" here probably refers to degrees of affliction, although this is not a distinct section of the *Nidānasthāna*.

- 140 add 3 In the *Śārīra*, I have described the origin of the body amongst the body tissues (*dhātu*), senses and lethal spots, and the origin of all the ducts (*sirā*) etc.
- 140 add 4 In this discipline, the *Cikitsita* is traditionally said to be the successful treatment of diseases that are evident because of the symptoms and that have been taught according to their locations.
- 140 add 5 The *Kalpasthāna* is said to be about the beneficial treatment in cases of stationary and moving poisoning as well as the successful treatment in all these cases.

### End of the Kalpasthāna

- 140 add 6 My dear, I have proclaimed this extensive work of a thousand verses, divided into in 120 chapters, that came forth from the mouth of The Creator.
- 141–142 The Vedas are eternal, unchanging and good for people, and they have outcomes both seen and unseen. The extent of their words has broad meaning and people respect them. Because of this, O Suśruta, there is nothing more virtuous than medicine.
- 143 After upholding this pure and universally approved doctrine of the sage with Indra's power, who was born of an immortal, someone who has the stated conduct and behaviour rejoices in this life and the next.<sup>955</sup>
- 143 add 1 He understands the logic of the remaining treatises too and the world is his family.
- 143 add 2 An expert in foreign bodies (*śalya*) defines anything that causes distress as a foreign body (*śalya*) since it pierces the limbs.<sup>956</sup>
- 143 add 3 Therefore, his progress, especially, cannot be opposed, just as the progress of a strong king cannot be stopped when he is in his own land.<sup>957</sup>
- 143 add 4 The *Uttaratantra* is stated for the purpose of treating fever and other ailments.<sup>958</sup> It states the description, etiology and manifestationss (*vy-añjana*) of complications.<sup>959</sup>

955 The vulgate version of the *Suśrutasamhitā*'s *Kalpasthāna* ends here.

956 This verse has nested relative pronouns and lacks a main verb. Perhaps the text lost a half-verse in transmission?

957 Or, "his progress cannot be opposed by any particular."

958 The chapter on fever is number 39 in the vulgate text, but number 60 in the Nepalese version.

959 The syntax of this sentence is slightly opaque.

143 add 5 And there is a verse on this:

Someone who reads this work of one hundred and twenty chapters recorded in five sections, together with the latter part (*uttara*), is worthy of a king and revered by physicians. He is a doctor who has taken the steps to apply therapy.

143 add 6 Protection of food, stationary and moving poisons, the toxicology of snakebite patients, the treatment of snakebite patients, rats, the drum, and the treatment of insects as the eighth.<sup>960</sup>

In the treatise on foreign bodies belonging to the followers of Suśruta, the *Kalpasthāna* is ended.

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<sup>960</sup> This is a table of contents of the *Kalpasthāna*.





## **6. The Uttaratantra**

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# Introduction to the Uttarantra

The *Uttarantra* of the *Suśrutasaṃhitā* consists of sixty-six chapters. This amounts to more than a third of the size of the whole *Suśrutasaṃhitā*. The vulgate version of the work divides the *Uttarantra* into five major divisions:

1. *Śālakyatantra*, on diseases of the eyes, ears, nose and head. This division includes the description of couching for cataract.<sup>961</sup>
2. *Kumāratantra*, on avoiding the threat of demonic attacks on children and one final chapter on disorders of the female genital tract.
3. *Kāyacikitsātantra*, on the treatment of twenty diseases, starting with fever and continuing with diarrhoea through to urinary disorders.
4. *Bhūtatantra*, on possession by supernatural beings, on epilepsy, and on insanity.
5. *Tantrabhūṣaṇādhyāya*, on the permutations of the savours,<sup>962</sup> on living well, on logical rules of interpretation for medicine, and on the combinatorics of the four humours.<sup>963</sup>

In the Nepalese version of the *Suśrutasaṃhitā*, however, the chapters are distributed slightly differently across sections (see Fig. 8, 9). In the following, the chapter numbers are those of the vulgate text.

- In the Nepalese *Uttarantra*, 6.13 and 6.14 are combined and both called 6.13. This causes the following chapter numbers in the Nepalese version to be reduced by 1.
- After vulgate 6.23, the Nepalese version skips the 6.24 and moves straight to 6.25. Chapter 6.24 appears later, after 6.53.

961 See Leffler, Klebanov, Samara, and Grzybowski 2020 for a recent study.

962 See Dominik Wujastyk 2000.

963 Blood is included as a humour (*doṣa*) in this chapter.

Nepalese	vulgate
<i>Śālakyatantra</i>	<i>Śālakyatantra</i>
<i>Kumārabhṛtya</i>	<i>Kumārabhṛtya</i>
<i>Kāyacikitsā</i> (+ <i>Daśaka</i> )	<i>Kāyacikitsātantra</i>
	<i>Bhūtatantra</i>
	<i>Tantrabhūṣaṇādhyāya</i>

Table 8: The division of sections of the *Uttarat Tantra* in the Nepalese version and in the vulgate (Su 1938).

- At the start of the *Kāyacikitsā* section of the *Uttarat Tantra*, the Nepalese version begins with 6.39, on fever, instead of the vulgate's 6.38.
- By contrast, the vulgate version of the *Kāyacikitsā* starts with 6.38, on ailments of the female reproductive tract. This appears as the last chapter of the Nepalese of the *Kāyacikitsā*, after 6.59 (after two chapters on urinary problems).
- The *Bhūtavidyā* and *Tantrabhūṣaṇādhyāya* divisions of the vulgate are not differentiated in witness K. All the chapters to the end of the *Uttarat Tantra* are called the *Kāyacikitsā*.
- But in witness H, 6.60–6.63 are called *Bhūtavidyā*. Then, 6.64 is called *Kāyacikitsā* again, and the last two chapters of the *Uttarat Tantra* are not assigned to any subdivision.
- The last ten chapters of the Nepalese text are included in its *Kāyacikitsā*, as mentioned. However, the last verse of the Nepalese version, just preceding the scribal colophon, reads as follows:

They have again declared this group of ten in the *Kāyacikitsā*: urine diseases, urine blockages, the vagina and the supernatural beings, epilepsy, insanity, the divisions of the savours, the rules for the preservation of the healthy person, the rules of interpretation (*tantrayukti*), the divisions of the humours.<sup>964</sup>

So the internal evidence of the Nepalese version, transmitted by K,

964 मूत्रदोषो मूत्राघातो योन्यमानुषमेव च ।  
अपस्मारोन्मादकञ्चैव रसभेदस्तथैव च ।  
स्वस्थरक्षाविधानञ्च तन्त्रयुक्तिश्च दोषभित् ।  
इत्येभिर्दशकं प्रोक्तं पुनः कायचिकित्सिते ॥

Nepalese	Vulgate	
<i>Śālakyaatantra</i>		
1–12	1–12	
13	13–14	
14–22	15–23	
	24	→ Nepalese 51
23–24	25–26	
<i>Kumārabhṛtya</i>		
25–35	27–37	
	38	→ Nepalese 58
<i>Kāyacikitsā</i>		
36–50	39–53	
51	24	
52–57	54–59	
58	38	
59–65	60–66	

Table 9: Concordance of Nepalese and vulgate chapter numbers, according to witness K.

omits reference to the vulgates last two subdivisions. Instead, it declares that the last ten chapters form a group, a decade of chapters.

## Literature

Meulenbeld offered an annotated overview of the *Uttaratantra* and a bibliography of earlier scholarship to 2002.<sup>965</sup> He treated the individual chapters separately and did not provide reflections on the *Uttaratantra* as a unit with five subdivisions.

Meulenbeld also discussed the related issue of whether there might once have been an *Uttaratantra* attached to the *Carakasamhitā*, a

965 [HIML](#): IA, 300–332.

\**Carakottaratāntra*.<sup>966</sup> While it seems unlikely that there was ever such a text, there is one verse that deserves attention, namely *Carakasamhitā* 8.12.50 (Ca 1941: 737). This is almost the last verse of the whole work and it states that certain general topics about how to achieve the right interpretation of medicine through hermeneutic rules (*tantrayukti*) will be treated at greater length in the sequel, or “Uttara,” with a view to providing true knowledge of the truth of the system (*tantra*) from the point of view of merits and flaws.<sup>967</sup> This passage is printed in parentheses in the vulgate edition, indicating that the editor was unsure about its validity as part of the text. This is probably because the commentator Cakrapāṇidatta said that this passage was considered spurious by the earlier tradition, because the whole *Uttaratāntra* of the *Carakasamhitā* was spurious.<sup>968</sup> Nevertheless, the passage appeared in the manuscripts available to the editor, so he printed the passage. It seems at least arguable that this passage in the *Carakasamhitā* is actually referring to the *Uttaratāntra* of the *Suśrutasamhitā*, which carries out exactly that program in its chapter about the hermeneutic rules (*tantrayukti*) for interpreting medical statements. If this is the case, it is evidence that Dṛḍhabala (300–500 CE), the author of this part of the *Carakasamhitā*, was aware of the *Uttaratāntra* of the *Suśrutasamhitā*.

966 HIML: IA, 99–100.

967 तस्मादेताः प्रवक्ष्यन्ते विस्तरेणोत्तरे पुनः। तत्त्वज्ञानार्थमस्यैव तन्त्रस्य गुणदोषतः॥, *Carakasamhitā* 8.12.50 (Ca 1941: 737).

968 तं चानर्षं वृद्धा वदन्ति, अग्निवेशतन्त्रे उत्तरतन्त्रस्यैवानार्षत्वात्॥, *ibid*, 8.12.50 (Ca 1941: 737).

## **Part 6.1 Uttarat Tantra, Śālakya Tantra**

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# Uttaratantra 17: Preventing Diseases of the Pupil

## Introduction

The therapies in this chapter make frequent use of collyrium (*añjana*). This substance and its uses and variants are described in *Carakasamhitā* 1.5.14–19 (Ca 1941: 38–39). In the *Suśrutasamhitā*, they are included in the “group starting with *añjana*” (*añjanādigāṇa*), that is listed at 1.38.41–42 (Su 1938: 167). They are described as valuable for counteracting blood-bile (*raktapitta*), poison and overheating (*dāha*).

## Literature

Meulenbeld provided an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>969</sup>

The history of couching in India has been discussed since the nineteenth century,<sup>970</sup>

## Translation

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

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969 HIML: IA, 305–306.

970 H. Scott 1817; Breton 1826; Jack 1884; Hendley 1895; Elliot 1918; Pārśvanātha Śāstrī 1940; V. Deshpande 1999; 2000; Dominik Wujastyk 2003b; Fan 2005; Leffler, Klebanov, Samara, and Grzybowski 2020; Hirschberg and Leffler 2024.

- 2 There are three curable (*sādhya*), three incurable (*asādhya*), and six mitigatable (*yāpya*) diseases located in peoples eyes. Among these, three are curable (*sādhya*). Amongst these three, the remedy (*pratikāra*) has been stated for the one called “seeing smoke (*dhūmadarśin*)”.<sup>971</sup>
- 3–5ab When the eye is inflamed (*vidagdha*) by bile and when it is inflamed by phlegm, one should apply the method for removing bile and phlegm, using nasal medicines (*nasya*), irrigation (*seka*), application of collyrium (*añjana*), liniment (*ālepa*), and medicines cooked in a crucible (*puṭapāka*), together with an eyewash (*tarpaṇa*),<sup>972</sup> but not cutting with a blade (*śastrakṣata*).<sup>973</sup>

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

One should drink ghee (*sarpis*) prepared with the three fruits (*triphalā*) and in the first [case where the problem is bile], and prepared with turpeth (*traivṛta*) in the latter [case, of phlegm]. And ghee with **viburnum extract** is wholesome in both cases, or else aged ghee on its own.

- 5cd–7ab In a collyrium (*añjana*), these four compounds (*yoga*) are beneficial in both cases:

- **red ochre, rock salt, long pepper** and the black soot (*maṣī*) from cow’s teeth;
- cow’s flesh (*gomāṃsa*), **black pepper, siris and realgar**;
- stalk (*vṛnta*) from a **wood-apple** with honey (*madhu*);<sup>974</sup>
- or the the fruits of the **velvet bean**.

maṣī burned charcoal. Find refs.

- 8 The physician should make a collyrium (*añjana*) with ground up **metal** (*kupyaka*),<sup>975</sup> **Asoka tree, sal tree, mango, foxtail millet, lotus, blue water-lily**, together with **peas, emblic myrobalan, myrobalans, long pepper**. It should be combined with ghee and **honey**.

971 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.

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

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

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

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

- 9–10 Also, when bile and phlegm have developed, the physician should apply **peas** with the expressed juice (*svarasa*) of the flowers from **mango** and **jambul** trees.  
Then this collyrium (*añjana*), matured (*vipakva*) with ghee and **honey**, should then be applied.
- 10–11ab Filaments (*kiñjalka*) of **lotus** and **blue water-lily**, with **red ochre**, and the juice of cow-dung (*gośakṛt*) are a collyrium (*añjana*) in the form of a pill (*guḍikā*). This is good for both day and night blindness.
- 11cd–12ab Elixir-salve (*rasañjana*), **honey**, ghee, **scramberry**, together with gold and ochre, with the juice of cow-dung (*gośakṛt*) are for an eye afflicted with bile.
- 12cd–13 Alternatively, wise physician should first grind together elixir-salve (*śīta*) and stibnite (*sauvīraka*), infused (*bhāvita*) with the blood of birds and animals (*rasa*).<sup>976</sup> Then he mixes it with the bile of a tortoise or with extract of rohu carp (*rauhita*). It should always be used with powdered collyrium (*añjana*) to quell the bile.
- 14 Thus, a collyrium (*añjana*) of **white teak** flowers, **liquorice**, **Indian barberry**, **lodh tree** and elixir salve (*rasañjana*) is always good as a collyrium in this case.
- 15 Alternatively, for those who cannot see during the day, this pill (*guḍikā*), with sandalwood, is recommended: salt (*nadīja*), conch shell and the three spices, collyrium (*añjana*), realgar (*manaḥśilā*), the two turmeric (*rajana*)<sup>977</sup> and liver extract (*yakṛdrasa*).<sup>978</sup>
- 16 One should grind up kohl (*srotoja*),<sup>979</sup> and ?? and long pepper and also hareṇu (*hareṇu*). Such wicks with goats urine are good in a collyrium (*añjana*) for night blindness (*kṣaṇadāndhya*).
- 17–18ab Alternatively, in such a case, grind together Indian sarsaparilla (*kālānusāriva*)<sup>980</sup> long pepper, dried ginger (*nāgara*) and honey, the

<sup>976</sup> This was Ḍalhaṇa's preferred interpretation of *rasa* "juice" in this context. He also noted that some take elixir-salve (*śīta*) to be camphor.

<sup>977</sup> 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.

<sup>978</sup> This verse appears as no. 27 in the vulgate.

<sup>979</sup> Glossed by Ḍalhaṇa as a kind of collyrium (*añjana*). Cf. Nadkarni 1954: 2.M13 and P. V. Sharma 1982: 197–198

<sup>980</sup> There are two forms of *sāriva* mentioned widely in Āyurvedic literature, the white and the black. Ideas on the identity of the black form are particularly fluid. See Sivarajan and Balachandran (ADPS: 434–438) for a clear discussion.

- leaf of the scramberry (*tālīśapatra*), the two turmeric (*rajana*), a conch shell and liver extract (*yakṛdrasa*). Then shade-dried wicks take away illness (*ruj*).
- 18cd–19ab Wicks made of red arsenic (*manaḥśilā*), chebulic myrobalan (*abhayā*), the three spices (*vyoṣa*). Indian sarsaparilla (*sāriva*), cuttlefish bone (*samudraphena*), combined with goat's milk are good.
- 19cd–21ab One should cook a honey collyrium (*kṣaudrāñjana*) either in the juices of cow's urine (*gomūtra*), and bile, spirits (*madirā*), liver (*yakṛt*), and emblic (*dhātrī*) or else in the juice of the liver (*yakṛt*) of something different, or else with the extract of the three fruits (*triphalā*). One of these should be mixed with cow urine, ghee and cuttle fish (*aṇṇavamala*)<sup>981</sup> with long pepper, honey and box myrtle (*kaṭphala*). It is placed in sea salt and stored in a bamboo tube.
- 21cd–22 One should cook the liver of a sheep, the ghee of a goat, with long pepper and Sindh salt, honey and the juice of emblics. Then one should store it properly in a catechu box. Prepared thus, the honey collyrium (*añjana*) is good.
- 23 Alternatively, a collyrium (*añjana*) that is hareṇu (*hareṇu*) mixed with long pepper (*māgadhī*), the bone and the marrow of a goat, cardamom (*elā*) and liver, together with liver extract, is good for eyes afflicted by phlegm.<sup>982</sup>
- 24 Over a fire, one should cook the liver (*yakṛt*) of a monitor lizard (*godhā*) prepared with entrails (*antra*) and stuffed with long pepper (*māgadhī*). As is well known, liver (*yakṛt*) which is used (*niṣevita*) with collyrium (*añjana*) certainly destroys night blindness.
- 25 After preparing both a spleen (*plīhan*) and a liver on a spit, one should

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

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

- eat them both with ghee and oil.<sup>983</sup>
- 25cd–26ab As is well known, there are six diseases that can be alleviated (*yāpya*); in those cases (*tatra*) one should release the blood by bloodletting. And for the sake of wellbeing one should also purge using aged ghee combined (*upahita*) with purgative aids (*aṅga*).
- 26cd–27 When an eye-disease is caused by wind (*pavanodbhava*) they say that castor oil (*pañcāṅgulataila*) mixed with milk is good.<sup>984</sup> In the case of diseases of blood (*śonita*) and bile (*pitta*), one should drink ghee with the three fruits; it is particularly cleansing.<sup>985</sup> In the case of phlegm, a purgative by means of turpeth (*trivṛt*) is recommended. In the case of all three humours, sandal (*sugandhi*) in oil is prepared with it (turpeth).<sup>986</sup>
- 28 In cases of partial blindness (*timira*), aged ghee is recommended. It is good if it is kept in an iron vessel.
- 28cd–29ab One should know that ghee with the three mylobalans is always good, and it is made with what is called periploca of the woods (*meṣaviśāṇa*). A man who is suffering from partial blindness should lick the finely-ground three fruits mixed with ghee off his hand (*sapāṇa*).<sup>987</sup>
- 29cd Alternatively, someone afflicted by phlegm should apply them (the three fruits) mixed with oil and steeped (*pragāḍha*) in honey.
- 30 The very best oil, well-cooked with a decoction of cow-dung, is good in cases of partial blindness, taken as an errhine. In cases caused by bile, ghee by itself is good, as is oil when it arises from wind and blood.
- 31 And in the case of wind one should apply turpeth (*trivṛt*) based on strong mallow (*atibalā*), and country mallow (*balā*) in an errhine

983 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.

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

985 Blood-bile (*śonita-pitta*, *rakta-pitta*) is a widely-recognized disease in ayurveda, but the compound here is definitely dual, which rules out that interpretation. One would expect blood-bile because the previous verse

986 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.

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

(*nasya*).<sup>988</sup>

Ghee which has been extracted from milk cooked with the meat of aquatic creatures and those from marshlands should be prescribed.

- 32 †An enclosed roasting (*puṭākhyā*) with Sindh salt and the product of the meat of a carnivore (*kravyabhuj*) and a deer (*eṇa*), is combined with honey and ghee.<sup>989</sup>

Fat (*vasā*) from a horse, a vulture, a snake, and a cock (*tāmracūḍa*), combined with *mahua* is always good in a collyrium (*añjana*).†<sup>990</sup>

- 33 Having prepared (*niṣevita*) a collyrium (*añjana*) made of kohl (*srotas*), gradually combine it with juices (*rasa*), milk and ghee.<sup>991</sup>

For thirty days, this collyrium (*añjana*) is put in the mouth of a black snake that is covered with kuśa grass (*kuśa*).

- 34 Next, a collyrium (*añjana*) that is milk containing long pepper (*māgadhī*), lye (*kṣāraka*) and ?? that has been repeatedly prepared with the mouth of a black snake, is good in the case of bloodshot blindness (*rāgin timira*).<sup>992</sup>

- 35 They say that ghee may be produced from that and combined with

988 “Based on” translates *-āśrita* “depending on” which does not construe easily here. The vulgate has *śṛta* “cooked” which makes easier sense but is not supported by the Nepalese MSS.

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

The term ‘enclosed roasting’ (*puṭapāka*) does occur in the *Suśrutasamhitā* in the context of eye treatments, but designates a method of obtaining juice from substances by wrapping them in leaves pasted with earth and cooking the bolus on charcoal to finally extract a juice.

990 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.

991 On स्रोतस् “kohl” see footnote 979. Ḍalhaṇa on 6.17.36ab (Su 1938: 628) explicitly specified that the juices are meat soups of various animals that are “pleasing to the eye” (चक्षुष्यमृगपक्षिमांसरसः).

992 Ḍalhaṇa described this blindness as a type of *kāca* disease caused by wind (Su 1938: 628). The expression “bloodshot blindness” is an attempt to capture the idea of a blind eye that is dyed or coloured (not colour-blindness). This verse is quite different from the vulgate and also syntactically challenging.



sweet herbs is good as an errhine for eye-diseases caused by bile.

And here, an eyewash (*tarpaṇa*) is good that is a combination that is the flesh of wild animals taken hot (*puṭāhvaya*).<sup>993</sup>

- 36 And realgar (*manahśilā*) mixed with elixir salve (*rasāñjana*) and honey is a liquid collyrium (*dravāñjana*) which is, in this case, combined with *mahua*.<sup>994</sup>

Alternatively, experts on this say that finely ground blue vitriol (*tuttha*) extracted from a gold mine is the “same collyrium (*samāñjana*)”.<sup>995</sup>

- 37 Conch mixed with equal parts of sheep’s horn and stibnite (*añjana*) removes the impurity of the glassy opacity (*kāca*) because of the application of collyrium (*añjana*).<sup>996</sup>

The extracts (*rasa*) produced from aflame of the forest (*palāśa*), Rohīta tree (*rohīta*),<sup>997</sup> *mahua*, ground with the supernatant layer (*agra*) of the spirits (*madira*) is applied.

- 38 Alternatively, one should cook an errhine with cuscus grass (*uśīra*), lodh tree (*lodhra*), the three fruits (*triphalā*), beauty berry (*priyaṅgu*) to pacify eye diseases caused by phlegm.<sup>998</sup>

One should apply smoke of the bark of embelia (*vidaṅga*), velvet leaf (*pāthā*), white siris (*kinihī*), and desert date (*iṅgudī*); and cuscus grass (*uśīra*) alone.

- 39 A ghee that is cooked (*bhāvita*) from a decoction of a non-flowering tree (*vanaspati*)<sup>999</sup> as well as turmeric (*haridrā*) and spikenard (*nalada*) is good in a eyewash (*tarpaṇa*).

Alternatively, one may have an enclosed roasting (*puṭapāka*) done with

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

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

995 On *tuttha*, which may also be identified with zinc oxide or as crushed sea-urchin shells, see Falk (1991: 112 ff.); zinc oxide is a component of skin-balms but is not recommended for application in the eyes themselves. The expression “same collyrium (*samāñjana*)” is a hapax legomenon glossed inexplicably by Ḍalhaṇa as “a collyrium with an equal amount of fermented barley” (*tulyasauvīrāñjana*) (Su 1938: 628).

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

997 Probably *Soyimida febrifuga* A. Juss.

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

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

arid-land animals (*jāṅgala*)<sup>1000</sup> and a plentiful amount of long pepper (*māgadha*), Sindh salt and honey.

- 40 A treatment (*kriyā*) with realgar (*manaḥśilā*), the three spices, conch, honey, along with Sindh salt, green vitriol (*kāsīsa*) and elixir salve (*rasāñjana*).<sup>1001</sup>

They say that an elixir salve (*rasāñjana*) combined with myrobalans, treacle and dried ginger is good.<sup>1002</sup>

- 41 Alternatively, a collyrium (*añjana*) that has been prepared many times in the eight types of urine<sup>1003</sup> is put into water with the three fruits. Having stored it in the mouth of a nocturnal creature (*niśācara*)<sup>1004</sup> one should place it in a conch (*salilotthita*) for two months.<sup>1005</sup>

- 42 One should apply that collyrium (*añjana*) together with the flowers of *mahua* and horseradish tree (*śigru*) when [the disease] is caused by all [the humours].

But alternatively, all treatments apply when blood is the cause. The procedure that removes bile is good when there is blue dot cataract (*mlāyin*).<sup>1006</sup>

- 43 For one who has a humour, the physician should consider the rule in all humoral cases and then smear the ointment on the face.<sup>1007</sup>  
The treatment that is good for removing watery eye (*syanda*) should be properly applied in all these humoral cases, according to the individual.<sup>1008</sup>

1000 On this term, see SS.1.35.42 (*Su* 1938:157) and the discussion by Zimmermann (1999: 25–31).

1001 Ḍalhaṇa glossed treatment (*kriyā*) specifically as inspissation (*rasakriyā*) (*Su* 1938: 629).

1002 We emend हिते to हितम्, against the MSS.

1003 See *Suśrutasamhitā* mūtravarga

1004 Ḍalhaṇa glossed nocturnal creature (*niśācara*) as “vulture,” although elsewhere in the *Suśrutasamhitā* it is more commonly interpreted as a spirit or demon. In the present context, following verses 33 and 34, it is probably a snake.

1005 We interpret “water-born (*salilotthita*)” as “conch” in line with *jalodbhava*, but the term is uncertain.

1006 The vulgate follows Ḍalhaṇa in glossing *mlāyin* as *parimlāya*. The description of this condition at SS.6.7.27–28 appears to refer to “blue dot” or “cerulean” cataract. <sup>√</sup>*mlai*

derivatives can mean “dark” or “black.”), which is normally a different ailment.

1007 The vulgate edition omits part of this verse (ab) combining earlier and later passages.

1008 The term watery eye (*syanda*) refers to the specific disease *abhiṣyanda*. See SS.6.6.5, 1.46.51, etc.

find ref.

Check out these refs.



- 44 The physician should not employ substances in errhines etc., when the humours intensify, and also when disease spreads. And further, in the *Kalpa*, there is a good deal more said about collyriums, and that should be considered and then applied.<sup>1009</sup>
- 45 Someone who uses matured ghee, the three fruits, **wild asparagus**, as well as **mung beans**, emblic and barley has nothing to fear from cases of severe blindness (*timira*).
- 46 Blindness is dispelled by milk prepared with wild asparagus or in emblics, or again cooked barley (*yavaudana*) followed by the water of three fruits with plenty of ghee.
- 47 When there is bloodshot blindness (*rāgiṇi timire*), the wise physician should not cut a vein. A humour injured (*utpīḍita*) by the instrument rapidly destroys vision.
- 48 Non-bloodshot blindness (*araga timira*) in the first layer (*paṭala*) is treatable. And bloodshot blindness (*rāgiṇi timire*) in the second layer, with difficulty. And in the third layer it can be mitigated (*yāpya*).<sup>1010</sup>
- 49 I shall explain the therapy for success when there is a cataract (*liṅganāśa*) caused by phlegm. It may be white, like a full moon, an umbrella, a pearl (*muktā*) or a spiral (*āvarta*).
- 50 Or it may be uneven, thin in the middle, streaked or have excessive shine (*prabha*). A humour (*doṣa*) in the pupil may be characterized as being painful or having blood.<sup>1011</sup>
- 51–52 At a time that is neither too hot or too cold, the patient who has been oiled and sweated is restrained and seated, looking symmetrically at his own nose.  
The wise physician should separate (*muktvā*) two white sections from the black part (*kṛṣṇa*) and from the outer corner of the eye (*apāṅga*). Then he should press (*pīḍ-*) properly into the eye,<sup>1012</sup> at the naturally-occurring (*daivakṛte*) opening (*chidra*) with a probe (*śalākā*) made of

meaning of  
kalpa

<sup>1009</sup> Ḍalhaṇa noted that *Kalpa* means the Uttaratāntra adhyāya 18 (Su 1938: 633 ff).

<sup>1010</sup> Although the text says with difficulty (*kṛcchra*), the implication is that it is untreatable (*asādhya*) (cf. 6.17.2 (Su 1938: 625) above). The three categories, treatable, untreatable and possibly mitigated are standard categories of triage.

<sup>1011</sup> In the vulgate, and in parallel passages in the AS, the reading “it may be (*bhavet*)” is replaced with the negative “if, then not (*na ced*)” (cf. utt.17.1–3 (As 1980: 712)). These characteristics are then read as conditions that preclude surgery; for the Nepalese recension, they are simply descriptions of the appearance of a cataract.

<sup>1012</sup> We understand the locative *nayane* as the place of pressing; other interpreters take it as an accusative dual. The idea is that the eye is held steady by the surgeon.

copper or iron, with a tip like a barley-corn, held by a steady hand with the middle finger, forefinger and thumb, the left one with the right hand and the other one contrariwise.

When the piercing is done properly, there is the issue of a drop of liquid and a sound.<sup>1013</sup>

- 55 The expert should moisten the exact place of piercing with a woman's breast-milk. Then he should scratch the circuit of the pupil (*dr̥ṣṭimaṇḍala*) with the tip of the probe (*śalākā*).<sup>1014</sup>
- 56 Without injuring, gently pushing the phlegm in the circuit of the pupil against the nose, he should remove it by means of sniffing (*ucchiṅgana*).<sup>1015</sup>
- 57 Whether the humour is solid (*styāna*) or liquid (*cala*), one should apply sweating to the eye externally, with leaves (*bhaṅga*) that remove wind, after fixing the needle (*sūcī*) properly.<sup>1016</sup>
- 58 But if the humour cannot be destroyed or if it comes back, one should apply the piercing (*vyadha*) once again, with appropriate oils and so on.
- 59 Now the pupil (*dr̥ṣṭi*) shines like the sun (*hari*) in a cloudless sky; then, when objects become visible, one may slowly remove the probe (*śalākā*).<sup>1017</sup>
- 60 Having smeared ghee on the eye, one should cover it with a bandage. Then, he must lie down supine in a house free from disturbances.<sup>1018</sup>
- 61 At that time, he should not belch, cough, sneeze, spit or shiver. Afterwards there should be restrictions (*yantraṇā*) as in the case of someone

1013 Ḍalhaṇa remarked on 6.17.61ab (Su 1938: 630) that when the piercing is not correctly done, blood issues and there is no sound.

1014 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.

1015 Ḍalhaṇa described sniffing (*ucchiṅgana*) at 6.19.8 (Su 1938: 641), clearly intending inward sniffing.

1016 We interpret *bhaṅga* as leaves, following the usage elsewhere in this sthāna 4.32.9, 6.11.5 (Su 1938: 513, 614) where *bhaṅga* means shoots (*pallava*). A similar procedure is described at 6.17.25 (As 1980: 716a), where sweating of the eye is done by means of the leaves of a castor-oil plant.

1017 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.

1018 Ḍalhaṇa explained disturbances specifically as dust, smoke, drafts and sunlight 6.17.67 (Su 1938: 631a).

who has drunk oil.<sup>1019</sup>

- 62 Every three days one should wash it with decoctions (*kaṣāya*) that remove wind. After three days, one should sweat the eye externally because of the danger of wind.
- 63 Having restrained himself in this way for ten days he should thereafter take a beneficial regimen (*karma*) that clears the pupil (*dr̥ṣṭi*) and also he should take light food in measure.

### [Complications]

- 64 When there is a misshapen eyeball (*vilocana*), the eye may fill because of the release of blood from a vein.<sup>1020</sup>  
A hard probe leads to shooting pain (*śūla*), a thin to unsteadiness of the humours (*doṣapariplava*),<sup>1021</sup>
- 65 a thick-tipped probe leads to a large wound, and a sharp one may cause harm in many ways; a very irregular one may cause a discharge of water, a rigid (*sthirā*) one brings about a loss of function (*kriyāsaṅga*).<sup>1022</sup>
- 66 Therefore, one should make a good probe that is free from these defects.

### [Characteristics of the probe]

The probe should be eight finger-breadths long and in the middle it is wrapped with thread and is as thick as a thumb joint. It is shaped like a bud at both ends (*vaktra*).

- 67 A commendable probe should be made of silver, iron or gold (*śātakumbhī*).<sup>1023</sup>

1019 Ḍalhaṇa glossed “restrictions (*yantraṇā*)” as having a controlled diet and the other restrictions appropriate to someone who is taking oil as a preparation before further therapy (6.17.68 (Su 1938: 631)). These restrictions are also described at 6.18.28 (Su 1938: 635) and 1.16.25cd (Ah 1939: 249).

1020 The condition of “misshapen eye” is referred to briefly in 6.61.9 (Su 1938: 800), where Ḍalhaṇa glossed it as “bent brow and eye (*vakrabhrūnetra*).” The vulgate’s reading of “with blood (*śonitena*)” is easier to construe.

1021 There is a medically significant difference here from the vulgate, which reads “a rough (*khara*) probe” not a “thin” probe.

1022 This translation of loss of function (*kriyāsaṅga*) is given on the basis of Ḍalhaṇa’s gloss of *kriyāsaṅgakarī* at 3.8.19 (Su 1938: 382) as “causing the destruction of actions such as moving (*gamanādikriyāvināśakarī*).”

1023 The vulgate reads “copper (*tāmra*)” in place of “silver.”

## [Complications]

- Redness, swelling, lumps, driness (*coṣa*), bubbling (*budbuda*),<sup>1024</sup> pigs' eye (*sūkarākṣitā*),<sup>1025</sup> irritation (*adhimantha*), etc. and other diseases arise from faults in the piercing,
- 69–70 or even from bad behaviour. One should treat them each accordingly. Listen to me once again about compounds for painful red eyes. Red chalk (*gairikaḥ*), Indian sarsaparilla (*śārivā*), panic grass (*dūrvā*), and ghee ground with barley.
- 71 This face ointment is to be used for quelling pain and redness. Or else it may be taken combined with the juice of citron (*mātuluṅga*) with sesame gently fried, mixed with white mustard (*siddhārthaka*).<sup>1026</sup> This is immediately beneficial when someone is looking for relief.
- 72 A paste with *Holostemma* (*payasyā*),<sup>1027</sup> Indian sarsaparilla (*śārivā*), cassia cinnamon (*patra*), Indian madder (*mañjiṣṭhā*), and liquorice (*madhukair*) stirred with goat's milk, pleasantly warmed, is said to be healthy.<sup>1028</sup>
- 73 Alternatively, it can be made in this way with Himalayan cedar, Himalayan cherry (*padmaka*) and dried ginger. Or, in the same way, with grapes, liquorice and the Lodh tree mixed with Sindh salt.
- 74 Alternatively, goats' milk with the Lodh tree, Sindh salt, red grapes and liquorice, cooked, should be used in irrigation because it removes pain and redness.
- 75 Having cooked it with liquorice, water-lily, and costus, mixed with grapes (*drākṣā*), lac (*lākṣā*), white sugar (*sitā*), with wild asparagus,

1024 Ḍalhaṇa glossed "bubbling (*budbuda*)" as "prolapse (*māṃsanirgama*) that looks like bubbles."

1025 The expression "pigs' eye" appears to be a *hapax*. It was glossed as "downward vision (*adhodṛṣṭitva*)" by Ḍalhaṇa.

1026 On the adverbial use of gently (*mṛdu*), see Gombrich 1979.

1027 The identity of *payasyā* is debated (GVDB: 538), and was already in doubt at the time of Ḍalhaṇa but likely candidates may be those suggested by Ḍalhaṇa, who suggests either *arkapuṣpī* or *kṣīrakākolī*, that may be *Holostemma adakodien* Schult. and *Leptadenia reticulata* (Retz.) Wight & Arn. (ADPS: 195–196). The *Sauśrutaniḥṣaṇṭu* glosses it as *kṣīrikā* or *arkapuṣpikā* (Suvedī and Tivārī 2000: v. 307).

1028 The expression "stirred with goat's milk (*ajākṣīrārdita*)" is difficult. It may be connected with the rare root *ard* documented by Whitney (1885: 15). Cf.  $\sqrt{\text{ard}}$  *gatau* (*Dhātupāṭha* 1.56).

- Hare Foot Uraria (*pr̥thakparṇī*),<sup>1029</sup> nutgrass (*mustā*), liquorice, Himalayan cherry (*padmaka*), and Sindh salts, one should apply it [irrigation] gently warm.
- 76cd–77ab Ghee that has been cooked in four times the amount of milk that has itself been cooked with drugs that destroy wind.<sup>1030</sup> This has an admixture of cottony jujube (*kākolī*) etc., should be prescribed in all treatments.<sup>1031</sup>
- 77cd–78ab If pain does not end in this way, one should administer blood-letting to the vein of someone who has previously been oiled and sweated. Then the wise physician should apply cauterization in the advised manner.<sup>1032</sup>
- 78cd–80ab Now listen to two excellent collyriums for making the pupils clear. After grinding the flowers of perploca of the woods (*meṣaśṛṅga*), siris (*śirīṣa*), axelwood (*dhava*) royal jasmine (*jātī*), pearl and beryl (*vaidūrya*) with goat's milk, one should put it in a copper pot for seven days.
- 80cd–81 Having made it into wicks (*vartti*), the physician should apply it as a collyrium (*añjana*). Alternatively, one should make kohl (*srotoja*), coral (*vidruma*), cuttlefish bone (*phena*), and realgar (*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.

<sup>1029</sup> Suvedī and Tivārī 2000: 18.

<sup>1030</sup> Ḍalhaṇa mentioned that these drugs include Deodar (*bhadradāru*) and other wind-destroying drugs. The *vātasamśamana* group is listed in *Suśrutasaṃhitā sūtrasthāna* 1.39.7.

<sup>1031</sup> Ḍalhaṇa noted that this would include errhines, ointments, etc.

<sup>1032</sup> The vulgate reads *vāpi* for *cāpi*, so Ḍalhaṇa saw blood-letting and cautery as alternatives, not a sequence of treatments. Ḍalhaṇa listed the places that cauterization may be applied, such as the brow, forehead, etc.



## **Part 6.2 Uttاراتान्त्रा, कुमारातान्त्रा**

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## **Part 6.3 Uttarat Tantra, Kāyacikitsā Tantra**

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# Uttaratantra 38: Diseases of the Female Reproductive System

## Introduction

The chapter talks about various diseases of the female reproductive system and, in doing so, combines both aspects that go into a representation of diseases in āyurvedic literature: signs, symptoms and pathogenesis (*nīdāna*), on the one hand, and medical treatment (*cikitsā*), on the other. In chapters of the *Uttaratantra*, these two aspects are sometime dealt with in two different chapters *X-vijñānīya* and *X-pratiṣedha*. There are, however, many examples where this distinction is not made.

## Literature

The chapter is summarized, with notes on vocabulary and references to further research literature, in [HIML: IA, 313](#). ([Tivārī 1990](#)) dedicated a monograph to this topic, and Selby ([2005a,b](#)) has explored gynecological narratives in ayurveda.

## Placement of the Chapter

In the vulgate text ([Su 1938](#)) the current chapter, 6.38, is found after the *Uttaratantra*'s subsection on paediatrics, the *Kumāratantra*, see Table 10.<sup>1033</sup> But in the Nepalese version, this is chapter 6.58 of the *Uttaratantra*. And it is also counted as chapter 23 of the subsection *Kāyācikitsā*.

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<sup>1033</sup> Or *Kumārabhṛtya* as this section is named in MS Kathmandu KL 699.

Table 10: Subdivisions of the Uttaratantra, in the vulgate.

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

Several things are noteworthy in this regard:

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

It is appropriate that, for the sake of treating the disorders of the female reproductive system, the chapter called “Countermeasures Against Disorders of the Female Reproductive System” is taught immediately after the chapter called “The Origination of Demons (*graha*).” It is because (1) there is an explicit mention of the word “*yonī*” in the statement “born in the womb (*yonī*) of animal and human” [in 6.37.13bc (Su 1938: 667)] and because (2) the disorders of the female reproductive system are the causes for the inborn disorders of children.<sup>1034</sup>

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

<sup>1034</sup> Dalhana on 6.38.1 (Su 1938: 668): ग्रहोत्पत्त्यध्यायानन्तरं ‘तिर्यग्योनिं मानुषं च’ इति वचनेन यो-  
नेर्नामसंकीर्तनात् कुमारजन्मविकारकारणत्वाच्च योनेर्व्यापञ्चिकित्सितार्थं योनिव्यापत्प्रतिषेधाध्यायारम्भो  
युज्यत [...]

- 6.56 *Mūtrāghātapraṭiṣedha* (6.58 in [Su 1938](#)) and
- 6.57 *Mūtrakṛcchrapraṭiṣedha* (6.59 in [Su 1938](#)), two chapters dealing with the diseases of the urinary tract.

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

- SS.1.3 in both [Su 1938](#) and the Nepalese version lists the chapter at the place where it is found in the vulgate.<sup>1035</sup>
- Parallel chapters in the *Aṣṭāṅgasamgraha* and the *Aṣṭāṅgahrdayasamhitā* form a part of the *Śālyatantra* section of each text.

## Parallels

The current chapter is parallel in its content to *Aṣṭāṅgasamgraha* 6.38 and 6.39 as well as *Aṣṭāṅgahrdayasamhitā* 6.33 and 6.34 (*Guhyarogavijñāna* and *Guhyarogapraṭiṣedha* respectively).

A close literary parallel to the first part of the chapter is found in *Mādhavanidāna* ([MN<sub>3</sub>](#)) 62, or at least its version printed in Yādavaśarma Trivikrama Ācārya ([MN<sub>3</sub>](#): 361). The readings of the [MN<sub>3</sub>](#) as it stands now usually side with the vulgate version rather than with the Nepalese. In addition to the basic text, there are several valuable pointers made in the *Madhukośa*, an early commentary on the [MN<sub>3</sub>](#). This part of the text is authored by Śrīkaṇṭhadatta, who was most like a direct student of Vijarakṣita. The latter wrote the first part of the *Madhukośa*, up to chapter 32, and, what is more, can be dated to the late eleventh or early twelfth centuries.<sup>1036</sup>

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

<sup>1035</sup> See 1.3.37ab ([Su 1938](#): 15): नैगमेषचिकित्सा च ग्रहोत्पत्तिः सयोनिजा ॥.

<sup>1036</sup> Meulenbeld [1974b](#): 22–26.

## Philological notes

### Metrical alterations

The first two verses in the Nepalese version, 6.38.2.1 and 6.38.4.1, are written in a classical variety of the *upajāti* metre:  $\underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}} \text{ } \underline{\text{U}}$ . In content, they are only approximately parallel to three hemistichs in *anuṣṭubh* metre found in the vulgate.<sup>1037</sup> The latter verses lack the apologetic explanation concerning the reasons for this chapter being taught.

### The original opening verses

From verse *Suśrutasamhitā* 6.38.5.1 onwards, the Nepalese version of the text continues with three hemistichs in the same classical *upajāti* metre (the syllabic pattern above).<sup>1038</sup> By contrast, the vulgate contains two complete verses (four hemistichs) in the *anuṣṭubh* metre, again with only loosely-related content.<sup>1039</sup> The three final hemistichs of this group are borrowed verbatim from the *Carakasamhitā*.<sup>1040</sup> We can be sure of the direction of borrowing because one of these shared verses says that the twenty kinds of diseases of the female reproductive system “have already been indicated in the *Compendium of Diseases* (rogasamgraha)”.<sup>1041</sup> This statement does not make any sense in the context of the *Suśrutasamhitā*, where no such Compendium exists.<sup>1042</sup> By contrast, in the *Carakasamhitā* this reference points back to chapter 1.19 (*Ca* 1941: 109–112), which calls itself “The Compendium of Diseases”.<sup>1043</sup> This Compendium lists all the diseases dealt with in later sections of the text, and specifically mentions the twenty diseases of female reproductive system.<sup>1044</sup> Even the vocabulary and wording of

1037 *Suśrutasamhitā* 6.38.3–4ab (*Su* 1938: 668).

1038 The metre of these verses is not perfect.

1039 *Suśrutasamhitā* 6.38.4cd–6ab (*Su* 1938: 668).

1040 *Carakasamhitā* 6.30.7cd–8 (*Ca* 1941: 634).

1041 *Suśrutasamhitā* 6.38.5ab (*Su* 1938: 668): विंशतिर्व्यापदो योनेर्निर्दिष्टा रोगसंग्रहे ॥ ← *Carakasamhitā* 6.30.7cd (*Ca* 1941: 634).

1042 The remark was not commented on by Dalhaṇa.

1043 *Carakasamhitā* 1.19.9cd (*Ca* 1941: 112): रोगाध्याये प्रकाशिताः.

1044 *Carakasamhitā* 1.19.3 (*Ca* 1941: 110): विंशतिर्योनिव्यापदः ।

this passage is identical to the later verses. It is beyond doubt that this passage originated in the *Carakasamhitā* and was borrowed by the editors of the vulgate text of the *Suśrutasaṃhitā*.<sup>1045</sup>

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<sup>1045</sup> The above three hemistichs in *anuṣṭubh* are also repeated in the *MN*<sub>3</sub> 62.1–2ab. Given that the subsequent verses in the *MN*<sub>3</sub> stem from the *Suśrutasaṃhitā*, it is likely that *MN*<sub>3</sub> 62.1–2ab too was borrowed from from the *Suśrutasaṃhitā* and not from its original location in the *Carakasamhitā*).

## Translation

- 1 And now I shall explain the countermeasures against disorders of the female reproductive system (*yonivyāpat*).<sup>1046</sup>
- \*3 For good men, a woman is the most pleasurable thing. Therefore a physician should diligently attend to the diseases located in the female reproductive system (*yonī*), because he is entirely devoted to it (that is, to curing these diseases) for the sake of (people's) happiness.<sup>1047</sup>
- \*4 A corrupted female reproductive system (*yonī*) cannot consume semen (*bīja*), and therefore, the woman cannot take a fetus (that is, become pregnant). She gets severe prolapses (*arśas*), abdominal lump (*gulma*) and similarly many other diseases (*roga*).
- \*5 Humours (*doṣa*), wind (*vāta*), etc., corrupted due to faulty medical treatment (*mithyopacāra*),<sup>1048</sup> sexual activity, fate, and also defects (*doṣa*) of menstrual blood (*ārtava*) and semen (*bīja*), produce various diseases in the female reproductive organ (*yonī*). These 20 diseases

1046 On this broad understanding of the term *yonī* as “female reproductive system” see R. P. Das 2003: pp. 572–5.

1047 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.’

1048 In our translation of the compound मिथ्योपचार, we decided for the technical meaning of the term उपचार, that is, “medical application” or “treatment.” The combination मिथ्या+उप-चर् is attested several times in medical literature. At least once, at *Carakasamhitā* 3.3.38 (Ca 1941: 245), it is given an explicit gloss by Cakrapāṇidatta: मिथ्योपचरितानिति असम्यक् चिकित्सितान् “... given improper therapy”. In the *Suśrutasaṃhitā* (Su 1938), it is used once in a passage (6.18.30 (Su 1938: 635)) where it refers specifically to the wrong application of irrigation (*tarpaṇa*) and roasting (*putapāka*), both of which are mentioned in the previous verse. Another use of the compound in a similar meaning is found in a citation from Bhoja’s work (see p. 23) quoted by Gayadāsa at *Suśrutasaṃhitā* 2.5.17 (Su 1938: 287): श्वित्रं तु द्विविधं प्रोक्तं दोषजं व्रणजं तथा । तत्र मिथ्योपचाराद्धि व्रणस्य व्रणजं स्मृतम् ॥ “... arises from wrong treatment of the wound.” In contrast to this, the parallel verse in *Suśrutasaṃhitā* 6.38.5ab (Su 1938: 668) = *Carakasamhitā* 6.30.8 (Ca 1941: 634) = MN<sub>3</sub> 62.1 reads मिथ्याचार “wrong conduct.” All commentators (Cakrapāṇidatta on the *Carakasamhitā*, Śrīkaṇṭhadatta on the MN<sub>3</sub>, and Ḍalhaṇa on the *Suśrutasaṃhitā*) explain that the wrong conduct stands here specifically for unwholesome diet. The parallel in *Aṣṭāṅgahṛdayasaṃhitā* 6.33.27 (Ah 1939: 895) = *Aṣṭāṅgasaṅgraha* 6.38.34 (As 1980: 829) plainly reads दुष्टभोजन “corrupted food” instead.



are taught here distinctly and one by one along with their treatment (*bheṣaja*), causes (*hetu*) and signs (*cihna*).

\*6.1 Because of wind (*vāta*), female reproductive organ (*yonī*) becomes:

1. udāvartā (*udāvartā*),
2. called Infertile (*vandhyā*), and
3. Sprung (*plutā*),
4. Flooded (*pariplutā*), and
5. Windy (*vātalā*).

\*6.2 And because of choler (*pitta*), occur:

1. With bloodloss (*raktakṣayā*),
2. Vomiting (*vāminī*), and
3. Causing a Fall (*sraṁsanī*),
4. Child-murderess (*putraghnī*), and also
5. Bilious / Choleric (*pittalā*).

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

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

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

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



## **Part 6.4 Uttarat Tantra, Bhūtatantra**



# Uttaratantra 39: On Fevers and their Management [draft]

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>1049</sup>

## Remarks on the Nepalese version

This chapter is numbered 6.39 in the vulgate.

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<sup>1049</sup> [HIML](#): IA, 313–317.

## Translation

1 And now we shall explain the chapter on the prevention of fever.<sup>1050</sup>

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<sup>1050</sup> The present chapter discusses the therapeutics of fever. One would expect this to be preceded by a chapter on the causes of fever, perhaps in the *Nidānasthāna*, but such a chapter does not occur in the *Suśrutasamhitā*.

## **Part 6.5 Uttarat Tantra, Tantrabhūṣaṇādhyāya**

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# Uttaratantra 64: Preservation of Health

## Literature

Meulenbeld offered an annotated overview of this chapter, which is called *svasthavṛtta* in the vulgate.<sup>1051</sup> There, he translates *svasthavṛtta* as “preservation of health” but elsewhere as “maintenance of health”<sup>1052</sup> and “hygiene.”<sup>1053</sup> His only reference to secondary literature on this topic is to an annotated German translation by J. Laping 1984.<sup>1054</sup> His footnotes to the chapter also indicate many parallels with *Carakasamhitā*, *Sūtrasthāna*, chapter six.

On the term *svastha*, Meulenbeld cites W. Halbfass (1991): 250-252; M. Hara (1995) and P.V. Sharma (1985: 52-53).<sup>1055</sup>

In primary sources, see the definition of *svasthā* in *Suśrutasamhitā*, *Sūtrasthāna* 15.41–44; *svasthahita* in *Aṣṭāṅgahr̥daya*, *Sūtrasthāna* 1.16cd; ...

Comparable chapters in other medical texts include the *svasthacatuṣka* in *Carakasamhitā*, *Sūtrasthāna* (see below) and a chapter on *svasthavṛtti* in Cakrapāṇidatta’s *Cakradatta*.

Meulenbeld also refers to *svasthacatuṣka*, a group of four chapters (5–8) in the *Carakasamhitā*, *Sūtrasthāna*, chapters 5–8, also called *svasthavṛttacatuṣka* or *svāsthyavṛttikacatuṣka* in various colophons of the text and commentaries. He summarises these chapters,<sup>1056</sup> and their names are

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<sup>1051</sup> HIML: IA, 330–331.

<sup>1052</sup> HIML: IA, 301.

<sup>1053</sup> HIML: IB, 738.

<sup>1054</sup> Laping 1984, cited by HIML: IB, 431.

<sup>1055</sup> HIML: IB, 10.

<sup>1056</sup> HIML: IA, 13–14.

*mātrāśītīya*, daily regime (cf. Bhela Sū.8; A.h.Sū.8; A.s.Sū.11. Cf. Su.Ci.24); *tasyāśītīya*, seasonal regimen (*ṛtucaryā*) (Meulenbeld cites many references in primary and secondary literature<sup>1057</sup>); *navegāndhāraṇīya*, the unwhole-some effects of suppressing natural urges, etc. (Cf. Bhela Sū.6; Su.Ci.24); and *indriyopakramaṇīya*, senses, mind and rules of conduct (Cf. Bhela Sū.7; Su.Ci.24. See on Ca.Sū.8: S.Ch. Vidyabhusana (1971): 11–12).

Meulenbeld mentions that a “Sadānanda wrote a commentary, called *Auṣadhavivṛti*, on the chapters of the *Carakasamhitā* containing rules for the preservation of health (*svasthavṛtta*).<sup>1058</sup> His footnote on this work refers to the NCC (VI, 396–397) and the following bibliographic reference: *pañcatantram ... carakasūtrasthānasvasthavṛttacatuṣkākhyacaturadhyāyāḥ... sadānandaśāstrikr̥tausadhavivṛtiyutayā samvalitaṃ*, Mercantile Press, Lahore 1926 [IO.San.D.554].<sup>1059</sup>

In the vulgate, this chapter is included in a section called, “the chapters that are an embellishment of the text” (*tantrabhūṣaṇādhyāya*). However, in the Nepalese version, it is the eighth part of tenfold section on treatment for the body (*kāyacikitsita*). See K, folio 209r, ll. 4–5 (*mūtradoṣo mūtrāghāto yonyamānūṣa eva ca/ apasmāronmādakaṇ caiva rasabhedas tathaiiva ca// svastharakṣāvidhānaṇ ca tantrayuktiś ca doṣabhit/ ity ebhir daśakaṃ proktaṃ punaḥ kāyacikitsita/*).

## Translation

- 1 Now we shall explain how to preserve a person’s health.<sup>1060</sup>
- 2 One whose humours, digestive fire, and the functioning of bodily constituents and waste products are in equilibrium; whose self, senses, and mind are serene is called healthy.<sup>1061</sup>

<sup>1057</sup> HIML: IB, 13.

<sup>1058</sup> HIML: IA, 196.

<sup>1059</sup> HIML: IB, 302.

<sup>1060</sup> The term *svastharakṣaṇīya* more literally means, “preserve a healthy person.” Dalhaṇa on 6.64.1 (Su 1938: 808) noted this reading, which is also what we see in the Nepalese version, and explained it in these terms.

The word *rakṣaṇīya* (preservation, maintenance, upkeep, etc.) is replaced in the vulgate (Su 1938: 808) by *vṛtta*, which, when compounded with *svastha*, denotes the “regime for a healthy person.” However, *rakṣaṇa* is retained later in the same chapter of the vulgate.

<sup>1061</sup> This verse is absent here in the vulgate but occurs at the end of *Sūtrasthāna* 15 in

- 3 My dear, the preservation of a healthy person is the supreme benefit of medicine. The topic of his regime and preservation, which was mentioned by me at the beginning, was outlined in brief and will here be explained in detail.
- 4 In each season, when specific humours are aggravated in people, a wise physician should prescribe the appropriate tastes for that season.
- 5 You should know that when people's digestive fire is weak because of the dampness of their bodies during the rainy months, wind and other humours become aggravated due to their excitement.
- 6–8ab Therefore, in order to remove moisture and maintain the humours, the king should be given solid food with astringent, bitter, and pungent tastes, which is neither too oily nor excessively dry, and which is heating and stimulates digestive fire. He should drink the water which was mentioned before,<sup>1062</sup> or water that has been heated by hot iron and mixed with honey.
- 8cd–9 On a rainy and windy day that is affected by excessively cold water, herbal medicines become acidic if they are fresh.<sup>1063</sup> And because of that, a wise person should not undertake excessive physical exercise.
- 10 When it is not very cold, aged barley, wheat and rice with pungent broths and soups, as well as appetising wild meats, should be eaten.
- 11 One should drink a little mead or sweet wine,<sup>1064</sup> and also rainwater, lake water, or well water, hot or cold and mixed with honey.
- 12 In this climate (*atra*), one should avoid the easterly wind, exposure to the heat, buttered barley water, river water, sleep during the day, frost,

both the Nepalese version and vulgate. The vulgate (Su 1938: 808) supplements its omission with the statement, “Such a healthy person has been described in the *Sūtrasthāna*” (*sūtrasthāne samuddiṣṭaḥ svastho bhavati yādṛśaḥ*). Ḍalhaṇa on 1.15.41 (Su 1938: 75–76) discussed several points of view regarding the meaning of equilibrium in these different contexts.

1062 Ḍalhaṇa (Su 1938: 809) understands “the water which was mentioned” as monsoon rains, which was described in the section on what to drink (*yaj jalam cuktam ādita iti ‘varṣāsv antarīkṣam’ ityādinā pānīyavarge kathitam*).

1063 Ḍalhaṇa (Su 1938: 809) glosses *vidāha* (“burning”) as *amlapāka* (“sour digestion”), suggesting that fresh herbs may cause acidic irritation in the stomach when taken on a rainy, wind and cold wet day.

1064 On *mādhvika*, a kind of honey liquor, see McHugh 2021: 46. On *sīdhu* (“sweet wine”), Ḍalhaṇa (Su 1938: 778) says it is *gauḍika*, an alcoholic drink produced from sugar or grain (*gauḍikaṃ sīdhu guḍakṛtaṃ sasyakam*). McHugh (2021: 45–46), who translates *sīdhu* as “sugarcane wine,” says that it is primarily made from sugarcane but also other sweet substances, like jaggery, herbs and mahua flowers.

- and sex.
- 13–14ab One should engage in body rubs, massages, bathing, perfumes, garlands and smoking. To avoid humidity from the ground, one should have a heavy cloak and sleep in a house's central room, which is cool, has a fire, and is free from draughts.
- 14cd And if one is injured, one should avoid morbid conditions (*doṣa*), such as moisture, and be protected by an umbrella.
- 15ab One also should travel by means of female elephants and adorn oneself with the excellent aloe-wood.<sup>1065</sup> Thus, [it has been taught].<sup>1066</sup>
- 15cd–17ab Homage to the sun, who has spread forth its light along the bright pathways of the quarters, when the sky's covering of dense blue is spread over the extent of the earth, and who is exalted by being born at the sight of Indra's thunderbolt. The splendour of the sun advances, smothering cloud after cloud.
- 17cd–18ab Bile that is accumulated during the rains in autumn is aggravated by the heat. For this reason, when the clouds are dispersing, all people should undertake practices that reduce bile.
- 18cd–19ab During autumn, when one has an appetite, one should eat food that is cool, astringent and sweet, somewhat light and bitter, as well as mixed with ghee and containing game.
- 19cd–20ab If not indulging excessively in sex, one should enjoy eating deer, spotted antelopes, quails, goats, black antelopes, and partridges, along with mung beans, aged rice, and barley.
- 20cd–21ab One should avoid burning, acrid, spicy and heating foods, sleeping during the day, and heavy foods, as well as vegetables and meats that are heavy, and exposure to frost.
- 21cd–22ab O King, in autumn, the wise person should carefully follow this rule: One should consume grapes, sugarcane and milk in that season (*tatra*).
- 22cd–23ab When bile has accumulated during the rains, one should eliminate it with purgatives, or by administering bitter medicated ghee, and also by bloodletting from the veins.

<sup>1065</sup> Ḍalhana (*Su* 1938: 809) remarks that one should travel on female elephants to avoid mud and water, and one should wear aloe-wood because it wards off the cold (*nāgavadhūbhir iti hastinīgamanam ca kardamāmbunoh parihārārtham praśastāgurubhūṣita iti aguruṇaḥ, śaityanivārakatvāt*).

<sup>1066</sup> The *iti* after 15ab appears to follow from verse 3. In K, the *iti* is followed by a rubricated section marker.

- 23cd–24 Water should be tasty and cool, pure, clear like a flawless crystal, cleansed by the rays of the autumn sun, and detoxified by the rising star Agastya. Because of its clearness, all such water is then beneficial.
- 25–26ab And in autumn seasons, one should enjoy the breeze in lotus, lily and rice fields; or the sandalwood with fragrant camphor; clean light clothes; autumnal garlands; and within reason drinking sweet wine.
- 26cd–27ab One should do everything that pacifies bile: enjoying the moonlight, a circle of friends, pleasant comforts, and sweet speech. Thus it has been said.
- 27cd Winter is cold, dry, with a mild sun, and blustery.
- 28–29 One should consume the following food and drinks: sesame seeds, green gram, vegetables and curds, as well as sugarcane products, and rices that are fragrant and also fresh, and meats of carnivorous and marsh-dwelling animals, carnivorous burrow-dwelling creatures, aquatic animals, birds and amphibious creatures.
- 30 If one desires nourishment at the approach of winter, one may partake of clear alcoholic drinks and whatever gives strength, according to one's inclination.
- 31–32ab Bathing in moderately warm or comfortably warm oil is recommended. Alternatively, one should engage in oil massage including the head, perform vigorous exercise, bathe in comfortably warm water and wash with only warm water.
- 32cd–34ab One whose body has been smeared with saffron and aloe-wood should rest on a large bed, covered with wool and silk fabrics and overspread with a dyed blanket. It has a vessel for coals, is filled with the strongly fragrant musk of incense, and is in an inner chamber of the house, free from drafts. And the bed should also be very wide and beautiful.
- 34cd–35 In it, devoted women who are well-adorned with their necklaces removed and intensely passionate, should delight him, at the proper time, even by force, while he is being attended to with gentle touches and aggressive embraces.
- 36 This procedure that has been taught should be done during the cool season. Some physicians consider the remaining part of winter to be the cool season.
- 37 Since the cold [of the dewy season] is produced by clouds and wind and the dry caused by the warm seasons,<sup>1067</sup> one who desires a long

<sup>1067</sup> The term *ādāna* has been translated as “warm seasons” because it is generally under-

life should adopt a regime that is more heating and moisturising.

- 38 During this time (*tatra*), one should avoid mixed barley grout drinks,<sup>1068</sup> frosts, windy weather, dry foods, wearing dirty clothes, and bathing. Thus, it has been said.
- 39–41 While the rays of the blazing sun are melting the layers of frost, and the days are lengthening and nights diminishing, when the wondrous rows of forests and groves are displaying [themselves], with their colours variegated by the loud laughter of flowers, radiant with trembling young shoots, and sounds resonating with cuckoos and the humming of intoxicated bees, phlegm becomes aggravated and will produce the diseases as described.
- 42 Cold phlegm that has accumulated in people during winter because of the cold is dissolved in spring due to the heat and causes various diseases.
- 43 Because of this, one should avoid water, sweet and oily food, sleep during the day, and heavy foods, and one should also undergo treatments, such as emesis.

stood to be the warm half of the year or the three warm seasons during which the sun takes ( $\bar{a} + \sqrt{d\bar{a}}$ ) strength from living beings. The term appears in *Carakasamhitā*, *Sūtrasthāna* 6.4, where it is defined as the three seasons beginning with the cool season (*śīśira*) and ending with summer (*grīṣma*). The *Āyurevedīyakośa* (s.v.) defines *ādāna* as, “the three seasons of spring, summer and the rains, during which the sun takes strength from living beings” (*vasantagrīṣmavarṣās traya ṛtavaḥ ādānakālaḥ asmin sūryaḥ prāṇināṃ balam ādatte*).

- 1068 The term *mantha*, which literally means “stirred,” is defined in Monier-Williams dictionary (1899: s.v.) as “mixed beverage, usually parched barley-meal stirred round in milk.” In two instance, Ḍaḥṇa (*Su* 1938: 811 and 779) glosses *mantha* as barley groats prepared with water and ghee (*manthān jalaghṛtāktasaktūn*), and barley grouts covered with cold water along with ghee (*manthaḥ saghṛtaśītalajalaplutāḥ saktavaḥ*).

# Uttaratantra 65: Rules of Interpretation

## Literature

Meulenbeld offered an annotated overview of this chapter and a bibliography of earlier scholarship to 2002.<sup>1069</sup> Other explorations of this topic have included TY; Dasgupta 1952b; Oberhammer 1968; TYV; Lele 1981; Scharfe 1993; Comba 1994; Mejer 2000; A. Singh 2003.

Scherrer-Schaub (1981) discussed the term *yukti* in Buddhist literature; see also Biardeau 1964: 444–446 Prets and Prandstetter 1991–2006: 343–345, while Frauwallner 1958 discussed the influence of the *tantrayuktis* in the Sāṅkhya tradition. Preisendanz (2013: 105–106, fn. 109) provided further references to the discussion of *yukti* in Buddhist literatures. Manevskaia (2008) gave examples of the use of *tantrayuktis* in Buddhist commentarial literature. Chevillard (2009) discussed the translation of the *tantrayuktis* in Tamil literary tradition, with a specific focus on *Tolkāppiyam* and its commentaries.

## Early Sources

An ancient tradition of enumerating the *tantrayuktis* served as a foundational source not only for medical texts but also for works in various other disciplines, including Arthaśāstra, philosophy, and even grammar. The *Suśrutasamhitā* stands as the earliest Āyurvedic text that presents a compilation of a list of *tantrayuktis* followed by their definitions and usage. Mentions to *Tantrayuktis* are also found in the *Carakasamhitā* 8.12 (Ca 1941)

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<sup>1069</sup> HIML: IA, 331.



which introduce four additional *tantrayuktis*. However, the *tantrayuktis* remain undefined in the *Carakasamhitā*.

## The Arthaśāstra

The enumeration and definitions of the *tantrayuktis* in the *Suśrutasamhitā* closely parallel their treatment in the *Arthaśāstra*. *Tantrayuktis* are discussed in the fifteenth and final chapter of the *Arthaśāstra*, called the *Tantrayukti*.<sup>1070</sup> For a side-by-side comparison of the *tantrayuktis* in the *Suśrutasamhitā* and the *Arthaśāstra*, please refer to Table 11.

## The Yuktidīpikā

*Yuktidīpikā* (circa late sixth to early eighth century), an anonymous commentary on Īśvarakṛṣṇa's *Sāṅkhyakārikā*, initiates its discourse with a detailed discussion of the characteristics of a scientific treatise, some of which align with the *tantrayuktis*.<sup>1071</sup> In the *Yuktidīpikā*, these terms are referred to as *tantraguṇa* or *tantrasampat*. They are: (1) *sūtropapatti* (2) *pramāṇopapatti* (3) *avayavopapatti* (4) *anyūnatā* (5) *saṁśayokti* (6) *nirṇayokti* (7) *uddeśa* (8) *nirdeśa* (9) *anukrama* (10) *saṁjñā* and (11) *upadeśa*.<sup>1072</sup> Apart from these, the *Yuktidīpikā* also exemplifies (12) *utsarga* (general rule), (13) *apavāda* (exception), and (14) *atideśa* (extended application). However, *utsarga* and *apavāda* are not considered *tantrayuktis* in other comprehensive lists. The *Yuktidīpikā* further states that while other *tantrayuktis* can be demonstrated in a similar manner, since they are peripheral topics, the text does not delve into their discussion.<sup>1073</sup>

1070 *Arthaśāstra*: 280–283

1071 See Oberhammer 1968: 605–614 for a detailed discussion of the use of the *tantrayuktis* in the *Yuktidīpikā*.

1072 सूत्रप्रमाणावयवोपपत्तिरन्यूनता संशयनिर्णयोक्तिः ।  
उद्देशनिर्देशमनुक्रमश्च संज्ञोपदेशाविह तन्त्रसम्पत् ॥  
Wezler and Motegi 1998: 3

1073 एवमारा अन्येऽपि द्रष्टव्याह । तद्यथोत्सर्गोऽपवादोऽतिदेश इत्यादि ।...इत्येवमन्या अपि तन्त्रयुक्तयः शक्या इह प्रदर्शयितुम् । अतिप्रसङ्गस्तु प्रकृतं तिरोदधातीति निवर्त्यते । सिद्धं तन्त्रयुक्तीनां सम्बन्धोपपत्तेस्तन्त्रम् इदम् इति । Wezler and Motegi 1998: 8



## Tamil literature

Discussions on the *tantrayuktis* are also found in Tamil technical literature, the earliest of which is the *Tolkāppiyam*.<sup>1074</sup> A list of 32 *tantrayuktis*, called *utti* or *tantiravutti* in Tamil, are given in the 27<sup>th</sup> (the final) chapter titled *Marapiyal* “Chapter on conventions” of the last book called *Poruḷ* “Matters” of the *Tolkāppiyam*. There is no consensus regarding the dating of the *Tolkāppiyam*. However, if we endorse Zvelebil’s view, which posits that the final redaction of the *Tolkāppiyam* occurred around the fifth century CE, it follows that this section of the *Tolkāppiyam* cannot postdate the fifth century. If we follow the dating of Zvelebil, we can safely argue that by that time, Sanskrit *tantrayuktis* had already been translated into Tamil. Nevertheless, determining the correspondence between specific *tantrayuktis* and Tamil *uttis* poses a challenge. A major factor contributing to this challenge is the disagreement between two commentators of the *Tolkāppiyam*, namely Ḹampūraṇar (11th or 12th century) and Pērācīriyar (possibly 13th century), regarding the interpretation of the list of *uttis*. It is still not clear which list of 32 *tantrayuktis* was before the author of the *Tolkāppiyam*.

After the *Tolkāppiyam*, several other Tamil texts refer to the *tantrayuktis*. Among them the *Yāpparuṅkalam* (possibly 10th century), the *Vīracolīyam* (11th century), *Nannūḷ* (late 12th or early 13th century), and their commentaries hold significant importance in this context.

## The Viṣṇudharmottarapurāṇa

The third book of the *Viṣṇudharmattarapurāṇa*, believed to have been composed between the fifth and seventh centuries, includes a chapter dedicated to the *tantrayuktis*.<sup>1075</sup> Unlike the *Arthaśāstra* and the *Suśrutasaṃhitā*, this chapter lacks illustrative examples of the *tantrayuktis*. The chapter lists 32 *tantrayuktis* followed by definitions. Notably, the list and definitions given here – we are using the critical edition by Priyabala Shah – in most cases bear a striking resemblance to those found in the *Suśrutasaṃhitā*. Given the striking alignment between the list and definitions of *tantrayuktis*, one could suggest that the *Viṣṇudharmottarapurāṇa*’s chapter on *tantrayuktis* likely draws directly or indirectly from the *Suśrutasaṃhitā* or

<sup>1074</sup> For a detailed discussion of the treatment of the *tantrayuktis* in the *Tolkāppiyam* see Chevillard 2009.

<sup>1075</sup> Adhyāya 6, *Viṣṇudh* 3: 13–14.

from a common source. The designations and the order of the *tantrayuktis* in the *Viṣṇudharmottarapurāṇa* are almost identical. The only differences in the order are as follows:

1. *Viparyaya* is placed after *vidhāna* whereas in the *Suśrutasamhitā* it follows *arthāpatti*.
2. *Anumata* is placed after *vyākhyāna* whereas in the *Suśrutasamhitā* it follows *nirṇaya*.
3. *Anāgatāvekṣaṇa* (*anāgatāpekṣaṇa* in the Nepalese version) occurs after *atīkrāntāvekṣaṇa* (*atīkrāntāpekṣaṇa* in the Nepalese version) whereas the order is reverse in the *Suśrutasamhitā*.

For a side-by-side comparison of the *tantrayuktis* in the *Suśrutasamhitā* and the *Viṣṇudharmottarapurāṇa*, please refer to Table 11.

## The *Saddanīti*

A list of the 32 *tantrayuktis* accompanied by definitions also appear in the final chapter (*Pariccheda* 28) of the final book (book 3: *Suttamālā*) of the renowned Pali grammar *Saddanīti* composed by Aggavaṃsa in Arimaddanapura (modern Bagan, Burma) in the twelfth-century.<sup>1076</sup> Just as the *Viṣṇudharmottarapurāṇa*, this list also does not provide examples of the *tantrayuktis*. Although written in Pali, the order and the definition of the *tantrayuktis* (*tantiyutti* in Pali) closely resemble those of the *Suśrutasamhitā*. There are, however, a few differences:

1. The *tantrayukti pradeśa* is referred to as *paṭidesa* (Sanskrit *pratideśa*) and is positioned after *atidesa* (Sanskrit *atideśa*) whereas in the *Suśrutasamhitā* it follows *apadeśa*.
2. *Atīkrāntāpekṣaṇa* is designated as *atītāpekṣhana* (Sanskrit *atītāpekṣaṇa*).
3. *Svasaṃjñā* is designated as *anaññā sakasaṃjñā* (Sanskrit *ananyā svasaṃjñā*) and is defined with subtle variations.
4. *Ūhya* is designated as *upānīya*.

<sup>1076</sup> *Saddanīti* 3: 920–921.

For a side-by-side comparison of the *tantrayuktis* in the *Suśruta Saṃhitā* and the *Saddanīti*, please refer to Table 11.<sup>1077</sup>

Table 11: *Tantrayuktis* in *Suśrutasaṃhitā* (S), *Viṣṇu-dharmottarapurāṇa* (V), *Arthaśāstra* (A), and *Saddanīti* (N)

Sequence	Terms	Definitions
(S) 1.	<i>adhikaraṇa</i>	तत्र यमर्थमधिकृत्योच्यते तदधिकरणम् ।
(V) 1.	<i>adhikaraṇa</i>	तत्र यमर्थमधिकृत्योच्यते तदधिकरणम् ।
(A) 1.	<i>adhikaraṇa</i>	यमर्थमधिकृत्योच्यते तदधिकरणम् ।
(N) 1.	<i>adhikaraṇa</i>	तत्थ यं अधिकिच्च वुच्चति, तं अधिकरणम् ।
(S) 2.	<i>yoga</i>	येन वाक्यं युज्यते स योगः । यथा व्यत्यासेनोक्तानां सन्निकृष्टविप्रकृष्टानां पदार्थानाम् एकीकरणम् ।
(V) 2.	<i>yoga</i>	येन वाक्यार्थो युज्यते स योगः ।
(A) 3.	<i>yoga</i>	वाक्ययोजना योगः ।
(N) 2.	<i>yoga</i>	पुब्बापरवसेन वुत्तानं सन्निहितासन्निहितानं पदानं एकीकरणं योगो; ।
(S) 3.	<i>padārtha</i>	योऽर्थोऽभिहितः सूत्रे पदे वा स पदार्थः । पदस्य पदयोः पदानां वा योऽर्थः स पदार्थः । अपरिमिताश्च पदार्थाः ।
(V) 3.	<i>padārtha</i>	योऽर्थो विधिकृतः सूत्रपदे स पदार्थः ।
(A) 4.	<i>padārtha</i>	पदावधिकः पदार्थः ।
(N) 3.	<i>padattha</i>	सुत्तपदेसु पुब्बापरयोगतो यो अत्यो विहितो, सो पदत्यो ।
(S) 4.	<i>hetvartha</i>	यदुक्तं साधनं भवति स हेत्वर्थः ।
(V) 4.	<i>hetvartha</i>	यदन्यद्युक्तिमदर्थस्य साधनं स हेत्वर्थः ।
(A) 5.	<i>hetvartha</i>	हेतुर्थसाधको हेत्वर्थः ।
(N) 4.	<i>hetuattha</i>	यं वुत्तत्यसाधकं, सो हेतुअत्यो । <sup>1078</sup>

<sup>1077</sup> For the reading of *Saddanīti*, we used the edition by H. Smith who also provided an apparatus with variants. However, the edition by Thera sometimes consists of variants which do not appear in the apparatus of Helmer Smith's edition. In those cases, we noted the variants in footnotes.

<sup>1078</sup> *yam vuttaatthasādhanaṃ ? so hetuttho*. Thera 1909: 807.

Sequence	Terms	Definitions
(S) 5.	<i>uddeśa / samuddeśa</i>	समासवचनं समुद्देशः ।
(V) 5.	<i>uddeśa</i>	समासवचनमुद्देशः ।
(A) 6.	<i>uddeśa</i>	समासवाक्यमुद्देशः ।
(N) 5.	<i>uddesa</i>	समासवचनं उद्देशो ।
(S) 6.	<i>nirdeśa</i>	विस्तरवचनं निर्देशः ।
(V) 6.	<i>nirdeśa</i>	विस्तरवचनं निर्देशः ।
(A) 7.	<i>nirdeśa</i>	व्यासवाक्यं निर्देशः ।
(N) 6.	<i>niddesa</i>	वित्थारवचनं निद्देशो ।
(S) 7.	<i>upadeśa</i>	एवमित्युपदेशः ।
(V) 7.	<i>upadeśa</i>	एवमेवेत्युपदेशः ।
(A) 8.	<i>upadeśa</i>	एवं वर्तितव्यमित्युपदेशः ।
(N) 7.	<i>upadesa</i>	एवन् ति उपदेशो ।
(S) 8.	<i>apadeśa</i>	अनेन कारणेनेत्यपदेशः ।
(V) 8.	<i>apadeśa</i>	अनेन कारणेनेत्यपदेशः ।
(A) 9.	<i>apadeśa</i>	एवमसावाहेत्यपदेशः ।
(N) 8.	<i>apadesa</i>	अनेन कारणेना ति अपदेशो ।
(S) 9.	<i>pradeśa</i>	प्रकृतस्यातिक्रान्तेन साधनं प्रदेशः ।
(V) 9.	<i>pradeśa</i>	प्रकृतस्यानागतेन साधनं प्रदेशः ।
(A) 11.	<i>predeśa</i>	वक्तव्येन साधनं प्रदेशः ।
(N) 10.	<i>paṭidesa</i>	पकतस्स अनागतेन अत्यसाधनं पटिदेशो ।
(S) 10.	<i>atideśa</i>	प्रकृतस्यानागतेन साधनम् अतिदेशः ।
(V) 10.	<i>atideśa</i>	अतिक्रमणेन अतिदेशः ।
(A) 10.	<i>atideśa</i>	उक्तेन साधनमतिदेशः ।
(N) 9.	<i>atidesa</i>	पकतस्स अतिक्रान्तेन साधनं अतिदेशो ।
(S) 11.	<i>apavarga</i>	अभिप्रमृज्यापकर्षणमपवर्गः ।
(V) 11.	<i>apavarga</i>	अभिप्रायानुकर्षणमपवर्गः ।
(A) 22.	<i>apavarga</i>	अभिप्लुतव्यपकर्षणमपवर्गः ।
(N) 11.	<i>apavagga</i>	अतिव्यापेत्वा अपनयनं अपवर्गो ।
(S) 12.	<i>vākyaśeṣa</i>	येन पदेनानुक्तेन वाक्यं समाप्यते स वाक्य- शेषः ।
(V) 12.	<i>vākyaśeṣa</i>	येनार्थः परिसमाप्यते पदेनाहार्येण स वाक्य- शेषः ।

Sequence	Terms	Definitions
(A) 17. (N) 12.	<i>vākyasēṣa</i> <i>vākyadosa</i>	येन वाक्यं समाप्यते स वाक्यशेषः । येन पदेन अवुत्तेन वाक्यपरिसमापनं भवति, सो वाक्यदोषो ।
(S) (V)		
(A) 12. (N)	<i>upamāna</i>	दृष्टेनादृष्टस्य साधनमुपमानम् ।
(S) 13. (V) 13. (A) 13. (N) 13.	<i>arthāpatti</i> <i>arthāpatti</i> <i>arthāpatti</i> <i>atthāpatti</i>	यदकीर्तितमर्थादापद्यते सार्थापत्तिः । यदकीर्तितमर्थादापद्यते सार्थापत्तिः । यदनुक्तमर्थादापद्यते सार्थापत्तिः । यद् अकिञ्चित्तं अत्यतो आपज्जति, सा अत्था- पत्तिः ।
(S) 14. (V) 20. (A) 16. (N) 14.	<i>viparyaya</i> <i>viparyaya</i> <i>viparyaya</i> <i>vipariyaya</i>	यद्यस्य प्रातिलोम्यं तद्विपर्ययः । तस्य प्रातिलोम्यं विपर्ययः । प्रतिलोमेन साधनं विपर्ययः । यं यत्थ विहितं, तत्र यं तस्स पटिलोमं, सो वि- परिययो ।
(S) 15. (V) 14.	<i>prasaṅga</i> <i>prasaṅga</i>	प्रकरणान्तरेण समानः प्रसङ्गः । प्रकरणाभिहितोऽर्थः केनचिदुपोद्धातेन पुनरु- च्यमानः प्रसङ्गः ।
(A) 15. (N) 15.	<i>prasaṅga</i> <i>pasaṅga</i>	प्रकरणान्तरेण समानोऽर्थः प्रसङ्गः । पकरणन्तरेण समानो अर्थो पसङ्गो ।
(S) 16. (V) 15. (A) 26. (N) 16.	<i>ekānta</i> <i>ekānta</i> <i>ekānta</i> <i>ekānta</i>	यदवधारणेनोच्यते स एकान्तः । यथा तथा स एकान्तः । सर्वत्रायत्तमेकान्तः । सब्बथा यं तथा, सो एकान्तो ।
(S) 17. (V) 16. (A)	<i>anekānta</i> <i>anekānta</i> <i>anekānta</i>	क्वचित्तथा क्वचिदन्यथा सोऽनेकान्तः । क्वचित्तथा क्वचिदन्यथाऽसावनेकान्तः ।
(N) 17.	<i>anekānta</i>	यो पन कत्थचि अञ्जुथा सो अनेकान्तो ।
(S) 18.	<i>pūrvapakṣa</i>	यस्तु निःसंशयमभिधीयते स पूर्वपक्षः । <sup>1079</sup>

<sup>1079</sup> This definition of *pūrvapakṣa* in the Nepalese version is problematic.

Sequence	Terms	Definitions
(V) 17.	<i>pūrvapakṣa</i>	प्रतिषेधवचनं पूर्वपक्षः ।
(A) 24.	<i>pūrvapakṣa</i>	प्रतिषेद्धव्यं वाक्यं पूर्वपक्षः ।
(N) 18.	<i>pubbapakṣa</i>	[यो] तु निस्सन्देहम् अभिधीयते, सो पुब्बप- क्खो ।
(S) 19.	<i>nirṇaya</i>	तस्योत्तरं निर्णयः ।
(V) 18.	<i>nirṇaya</i>	उत्तरवचनं निर्णयः ।
(A) 25.	<i>uttarapakṣa</i>	निर्णयवाक्यमुत्तरपक्षः ।
(N) 19.	<i>niṇṇaya</i>	तस्स यं उत्तरं, सो निण्णयो ।
(S) 20.	<i>anumata</i>	परमतमप्रतिषिद्धमनुमतम् ।
(V) 25.	<i>anumata</i>	परमतमप्रतिषिद्धमनुमतम् ।
(A) 18.	<i>anumata</i>	परवाक्यमप्रतिषिद्धमनुमतम् ।
(N) 20.	<i>anumata</i>	परमतम् अप्पटिसिद्धं अनुमतं ।
(S) 21.	<i>vidhāna</i>	प्रकरणानुपूर्व्यादभिहितं विधानम् ।
(V) 19.	<i>vidhāna</i>	प्रकरणानुपूर्वं विधानम् ।
(A) 2.	<i>vidhāna</i>	शास्त्रस्य प्रकरणानुपूर्वी विधानम् ।
(N) 21.	<i>vidhāna</i>	प्रकरणानुपुब्बं विधानं ।
(S) 22.	<i>anāgatāpekṣaṇa</i>	एवं वक्ष्यतीत्यनागतापेक्षणम् ।
(V) 22.	<i>anāgatāpekṣaṇa</i>	परत्र वक्षामीत्यनागतावेक्षणम् ।
(A) 27.	<i>anāgatāpekṣaṇa</i>	पश्चादेवं विहितमित्यनागतावेक्षणम् ।
(N) 22.	<i>anāgatāpekkhana</i>	एवं वक्खामि ति अनागतापेक्खनं ।
(S) 23.	<i>atīkrāntāpekṣaṇa</i>	इत्युक्तमित्यतिक्रान्तापेक्षणम् ।
(V) 21.	<i>atīkrāntāpekṣaṇa</i>	इत्युक्तमतिक्रान्तावेक्षणम् ।
(A) 28.	<i>atīkrāntāpekṣaṇa</i>	पुरस्तादेवं विहितमित्यतिक्रान्तावेक्षणम् ।
(N) 23.	<i>atītāpekkhana</i>	इति वुत्तन् ति अतीतापेक्खनं ।
(S) 24.	<i>saṃśaya</i>	उभयहेतुनिदर्शनं संशयः ।
(V) 23.	<i>saṃśaya</i>	उभयतो हेतुदर्शनं संशयः ।
(A) 14.	<i>saṃśaya</i>	उभयतो हेतुमानर्थः संशयः ।
(N) 24.	<i>saṃsaya</i>	उभयहेतुदस्सनं संसयो ।
(S) 25.	<i>vyākhyāna</i>	तत्रातिशयोपवर्णनं व्याख्यानम् ।
(V) 24.	<i>vyākhyāna</i>	तत्रातिशयवर्णनातिव्याख्यानम् ।
(A) 19.	<i>vyākhyāna</i>	अतिशयवर्णना व्याख्यानम् ।
(N) 25.	<i>vyākhyāna</i>	संवण्णना व्याख्यानम् ।

Sequence	Terms	Definitions
(S) 26.	<i>svasamjñā</i>	अन्यशास्त्रासामान्या स्वसंज्ञा ।
(V) 26.	<i>svasamjñā</i>	परैरसम्मतः शब्दः स्वसंज्ञा ।
(A) 23.	<i>svasamjñā</i>	परैरसमितः शब्दः स्वसंज्ञा ।
(N) 26.	<i>anaññā sakasaññā</i>	भूतानं पवत्ता आरम्भचिन्ता अनञ्ज्ञा, सस्स सा- धारणा सकसञ्ज्ञा ।
(S) 27.	<i>nirvacana</i>	लोकप्रथितमुदाहरणं निर्वचनम् ।
(V) 27.	<i>nirvacana</i>	लोके प्रतीतमुदाहरणं निर्वचनम् ।
(A) 20.	<i>nirvacana</i>	गुणतः शब्दनिष्पत्तिर्निर्वचनम् ।
(N) 27.	<i>nibbacana</i>	लोकप्रतीतम् उदाहरणं निर्वचनम् ।
(S) 28.	<i>nidarśana</i>	दृष्टान्तव्यक्तिर्निदर्शनम् ।
(V) 28.	<i>nidarśana</i>	तद्युक्तिनिदर्शनं दृष्टान्तः ।
(A) 21.	<i>nidarśana</i>	दृष्टान्तो दृष्टान्तयुक्तो निदर्शनम् ।
(N) 28.	<i>nidassana</i>	दिट्ठन्तसंयोगो निदस्सनं ।
(S) 29.	<i>niyoga</i>	इदमेवेति नियोगः ।
(V) 29.	<i>niyoga</i>	एवेति नियोगः ।
(A) 29.	<i>niyoga</i>	एवं नान्यथेति नियोगः ।
(N) 29.	<i>niyoga</i>	इदम् एवा ति नियोगो ।
(S) 30.	<i>vikalpa</i>	।
(V) 30.	<i>vikalpa</i>	इदं वेदं वेति विकल्पः ।
(A) 30.	<i>vikalpa</i>	अनेन वानेन वेति विकल्पः ।
(N) 30.	<i>vikappa</i>	इदं वा ति विकल्पो ।
(S) 31.	<i>samuccaya</i>	।
(V) 31.	<i>samuccaya</i>	इदं चेदं चेति समुच्चयः ।
(A) 31.	<i>samuccaya</i>	अनेन चानेन चेति समुच्चयः ।
(N) 31.	<i>samuccaya</i>	संखेपवचनं समुच्चयो ।
(S) 32.	<i>ūhya</i>	यदनिर्दिष्टं बुद्धिगम्यं तदूह्यम् ।
(V) 32.	<i>ūhya</i>	अत्र यदनिर्दिष्टं युक्तिगम्यं तदूह्यम् ।
(A)	<i>ūhya</i>	अनुक्तकरणमूह्यम् ।
(N) 32.	<i>upānīya</i>	यद् अनिर्दिष्टं बुद्धिया अवगमनीयं, तद् उपानी- यन् ति ।

## Āyurvedic literature

### Primary texts

While references to *tantrayuktis* can be found across various disciplines, Āyurveda places a particular emphasis on their discussion, especially evident in key texts of Āyurveda, such as the *Carakasamhitā* and the *Suśrutasamhitā*, as well as the *Aṣṭāṅgasāṅgraha*. The *Carakasamhitā* and *Aṣṭāṅgasāṅgraha* present an identical list of *tantrayuktis* contained in a stanza of four *anuṣṭubh* verses.<sup>1080</sup> However, unlike the *Suśrutasamhitā* they lack explicit definitions and examples. This list of the *tantrayuktis* appear in the final chapter of the last book in both *Carakasamhitā* (41b–45a, chapter 12, *Siddhisthāna*) and *Aṣṭāṅgasāṅgraha* (150–153, chapter 50, *Uttarasthāna*). The same has been quoted by Aruṇadatta in his commentary *Sarvāṅgasundarī* on the *Aṣṭāṅgaḥṛdaya* while elucidating the concept of *tantraguṇa* (qualities of the system)<sup>1081</sup> and by Śrīdāsa Paṇḍita in the prefatory section of his commentary *Hṛdayabodhikā* on the *Aṣṭāṅgaḥṛdayasamhitā*.<sup>1082</sup> Notably, this list consists of 36 *tantrayuktis* instead of 32 found in the *Suśrutasamhitā* and other texts. The additional four are: *prayojana* (objective), *pratyutsāra* (rebuttal), *uddhāra*, and *sambhava* (origin).

The presence of identical verses enumerating the *tantrayuktis* in the *Aṣṭāṅgaḥṛdayasamhitā*, *Carakasamhitā*, *Sarvāṅgasundarī* and *Hṛdayabodhikā* strongly suggests a shared origin. However, a critical issue arises due to the absence of a comprehensive critical edition of the chapter 12 of the *Siddhisthāna* of the *Carakasamhitā*, leaving uncertainty about the total number of *tantrayuktis* recognized by Dṛḍhabala in this section.<sup>1083</sup> The

<sup>1080</sup> तत्राधिकरणं योगो हेत्वर्थोऽर्थः पदस्य च ।

प्रदेशोद्देशनिर्देशवाक्यशेषाः प्रयोजनम् ॥

उपदेशापदेशातिदेशार्थापत्तिनिर्णयाः ।

प्रसङ्गैकान्तनैकान्ताः सापवर्गो विपर्ययः ॥

पूर्वपक्षविधानानुमतव्याख्यानसंशयाः ।

अतीतानागतापेक्षास्वसंज्ञोद्भवसमुच्चयाः ॥

निदर्शनं निर्वचनं नियोगोऽथ विकल्पनम् ।

प्रत्युत्सारस्तथोद्धारः सम्भवस्तन्त्रयुक्तयः ॥

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

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

<sup>1081</sup> Aruṇadatta on the *Aṣṭāṅgaḥṛdayasamhitā* 6.40.78 (*Ah* 1939: 946).

<sup>1082</sup> *AHS* 1940: 1–2.

<sup>1083</sup> We know from internal textual evidence that the *Siddhisthāna* of the *Carakasamhitā* in



problem arises from different readings of the half-verse that occurs right before the list of 36 *tantrayuktis*. In MS Kathmandu NAK 1/1648 (dated 1183CE, the oldest dated manuscript of the *Carakasamhitā* known to us), the reading of this verse is: षट्त्रिंशद्विचित्राभिर्भूषितं तन्त्रयुक्तिभिः॥ This number of 36 *tantrayuktis* perfectly agrees with the following list of the 36 *tantrayuktis*. A similar reading is found in Trikamji's 1933 *Carakasamhitā* edition which contains only the *mūla*-text.<sup>1084</sup> However, although most of the other editions consist of the same reading, a number of editions show quite a lot of discrepancies with the number. For example, Trikamji's 1941 edition of the *Carakasamhitā* reads the same half-verse as षट्त्रिंशता विचित्राभिर्भूषितं तन्त्रयुक्तिभिः। 8.12.41a (Ca 1941: 735). In the same edition, the reading of Cakrapāṇi's *Āyurvedadīpikā* supports the reading: षट्त्रिंशत्तन्त्रयुक्तिभिर्भूषितमपूरयदृढबल इति योजना. However, after this verse, the same edition consists of the versified list of the 36 *tantrayuktis* and commenting on these verses, the *Āyurvedadīpikā* confirms the total number of the *tantrayuktis* as 36: इत्येताः षट्त्रिंशत्तन्त्रयुक्तयो व्याहृताः।<sup>1085</sup> Moreover, the edition of Rāmaprasāda Vaidyopādhyāya reads the half-verse as— पञ्चत्रिंशद्विचित्राभिर्भूषितं तन्त्रयुक्तिभिः.<sup>1086</sup> Rāmaprasāda Vaidyopādhyāya excludes *ūhya*.<sup>1087</sup> The same reading is found in Satīśacandra Śarmā's third edition of the *Carakasamhitā*.<sup>1088</sup> However, adding more troubles to it, Satīśacandra Śarmā, in his Bengali translation, says that there are 34 *tantrayuktis* (even though the main Sanskrit text of his edition counts 35). Then he in fact illustrates 36 *tantrayuktis* making a remark that states—

“in Gaṅgadhara's reading, there are 36 *tantrayuktis* because he counts *saṃśaya* twice in his commentary. But 35 was reckoned

which the list of the *tantrayuktis* appear was originally authored by Dṛḍhabala, who lived in a town called Pañcanada sometime between 300 and 500CE.

Cf. अखण्डार्थं दृढबलो जातः पञ्चनदे पुरे ।

कृत्वा बहुभ्यस्तन्त्रेभ्यो विशेषोज्ज्विलोच्चयम् ॥

सप्तदशौषधाध्यायसिद्धिकल्पैरपूरयत् ।

8.12.39–40a (Ca 1941: 735)

1084 षट्त्रिंशता विचित्राभिर्भूषितं तन्त्रयुक्तिभिः॥ 8.12.70a (Ca 1933: 972).

1085 Ca 1941: 737.

1086 Ca 1911: 1913.

1087 Understanding the *tantrayukti samuccaya* as *asamuccaya*, he reads the verse where *ūhya* appears as— अतीतानागतापेक्षा स्वसंज्ञा ह्यसमुच्चयाः. Surely, this reading is erroneous as the plural ending after *samuccaya* does not make sense.

1088 Ca 1923: 1020. His first edition, however, reads the half-verse the same as the reading in Ca 1933. (Ca 1904: 884)

in his *mūla*-text. Another manuscript reckons 34 *tantrayuktis* excluding *apadeśa*. This edition reads thirty-five instead of thirty-four or thirty-six.”<sup>1089</sup>

In the edition of Narendranātha Senagupta and Balāicandra Senagupta that includes Cakrapāṇi’s *Āyurvedadīpikā* and Gaṅgādhara’s *Jalpakaḷpataru*, the Sanskrit *mūla* and the *Jalpakaḷpataru* enumerate 36 *tantrayuktis*. However, in the same edition, the *Āyurvedadīpikā* reads, पञ्चत्रिंशत्तन्त्रयुक्तिभिर्भूषितमपूरयद्दृढबल इति योजना.<sup>1090</sup> Again, after the illustrations of the 36 *tantrayuktis* it reads, इत्येताः षट्त्रिंशत्तन्त्रयुक्तयो व्याहृताः.<sup>1091</sup> In his edition of the *Tantrayuktivicāra*, Muthuswami also mentions that 35 *tantrayuktis* are reckoned in the *Carakasamhitā*.<sup>1092</sup> Jivānanda Vidyāsagara’s edition gives no number at all— तथा च ता विचित्राभिर्भूषितं तन्त्रयुक्तिभिः.<sup>1093</sup>

Commentaries on the *Carakasamhitā* prior to Cakrapāṇi’s *Āyurvedadīpikā*, such as the *Carakanyāsa* of Bhaṭṭara Hariścandra (ca. mid-sixth century) or *Nirantarapadaavyākhyā* of Jejjaṭa (ca. 7th or 8th century CE) do not help much because the extant portions of these commentaries do not include the concerned section of the 12th chapter of the *Siddhisthāna*. However, Hariścandra was possibly not aware of the total number and the list of the *tantrayuktis* in the final chapter of the *Siddhisthāna* because he discussed the *tantrayuktis* right at the beginning of his commentary and showed no indication to the awareness about the discussion on the *tantrayuktis* at the end of the text. Moreover, he discusses 40 *tantrayuktis* instead of 36. It is not yet settled whether or not Hariścandra was aware of Dṛḍhabala’s redaction of the *Carakasamhitā*. However, Hariścandra’s treatment of the *tantrayuktis* supports the latter.<sup>1094</sup> It is clear from Cakrapāṇi’s commentary on the *Carakasamhitā* that in the version of the text he commented upon contained the four verses that list the 36 *tantrayuktis*. It is, however, not improbable that the four verses that list the 36 *tantrayuktis* were later added to the *Carakasamhitā* sometime between

1089 “গঙ্গাধর পাঠ— তন্ত্রযুক্তি ছত্রিশ প্রকার। তিনি ঢীকাতে সংশয়কে দুই বার উল্লেখ করিয়া ছত্রিশ প্রকার গণনা করিয়াছেন, কিন্তু তাঁহার মূলে পঁয়ত্রিশ প্রকার আছে; গ্রন্থান্তরে ৩৪ প্রকার আছে; তাহাতে ‘অপদেশ’ ধৰ্তব্য হয় নাই। এই অনুবাদের মূলে চতুস্ত্রিংশ বা ষট্‌ত্রিংশ স্থলে পঞ্চত্রিংশ লিখিত হইল।”

Ca 1923: 1022.

1090 Ca 1928–33: III, 3814.

1091 Ca 1928–33: III, 3822.

1092 ‘পঞ্চত্রিংশদ্বিচিরাभिर्भूषितं तन्त्रयुक्तिभिः।’ इति चरके। द्वात्रिंशदिति सुश्रुतः। (TYV: 2, fn. 2).

1093 Ca 1877: 961.

1094 HIML: IA, 189.

the sixth (the date of Hariścandra) and the eleventh century (the date of Cakrapāṇi) and the discrepancy appeared when the previous verse that gives the total number of the *tantrayuktis* was not properly emended by the scribes complying with the following list of 36 *tantrayuktis*. There is a need of a critical edition of the twelfth chapter of the *Siddhisthāna* of the *Carakasamhitā* to address these issues definitely.

### Commentaries

The commentators who extensively delved into the discussion of the *tantrayuktis* are Hariścandra, the author of *Carakanyāsa*, and Aruṇadatta (12th century),<sup>1095</sup> who authored his commentary *Sarvāṅgasundarī* on the *Aṣṭāṅgahr̥daya* of Vāgbhaṭa. Hariścandra meticulously defined and analyzed 40 *tantrayuktis* at the beginning of his work. The four additional *tantrayuktis* are: *paripraśna* (question), *vyākaraṇa* (grammatical clarification), *vyutkrāntābhidhāna* (overpassing statement) and *hetu* (means of knowledge).<sup>1096</sup>

Aruṇadatta, while discussing the concept of *tantraguṇa* at the end of the *Aṣṭāṅgahr̥daya*, provided an elaborate description of *tantrayuktis*, considering them as part of a system of ninety-five *tantraguṇas*. Śrīdāsa Paṇḍita (14th century), a commentator on the *Aṣṭāṅgahr̥daya*, echoed Aruṇadatta's exploration of *tantrayuktis* in the beginning of his commentary, *Hṛdayabodhikā*.<sup>1097</sup> Thus, both Hariścandra and Śrīdāsa Paṇḍita engage with this topic right at the beginning, underscoring the significance they attribute to the subject. Other noteworthy commentators who discussed the topic of *tantrayukti* are Cakrapāṇi (11th century) and Indu (sometime between 8th

<sup>1095</sup> HIML: IA, 663–664.

<sup>1096</sup> This text has only been published once (only until the third chapter of *Sūtrasthāna*) by Masta Ram Shastri from Lahore in 1932/33. (HIML: IB, 290) Unfortunately, it is currently inaccessible to us. Although some fragmented manuscripts of the *Carakanyāsa* exist, for this section (Chapter 1, *Sūtrasthāna*), we were able to consult only MS MS Jamnagar GAU 114. This is a recent apograph with several lacunae and corruptions. The list of the *tantrayuktis* provided in the *Carakanyāsa* is as follows (with some emendations made in the reading): तन्त्रस्य युक्तयोऽधिकरणाद्याश्चत्वारिंशत् ।... युक्त-यस्तावदधिकरणं योगो हेत्वर्थ उद्देशो [निर्देश] उपदेशोऽपदेशोऽतिदेशः प्रदेशो निर्णयोऽर्थापत्तिर्वाक्यशेषः प्रयोजनं प्रसङ्ग एकान्तोऽनेकान्तो विपर्ययोऽपवर्गः पूर्वपक्षो विधानमनुमतं व्याख्यानं परिप्रश्नो व्याकरणम-तीतापेक्षणमनागतापेक्षणं संशयः स्वसंज्ञोद्घः समुच्चयो निदर्शनं निर्वचनं नियोगो विकल्पः प्रत्युत्सार उद्धारः सम्भवो व्युत्क्रान्ताभिधानं हेतुरिति ।

<sup>1097</sup> HIML: IA, 680.

and 12th century). Cakrapāṇi and Indu defined and illustrated the *tantrayuktis* mentioned in the *Carakasamhitā* and the *Aṣṭāṅgasaṅgraha*, respectively. They affirm the inclusion of the four additional *tantrayuktis* in Harīścandra's list. Cakrapāṇi, aligning them with existing concepts, incorporates *paripraśna*, *vyākaraṇa*, and *vyutkrāntābhidhāna* under the *tantrayuktis uddeśa*, *vyākhyāna*, and *nirdeśa*, respectively. According to him, *hetu* serves as an overarching term encompassing all *pramāṇas* (means of knowledge) such as *pratyakṣa* (perception) and others. Indu, however, outlines three possible reasons for not incorporating these *tantrayuktis* into the list: (1) they lack direct mention in the main text, (2) they could be considered as falling within the scopes of already enumerated *tantrayuktis*, or (3) they are not recognized as *tantrayuktis*.

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

## Monographs

Two texts authored by Āyurvedic scholars exclusively delve into the topic of *tantrayukti*. The first is the *Tantrayuktivīcāra* by a physician named Nīlamegha (also known as Vaidyanātha), while the second is called the *Tantrayukti*, which is a sort of recast of the former by an anonymous author. The anonymous author describes himself as being from the same lineage as Nīlamegha and asserts that Nīlamegha belongs to the same lineage of Bhiṣagārya (also known as Nārāyaṇa Bhiṣaj). Both Nīlamegha and the author of *Tantrayukti* are likely from Kerala or coastal Karnataka.<sup>1098</sup> According to Kolatteri Śaṅkaramenon and Meulenbeld,

<sup>1098</sup> Kolatteri Śaṅkaramenon, the first editor of the *Tantrayuktivīcāra*, believes that Nīlamegha hails from Kerala. This conclusion is drawn from Nīlamegha's reference to his guru as Sundara, whom Śaṅkaramenon identifies as the same individual credited with composing the *Lakṣaṇāmṛta*, a treatise on toxicology. This assertion is plausible because the only known manuscript of *Tantrayuktivīcāra* belongs to a member of one of the Aṣṭavaidyas families of Kerala, aligning with the Vāgbhaṭa school, to which Nīlamegha also belongs. (HIML: IIA, 143) On the other hand, the anonym-

Nīlamegha flourished in the first half of ninth century.<sup>1099</sup> The *Tantrayukti* was very likely composed after the sixteenth century.<sup>1100</sup>

Nīlamegha's *Tantrayuktivīcāra* is a versified text accompanied by an autocommentary. The text comprises eighteen verses plus a hemistich, resulting in a total of 37 hemistichs. Each hemistich serves as a definition for a *tantrayukti*. Nīlamegha enumerates a total of 36 *tantrayuktis*, as mentioned in the *Aṣṭāṅgasaṅgraha* and *Carakasamhitā*. The additional hemistich defines *aviparyaya*, which, according to Nīlamegha, is sometimes considered instead of *viparyaya*. This substitution occurs when one understands that the negative prefix *a-* is deleted due to a *pūrvarūpa sandhi*—*sāpavargah + aviparyayah → sāpavargo viparyayah* (See footnote 1080.).

The text of the *Tantrayukti* includes some verses at the beginning and end, where the author discusses the lineage of Nīlamegha. The author explicitly states that his text is a revised version of Nīlamegha's *Tantrayuktivīcāra* because the available manuscripts were mostly corrupt.<sup>1101</sup> It is evident that there are substantial reproductions of parts of the *Tantrayuktivīcāra* and its autocommentary. The total number of *tantrayuktis* and their enumeration remains identical to that of the *Tantrayuktivīcāra*. What distinguishes it from the *Tantrayuktivīcāra* is the incorporation of a list of other *tantraguṇas* and 14 *tantradoṣas*. This list of *tantraguṇas* includes 15 types of

ous author of the *Tantrayukti* associates Nīlamegha with the lineage of Bhiṣagārya, who hails from Uṇṭuru, a village located 3 kilometers from Gokaṇa which is in coastal Karnataka. (TY: 30).

1099 Nīlamegha mentions Vāhaṭa (Vāgbhaṭa), Indu, and Jejjaṭa in his work. This places him definitively after the seventh century. The Buddhist influence in the *Tantrayukti* indicates a date not much later than 800CE. (TYV: अवतारिका ५-६, HIML: IIA, 143.)

1100 From the explicit mention of Nīlamegha and Bhiṣagārya in the work *Tantrayukti*, we can say that the author flourished after them. Determining the date of Bhiṣagārya is problematic. However, since the Kairālī commentary on the *Aṣṭāṅgahṛdayasamhitā* frequently quotes from Bhiṣagārya's *Abhidhānamañjarī*, it indicates that Bhiṣagārya predates the composition of this commentary. Meulenbeld suggests the end of the seventeenth century as the terminus post quem for the Kairālī (HIML: IA, 675). Moreover, he views *Abhidhānamañjarī* as a work composed after the sixteenth century, citing details within it that affirm its posteriority to the *Rājanighaṇṭu* and *Bhāvaprakāśa* (HIML: IIA, 442).

1101 वैद्यनाथोपसृष्टानां लक्ष्यलक्षणवायुषाम् ॥  
तासां प्रायः प्रकाशानां दुर्लेखापङ्कदूषणात् ।  
क्रियते साम्प्रतं कृच्छ्रादुद्धृत्य परिमार्जनम् ॥  
TY: 1

*vyākhyā*, 7 types of *kalpanā*, 20 types of *āśraya*, and 17 types of metaphoric and metonymic devices, such as *tācchīlyā* and so on.

## Tantrayukti-inventories

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

### Earlier Listing

The four inventories of *tantrayuktis* from the *Arthaśāstra*, *Suśrutasamhitā*, *Viṣṇudharmottarapurāṇa*, and *Saddanīti* belong to what we call the “earlier Listing.” The reason to call this listing as “earlier listing” is: two early Sanskrit texts, viz., the *Arthaśāstra* and the *Suśrutasamhitā* consists of this listing. The Tamil list of the *tantrayuktis* as found in the *Tolkāppiyam* also belongs to this group, even though not all of the *uttis* in this list might correspond accurately to the Sanskrit and Pali lists. A defining characteristic of this listing is that each inventory explicitly states the total number of *tantrayuktis* as thirty-two.<sup>1102</sup> Even though there are sometimes different *tantrayuktis* enumerated in different lists, the total count always remains consistent at 32. As demonstrated in Table 11, the Sanskrit and Pali lists are similarly ordered and are always accompanied by similar or identical definitions. This list appears across diverse disciplines.

### Later Listing

The “later listing” is the one we find in the *Aṣṭāṅgasaṅgraha*, *Carakasamhitā*, the commentaries on the *Carakasamhitā*, *Aṣṭāṅgasaṅgraha* and *Aṣṭāṅgahṛdayasamhitā* and the two monographs, the *Tantrayuktivicāra*

<sup>1102</sup> तद् द्वात्रिंशद् युक्तियुक्तम् । (5.1.3 Kangle 1965: 1, 280) “that (*Arthaśāstra*) is furnished with thirty-two logical methods of the system”, तत्र द्वात्रिंशत् तन्त्रयुक्तयो भवन्ति । (*Suśrutasamhitā* 6.64.2) “there are thirty-two logical methods of the system”, battimśa tantiyut-tiyo bhavanti/ (*Suttamālā*, 28 *Saddanīti* 3: 920) “there are thirty-two logical methods of the system”, எண்ணான்கு உத்தியின்... “It employs thirtytwo rules of criticism regarding writing.” (*Nannūl*: 9–10)



and *Tantrayukti*. This list has sprung from a single source— a versified list of thirty-six *tantrayuktis* comprising four verses that appear in the *Aṣṭāṅgasaṅgraha*, *Carakasamhitā* and Aruṇadatta's commentary on the *Aṣṭāṅgahrdayasamhitā*. It remains unclear whether these verses initially appeared in the Dr̥ḍhabala's redaction of the *Carakasamhitā* or Vāgbhaṭa's *Aṣṭāṅgasaṅgraha*. Unlike the "earlier Listing," this list lacks definitions of the *tantrayuktis*. Definitions and illustrations are given by the authors of the commentaries and monographs as discussed in the previous section. Although Hariścandra's list includes 40 *tantrayuktis* instead of 36, his enumeration aligns more closely with "later listing" than the earlier one. Despite the earlier listing's cross-disciplinary appearance, the later listing notably influences the field of Āyurveda, likely due to the popularity of Vāgbhaṭa's works. The *Suśrutasamhitā*, incorporating the "earlier listing" distinguishes itself among Āyurvedic texts that list the *tantrayuktis*.

## Terminology

The terms have been translated into English in numerous books and articles. English renditions of the terms can be found in English translations of the *Suśrutasamhitā* such as in Singhal and J. Mitra 1980: 171–172, and P. V. Sharma 1999–2001: 3, 631–639; in translations of the *Carakasamhitā* such as in R. K. Sharma and B. Dash 2006: 436–444 and in Shree Gulabkunverba Ayurvedic Society 1949: 1050, in the translation of the *Arthaśāstra* such as in Shamasastri 1951: 459, Kangle 1965: 593, Unni 2006: 1103 and Olivelle 2013, and by K. Srikanta Moorthy in TYV: Appendix xi–xxxiv. They are also found in various books and articles dedicated to discussing the *tantrayuktis* such as in Oberhammer 1968: 601–602, Solomon 1976–78: 1, 72, Lele 1981: 34–155, 2006: 36–150 and so on. German translations of the terms can be found in Meyer 1926: 663–664 (German translation of the *Arthaśāstra*) and in Prets and Prandstetter 1991–2006.

The definitions of *tantrayuktis* exhibit numerous variations across different texts. Here we will discuss each of the *tantrayuktis* that occur in the *Suśruta Samhitā* in comparison with their definitions in other texts. As indicated in Table 11, the definitions of *tantrayuktis* in the *Suśrutasamhitā* are frequently either identical or nearly identical to those found in the *Arthaśāstra*, *Viṣṇudharmottarapurāṇa* and *Saddanīti*. Therefore, unless the

definitions in these two texts notably deviate from those in the *Suśrutasamhitā*, we will not make explicit references to them in the subsequent elucidation of the terms.

## 1. *adhikaraṇa*

*Adhikaraṇa* appears as the first *tantrayukti* in all traditional enumerations. It is among those *tantrayuktis* for which there is little disagreement concerning its definition. This *tantrayukti* functions as a structural and interpretative device. With a tautological expression, the *Suśrutasamhitā* defines *adhikaraṇa* as something, with reference to which statements are made. While defining *adhikaraṇa*, the text employs the same verb, *adhi- kṛ-* (to refer), whence the noun *adhikaraṇa* has been derived. The text supplies examples of *rasa* (taste) and *doṣa* (humour), for which two chapters of the *Uttaratantra*, namely chapter 62 (*Kāyacikitsā* 27) and chapter 65 (*Kāyacikitsā* 30) are dedicated.<sup>1103</sup> Clearly, *adhikaraṇa* is the topic or theme.

Cakrapāṇi and Gaṅgādhara define *adhikaraṇa* in almost the same way as does the *Suśrutasamhitā*.<sup>1104</sup> Aruṇadatta's definition is similar but he specifies that *adhikaraṇa* can be of an entire discipline (*śāstra*), or a book (*sthāna*) of it, or a chapter (*adhyāya*), or a section (*prakaraṇa*), or even of a sentence (*vākya*).<sup>1105</sup> Śrīdāsa Paṇḍita follows Aruṇadatta.<sup>1106</sup> However, in the commentaries of Hariścandra and Indu, we explore two more aspects of the concept of *adhikaraṇa*. According to Hariścandra, *adhikaraṇa* is the reason or ground referring to which the authors direct their discourse. For example, diseases create misery and the authors of *Āyurveda* began their discussion addressing them.<sup>1107</sup> Thus disease is the *adhikaraṇa* or theme of their discussion. Indu identifies *adhikaraṇa* as a binding force that links ideas. According to him, *adhikaraṇa* as an introductory reference and it

<sup>1103</sup> They are chapters 63 and 66 in A (Su 1938: B).

<sup>1104</sup> यमर्थमधिकृत्य प्रवर्तते कर्ता । यथा “विघ्नभूता यदा रोगा” इत्यादि । अत्र रोगादिकमधिकृत्यायुर्वेदो महर्षिभिः कृत इति ‘रोगाः’ इत्यधिकरणम् । *Āyurvedadīpikā* (Ca 1941: 736). तद् यमर्थमधिकृत्योच्यते; *Jalpakaḥ* (Ca 1928–33: III, 3815).

<sup>1105</sup> तत्र अधिकरणं नाम, यदधिकृत्य प्रवर्तते शास्त्रं स्थानमध्यायं प्रकरणं वाक्यं वा ।... (Ah 1939: 947).

<sup>1106</sup> AHS 1940: 2.

<sup>1107</sup> तत्राधिकरणं नाम यन्निमित्तमधिकृत्य प्रवर्तते कर्ता ।... उत वा विघ्नभूता यदा रोगाः प्रादुर्भूताः तदिदं निमित्तमधिकृत्य जगदनुकम्पया महर्षिभिरयमायुर्वेद आगमः । एवमधिकरणव्याख्या वर्णयितव्या । MS MS Jamnagar GAU 114, p.4–5.



exposes a general statement to a specific context.<sup>1108</sup>

Nīlamegha defines *adhikaraṇa* using the Paninian terminology. According to him, *adhikāraṇa* is the locus in which the *tātparyā*, “reference” lies.<sup>1109</sup> *Adhikaraṇa* is one of the six *kāraka*-s (a sort of semantic roles recognized by Sanskrit grammarians). Pāṇini calls it a locus (*ādhāra*).<sup>1110</sup> Through metaphorical extensions, the idea of a locus can apply to abstract domains and not merely to physical locus. In traditional Sanskrit grammar, a metonymic or metaphorical domain is called *vaiṣayika adhikaraṇa*. Patañjali considers *vaiṣayika* as one of the three types of *adhikaraṇa*.<sup>1111</sup> Nīlamegha applies this idea to his definition of the *tantrayukti adhikaraṇa*. He quotes *Aṣṭāṅgahr̥daya-saṃhitā Sūtrasthāna* 1.5b-6a and explains how the eight limbs of Ayurveda serve as the *adhikaraṇas* of *cikitsā* “treatment”. In Nīlamegha’s understanding, *adhikaraṇa* “theme” is the domain of a reference. The *Tantrayukti* repeats Nīlamegha’s idea but it also adds different types of *adhikaraṇa* as suggested by Aruṇadatta.

In the *Tolkāppiyam*, however, the equivalent expression for this *tantrayukti* remains unclear, as commentators, namely Ṭampūraṇar and Pērācīriyar, list the item differently. In Sastri’s translation of the *Tolkāppiyam*, *adhikaraṇa* was identified with *atikāra murai*, the second element in Ṭampūraṇar’s list. Sastri translates this expression as “deciding the extent where one serves as *adhikāra sūtra* or a word or words in a *sūtra* taken along with the *sūtra*-s that follow.”<sup>1112</sup> However, Dikshitar, in his brief article on the *tantrayuktis*, equates *adhikaraṇa* with *nutaliyatū arital*, the first element in Pērācīriyar’s list, and translates it as “that division of a book which centers around a chief topic and deals wholly with that topic.”<sup>1113</sup> Clearly, Dikshitar’s interpretation stands close to our definition of *adhikaraṇa*. Sastri’s interpretation, on the other hand, corresponds to the concept of *adhikāra* “heading” and *anuvṛtti* “recurrence” in the *sūtra* literature, especially in Pāṇini’s *Aṣṭādhyāyī*.<sup>1114</sup>

The translators usually translated this *tantrayukti* as “topic” or “subject matter”.

1108 अधिकरणं प्रस्तावः सामान्येनोक्तमप्यर्थजातं यद्वलाद्विशेषेऽवस्थाप्यते तदधिकरणम् । (As 1980: 959).

1109 तत्राधरोऽधिकरणं तात्पर्यं तत्र तिष्ठति । 1 TYV: 2.

1110 आधरोऽधिकरणम् । *Aṣṭādhyāyī* 1.4.45.

1111 On *Aṣṭādhyāyī* 6.1.72 *Mahābhāṣya*: 3, 51.

1112 P. S. S. Sastri 2002: 233.

1113 Dikshitar 1930: 85

1114 See Chevillard 2009: 111.

## 2. *yoga*

This *tantrayukti* typically occupies the second position in most lists, except in the *Arthaśāstra* where it appears third following *vidhāna*. Functioning as a syntactic and semantic tool, *yoga*, as defined in the *Suśrutasamhitā*, represents the faculty responsible for the cohesion of a sentence. If we consider the main purpose of the *tantrayuktis* as narrated in the *Suśrutasamhitā*, namely, cohesion of a sentence (*vākyayojana*) and cohesion of meaning (*arthayojana*), it becomes evident that this *tantrayukti* is one of the fundamental *tantrayuktis* functioning as the device for *vākyayojana*. The *Suśrutasamhitā* further describes *yoga* as a syntactic connection between words, facilitating the linking of words even when they are in reverse order or placed apart. However, this paraphrased statement is absent in the vulgate; instead, it appears in the commentary of Ḍalhana with a minor variation.<sup>1115</sup> The definitions of *yoga* in the *Viṣṇudharmottarapurāṇa* and *Arthaśāstra* closely mirror that of the *Suśrutasamhitā*. However, the *Viṣṇudharmottarapurāṇa*'s definition introduces a slight variation by including the term *artha* "meaning". According to this definition, *yoga* is that by which the meaning of a sentence coheres. The *Arthaśāstra* employs a nominalized verb in a compound noun instead of a relative clause—*vākyayojanā* "connecting a sentence". The definition we find in the *Saddanīti* is close to the paraphrased part of the definition of the *Suśrutasamhitā*.<sup>1116</sup>

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

तैलं पिबेच्चामृतवल्लिनिम्बहंसाह्वयावृक्षकपिप्पलीभिः ।  
सिद्धं बलाभ्याञ्च सदेवदारु हिताय नित्यं गलगण्डरोगे ॥<sup>1117</sup>

In this verse, the noun sesame oil (*tailam*) appears at the beginning of the first hemistich, while its adjective cooked (*siddham*) is placed at the beginning of the final hemistich. Despite not being colocated, the *tantrayukti yoga* effectively connects them, facilitating our comprehension of the intended meaning. Evidently, this exemplifies a device for linking words within a sentence.

<sup>1115</sup> See 6.65.9 (*Su 1938*: 815).

<sup>1116</sup> See Table 11.

<sup>1117</sup> 4.18.47 (*Su 1938*: 474).

In the commentaries of Hariścandra, Indu, Cakrapāṇi and Aruṇa, however, the *tantrayukti yoga* is used in a broader sense. In these interpretations, *yoga* serves not only as a device for cohesion within a sentence but also fosters coherence among sentences in a discourse. Hariścandra identifies three alternative interpretations of *yoga*.<sup>1118</sup> Aruṇadatta also interprets *yoga* in a similar fashion but instead of three alternatives he talks about the first two alternatives of Hariścandra. In the first alternative, *yoga* is coherence between the main statement (*sūtra*) and its gloss (*bhāṣya*). Aruṇadatta expands its scope to coherence between mention (*uddeśa*) and description (*nirdeśa*) as well.<sup>1119</sup> In the second alternative, *yoga* is reasoning (*yukti*) having five types: (1) *pratijñā* “proposition”, (2) *hetu* “reason”, (3) *udāharaṇa* “exemplification” (4) *upanaya* “application”, and (5) *nigamana* “conclusion”, resembling the five-membered syllogism of inference (*anumāna*) in the Nyāya-Vaiśeṣika school.<sup>1120</sup> Śrīdāsa Paṇḍita’s comment is similar to that of Aruṇadatta.<sup>1121</sup> Hariścandra also notes a different understanding of this *tantrayukti* by some others. In this sense, *yoga* is connectedness. This alternative definition is close to that of the *Suśrutasaṃhitā*. In Indu’s interpretation, *yoga* is lexical cohesion, as he understands *yoga* as a relation between a word and its meaning or a sentence and its meaning.<sup>1122</sup> Cakrapāṇi, while defining *yoga* in a fashion similar to the *Suśrutasaṃhitā*, exemplifies it as a connection between five logical elements, namely *pratijñā*, *hetu*, *udāharaṇa*, *upanaya* and *nigamana*, conflating the definition of *yoga* with Hariścandra’s second alternative i.e. *yoga* is reasoning (*yukti*).<sup>1123</sup> Nīlamegha defines *yoga* as connecting words one by one coherently.<sup>1124</sup> As he further explains in the autocommentary with examples from the *Aṣṭāṅgahṛdayasaṃhitā*, it is evident that he understands *yoga* as coherence between a part of a sentence and the discourse.<sup>1125</sup> Neither V. R. Ramachandra Dikshitar

<sup>1118</sup> योगो नाम योजना ग्रन्थानां यथार्थसूत्रभाष्यसूत्रयोः... पञ्चलक्षणो वा योगः। प्रतिज्ञाहेतूदाहरणनिगमनानि... यद् इह युज्यते स योग इत्येके। (MS Jamnagar GAU 114, p.5.)

<sup>1119</sup> योगो नाम योजना, उद्देशनिर्देशयोः सूत्रभाष्ययोर्वा। *Sarvāṅgasundarī* on 6.40.80 (Ah 1939: 947).

<sup>1120</sup> युक्तिर्वा योगः, प्रतिज्ञा हेतुर्दृष्टान्त उपनयो निगमनमिति पञ्चविधः। 6.40.80 (Ah 1939: 947).

<sup>1121</sup> AHS 1940: 2.

<sup>1122</sup> योगो नाम योगः सम्बन्धः स च पदार्थयोर्वाक्यार्थयोर्वा। *Śaśilekhā* on 6.50.150a (As 1980: 959).

<sup>1123</sup> योगो नाम योजना व्यस्तानां पदानामेकीकरणम्। उदाहरणं तावद्यथा प्रतिज्ञाहेतूदाहरणोपनयनिगमनानि। 8.12.41 (Ca 1941: 736).

<sup>1124</sup> योगः पदानामेकैकमर्थोचित्येन योजना। 2 TYV: 3.

<sup>1125</sup> TYV: 3.

nor P. S. Subrahmanya Sastri identified the *tantrayukti yoga* with any *utti* mentioned in the *Tolkāppiyam*.<sup>1126</sup>

The word *yoga* derives from the Sanskrit root √yuj “to connect” with the primary suffix *GHaÑ*, which is often used for creating action nouns. In Sanskrit technical literature, the term *yoga* is used in a broad sense to mean any kind of linguistic connection or connectedness. In the *Aṣṭādhyāyī* of Pāṇini, it often refers to the connection with a word or a word-element.<sup>1127</sup> Hence, it refers to a morphosemantic or syntaco-semantic connection. Patañjali uses this term several times in his *Mahābhāṣya*. In the *Suśrutasamhitā* the word *yoga* is primarily used to mean the connection between words in a sentence. According to this definition and illustration, it is primarily intra-sentential cohesion. Unlike the later commentators on the works of Caraka and Vāgbhaṭa, it does not extend the scope of this term to inter-sentential cohesion and coherence. Keeping in mind such definition given in the *Suśrutasamhitā*, we translate the term as cohesion even though no other translators of the *tantrayuktis* used this translation. In some other contexts, however, *yoga* can be extended to coherence. Both coherence and cohesion are derived from the Latin verb *cohaere*- (< *con*- “with” *haereō* “cling”) “to cling together.” In other translations of the *tantrayuktis* (see p. 365), *yoga* is variously translated as employment, arrangement, conjoiner, connecting, concomitance, uniting, union, rational linking, joining and so on. We preferred the term cohesion because the other options are either too narrow or too vague. ‘Employment’ is rather *prayoga*, not *yoga*. ‘Rational linking’ disregards the grammatical aspect of *yoga*. ‘Conjoiner’, ‘connecting’, ‘union’, ‘uniting’ or ‘arrangement’ are vague and they do not reflect the technical import of the term *yoga*.

### 3. *padārtha*

In the earlier listing, *padārtha* follows *yoga*, while in the later listing, this *tantrayukti* is enumerated after *hetvartha*, possibly due to metrical requirements. The *Suśrutasamhitā* dedicates more words to describing this *tantrayukti* than any other early texts.

The description in the *Suśrutasamhitā* commences with the definition of *padārtha*, which is articulated as the meaning conveyed in an aphorism or a

<sup>1126</sup> Chevillard 2009: 84.

<sup>1127</sup> Joshi and Roodbergen 1991: 64.

word. It then delves into the literal interpretation of the term *padārtha*. The straightforward meaning of the compound *padārtha*, obtained by dissecting its components—*pada* “word,” and *artha* “meaning”—is “the meaning of one or more words.” After presenting the literal interpretation of *padārtha*, the *Suśrutasaṃhitā* provides the rationale why mere word meanings cannot suffice as the *tantrayukti padārtha*—since a word or words may have multiple meanings. Therefore, as a *tantrayukti*, the term *padārtha* denotes the meaning of a word or words within a specific context.<sup>1128</sup> Ḍalhaṇa also supports this perspective, indicating that the term *padārtha* refers to a specific meaning of a word or words.<sup>1129</sup>

In (Su 1938), a variant reading of the definition of *padārtha* is noted: सूत्रपदे in the place of सूत्रे पदे वा. It remains unclear which reading was available to Ḍalhaṇa. He proposed an etymological meaning of the word *pada*, defining it as that by which a meaning is understood, and includes *sūtra* under the semantic scope of *pada*. Essentially, he viewed *sūtra* as a type of *pada* because, by conveying a meaning, a *sūtra* falls under the category of *pada*, which by definition signifies a meaning-conveying unit. This interpretation does not separate *sūtra* and *pada* as mutually exclusive entities. Thus, if Ḍalhaṇa’s reading of the text is सूत्रे पदे वा, he perceived *pada* as a synonym or an alternative term for *sūtra*. On the other hand, if the reading was सूत्रपदे, he understood the meaning of the word सूत्रपदे as *pada* (a meaning-conveying unit) in the form of a *sūtra*. The editor of (Su 1938) offered a more straightforward explanation of the variant reading सूत्रपदे—a word (*pada*) in a *sūtra* is a *sūtrapada*.<sup>1130</sup> The *Viṣṇudharmottarapurāṇa* adopts a definition of *padārtha* close to this variant reading.<sup>1131</sup>

The *tantrayukti padārtha* is illustrated with two examples in the *Suśrutasaṃhitā*. In the first example, three polysemous words—*sneha*, *sveda* and *abhyañjana*—are provided. Ḍalhaṇa gave various meanings of these words—*sneha* can mean lubricity or grease or affection; *sveda* can mean sauna either with fire (*sāgni*) or without fire (*niragni*); *abhyañjana* may mean the black eye make-up or oil rub (*abhyaṅga*).<sup>1132</sup> In the case of such

<sup>1128</sup> See fn. 1182.

<sup>1129</sup> अधुना बहुषु पदार्थेषु निर्धार्य विशिष्टपदार्थग्रहणाय पदार्थबहुत्वं प्रतिपादयति— अपरिमिता इत्यादि । Ḍalhaṇa on 6.65.10 (Su 1938: 816).

<sup>1130</sup> अन्ये तु सूत्रपदे इति पठित्वा व्याख्यानयन्ति--- सूत्रस्य पदं सूत्रपदं तस्मिन् योऽर्थः स पदार्थः । fn.2 (Su 1938: 813).

<sup>1131</sup> See table 11.

<sup>1132</sup> तत्र स्नेहशब्दे निर्दिष्टे हि गुणप्रेमसर्पिषां त्रयाणामर्थानामुपपत्तिर्दृश्यते, स्वेदशब्देनापि साग्निरग्निप्रयोरु-

polysemy, *padārtha* or relevant meaning will be the meaning which coheres with the prior and subsequent elements (*pūrvāparayogasiddha*). The definition of this *tantrayukti* in *Saddanīti* corresponds to this explanation.<sup>1133</sup> Thus, *padārtha* is that meaning which fits the context.

The second example is taken from the very beginning of the first chapter of the *Sūtrasthāna* that says वेदोत्पत्तिमध्यायं व्याख्यास्यामः, “I shall narrate the chapter on the origin of knowledge (*veda*).” The problem is, what does this word “*veda*” refer to? Is it the *Veda*, as in *Sāmaveda*? Or something derived from the roots  $\sqrt{vi(n)d}$  or  $\sqrt{vid}$ ? Context (“prior and subsequent elements”) can help us to know that “*veda*” means only *āyurveda* and that the *Suśrutasaṃhitā* is talking about the origin of *āyurveda*, specifically. The same issue is also addressed by Ḍalhaṇa at 1.1.1 (Su 1938: 1).

Among the texts of the early listing, the *Arthaśāstra* presents a notably distinct definition of *padārtha*. Here, it is defined as that which has its limit within the word.<sup>1134</sup> Though somewhat ambiguous, this definition implies that *padārtha* is the referent indicated by a word or in other words, *padārtha* is the scope of meaning that corresponds to a word. Hence, this definition of *padārtha* does not necessarily refer to a contextual meaning. It indirectly suggests that *padārtha* is basically the meaning of a word.

Similar to *Arthaśāstra*’s understanding, the commentators Hariścandra, Indu, Cakrapāṇi, Aruṇadatta and Śrīdāsapaṇḍita interpret *padārtha* as the referents indicated by a word. However, by this time, the term *padārtha* became an important point of discussion among certain philosophical schools, particularly Vaiśeṣika and Nyāya.<sup>1135</sup> In the Vaiśeṣika ontology, *padārtha* is the term used for denoting the fundamental ontological categories. Such a wider use of the term among philosophical schools also influenced the *Bṛhatṭrayī* commentators, most prominently Hariścandra, whose interpretation of *padārtha* aligns with the framework of Vaiśeṣika philosophy. Following the Vaiśeṣika doctrine, he lists six types of *padārthas*, namely, substance (*dravya*), attribute (*guṇa*), movement (*karman*), universality (*sāmānya*), individuality (*viśeṣa*), and inherence

षमणोः प्राप्तिः, अञ्जनशब्देनापि नयनाञ्जनाभ्यङ्गयोः प्राप्तिः। Ḍalhaṇa on 6.65.10 (Su 1938: 816).

<sup>1133</sup> See table 11.

<sup>1134</sup> पदावधिकः पदार्थः। (15.1.10 Kangle 1965: 1, 280).

<sup>1135</sup> The concept *padārtha* is also discussed by grammarians such as Patañjali and others. For the treatment of the term *padārtha* in different Indian philosophical schools, see Prets and Prandstetter 1991–2006: 2, 153–154.



(*samavāya*).<sup>1136</sup> In his understanding, a word (*pada*) is a universal category that may have several referents called *padārtha*. While other commentators such as Indu, Aruṇadatta, Śrīdāsa Paṇḍita follow Hariścandra while defining this *tantrayukti* and cite Vaiśeṣika *padārthas* such as *dravya* or *guṇa* as instances of *padārtha*, it is not clear whether they endorse the Vaiśeṣika interpretation.<sup>1137</sup> Cakrapāṇi adopts the literal definition of *padārtha* as mentioned in the *Suśrutasamhitā*. With examples, he emphasizes that word-meaning (*padārtha*) can stem from one word, two words or more.<sup>1138</sup> Gaṅgādhara, however, defined *padārtha* in the line of the *Suśrutasamhitā* considering *padārtha* as relevant word sense.<sup>1139</sup>

Nilamegha presents a distinct perspective, defining *padārtha* as polysemy within a given context.<sup>1140</sup> In his autocommentary, he also acknowledges another viewpoint that perceives *padārtha* as synonymy within a context.<sup>1141</sup> The author of the *Tantrayukti* merely quoted Nilamegha's statements on this matter while incorporating the additional definition of *padārtha* found in commentaries such as those of Aruṇadatta, Indu, or Śrīdāsa Paṇḍita.<sup>1142</sup> Neither V. R. Ramachandra Dikshitar nor P. S. Subrahmanya Sastri identified the *tantrayukti padārtha* with any *utti* mentioned in the *Tolkāppiyam*.<sup>1143</sup>

From the discussion above, it is clear that *Suśrutasamhitā*'s understanding of the *tantrayukti padārtha* is distinct from its definition offered by the later commentators of the works of Dṛḍhabala and Vāgbhaṭa.

1136 पदार्थो नाम य एकेन पदेनानेकार्थो गम्यते । यथा द्रव्यं गुणः कर्म सामान्यं विशेषः समवायः । MS Jam-nagar GAU 114, p.6.

1137 पदार्थो नाम येनार्थो गम्यते । यथा गुर्वादयो गुणशब्दादवगम्यते । *Śaśilekhā* on 6.50.150a (*As* 1980: 959). पदार्थो नाम, पदेनार्थो गम्यते । यथा द्रव्यमिति पदं, तस्यार्थो भूजलादिः । गुण इति पदं तस्यार्थो गुर्वादिः । *Sarvāṅgasundarī* on 6.40.80 (*Ah* 1939: 947). The same reading appears in *Hṛdayabodhikā* (*AHS* 1940: 2).

1138 पदस्य पदयोः पदानां वाऽर्थः पदार्थः । तत्र द्रव्यमिति पदेन खादयश्चेतनाषष्ठा उच्यन्ते; पदयोरर्थो नाम यथा—'आयुषो वेद' इति पदयोरायुर्बोधकं तन्त्रमित्यर्थः, एवं पदानामप्यर्थ उदाहार्यः । *Āyurvedadīpikā* on 8.12.41 (*Ca* 1941: 736).

1139 अर्थः पदस्य चेति पदार्थो नाम तन्त्रयुक्तिः सा योऽर्थोऽभिहितः सूत्रे पदे वा । पदार्थस्त्वनेकस्तत्र योऽर्थः पूर्वापरयोगसिद्धो भवति सोऽर्थो ग्राह्यः । *Jalpakaalpataru* on (*Ca* 1928–33: 3, 3816).

1140 पदार्थस्तु पदैक्येऽपि भिन्नमर्थं प्रकाशयेत् । 4 *TYV*: 4.

1141 केचित्तु "पदार्थः पदभेदेऽपि न भेदः पुनरर्थतः । / *TYV*: 5.

1142 पदार्थस्तु य ऐक्येऽपि भिन्नमर्थं प्रकाशयेत्  
...पदार्थोऽपि च भेदेऽपि न भेदः पुनरर्थतः ।  
पदेन योऽर्थो ज्ञायते यथा गुर्वादयो गुणे ॥

*TY*: 8–10.

1143 Chevillard 2009: 84.

The *Arthaśāstra*, which most often defines the *tantrayuktis* similarly to the *Suśrutasamhitā*, provides a definition of *padārtha* that is closer to the understanding of the commentators such as Hariścandra and so on. In the *Suśrutasamhitā*, *padārtha* is not merely the meaning of a word or words but the meaning arising within a particular context or co-text. It is the result of word sense disambiguation. Singhal and Mitra translates *padārtha* as “context.” However, *padārtha* denotes not the context but rather the meaning intended in a context or co-text. Most other translators render this term as “import of words,” which fits better in this case. The translation chosen here is “relevant meaning” because in the *Suśrutasamhitā*, *padārtha* refers to the meaning that is relevant within a context or co-text.

### 3. *hetvartha*

*Hetvartha* appears after *padārtha* in the earlier listing and before *padārtha* in the later listing. The word *hetvartha* is a compound of two words—reason (*hetu*) and purpose (*artha*). Although the term *hetvartha* is present in all lists of the *tantrayuktis*, it has not been lexicalized as a compound word. Thus, we need to understand the term through its components—*hetu* and *artha*. Depending on the meaning of the word *artha*, the word *hetvartha* can have different meanings. For example, Bhaṭṭoji Dīkṣita uses the term *hetvartha* to mean simply the sense of a cause.<sup>1144</sup> As a *tantrayukti*, *hetvartha* is a logical device that serves as the purpose (*artha*) of a reason (*hetu*).

The *Suśrutasamhitā* provides an analytical definition of *hetvartha*, where it is described as a statement functioning as a premise (*sādhana*). The text supplies an example about moistening of wounds by milk etc. on the basis of the known fact that water moistens a lump of earth. Notably, the word *ukta* in the definition likely does not imply an explicit statement in the text. As appears in the example, it can be a known fact from the outside world that aids in predicting a similar case related to our body.<sup>1145</sup> The *Suśrutasamhitā* does not mention that water moistens a lump of earth; this is understood from general empirical knowledge. The *Suśrutasamhitā* prescribes moistening of a wound in certain cases but does not explicitly state how to do so. The knowledge that milk and similar substances can be used

<sup>1144</sup> हेत्वर्थे तृतीया स्यात् | SiddhKau: 137.

<sup>1145</sup> Cf. अत्र बाह्येन मृत्पिण्डदृष्टान्तेन माषदुग्धयोगादिभिराभ्यन्तरो ब्रणप्रक्लेदः साध्यते । Ḍalhaṇa on 6.65.11 (Su 1938: 813).



to moisten a wound derives from the empirical knowledge of moistening a lump of earth with water. The causal relationship between water and moistening a lump of earth serves a purpose elsewhere as a premise for understanding the causal relationship between milk or other similar substances and moistening of a wound.<sup>1146</sup> The definition is clearer in 6.65.11 (Su 1938: 813) because it includes the word other (*anya*), emphasizing that an idea stated in one context serves a purpose in another.<sup>1147</sup> The author of the *Viṣṇudharmottarapurāṇa* as well as commentators such as Hariścandra, Cakrapāṇi, Indu, Aruṇadatta, and Śrīdāsa Paṇḍita define this *tantrayukti* similarly.<sup>1148</sup> However, in their interpretation, the term stated (*ukta*) means an explicit statement in the text.

A different definition appears in Nīlamegha's *Tantrayuktivicāra*, where he defines *hetvartha* as a situation where an entity is represented by its cause. For example, in the statement, रोगस् तु दोषवैषम्यम्, “disease, however, is the disproportion of the humours,” the cause “disproportion of the humours” represents its effect, “disease.” It can also be the reverse, where disease is the cause of disproportion of the humours. When a cause and its effect are considered equivalent and one represents the other, it is called *hetvartha*.<sup>1149</sup> This definition by Nīlamegha is not found elsewhere. This may explain why the author of the *Tantrayukti* does not refer to this definition at all, even though he frequently quotes Nīlamegha. Instead,

<sup>1146</sup> The definition is similar in *Saddanīti*. In the *Arthaśāstra*, *hetvartha* is defined as a cause that serves a purpose. Although phrased differently, this definition refers to the same concept. See table 11.

<sup>1147</sup> यदन्यदुक्तमन्यार्थसाधकं भवति स हेत्वर्थः। 6.65.11 (Su 1938: 813). The testimonium in Gaṅgādhara's *Jalpakaḥ* supports the reading of (Su 1938). In his own definition, Gaṅgādhara merely reproduces the definition of the *Suśrutasamhitā*. Ca 1928–33: 3, 3815.

<sup>1148</sup> The definition of *hetvartha* is quite consistent across all the commentaries. Cakrapāṇi's definition: हेत्वर्थो नाम यदन्यत्राभिहितमन्यत्रोपपद्यते। *Āyurvedadīpikā* on 8.12.41 (Ca 1941: 736). Indu's definition: हेत्वर्थो नाम यदेकत्रोच्यमानमन्यत्रापि तथैवोपयुज्यते। *Śaṣīlekḥā* on 6.50.150a (As 1980: 959). Hariścandra's definition is also quite similar: हेत्वर्थो नाम यदन्यप्रस्तावाभिहितमर्थजातमन्यत्रापि तथैवापाद्यते। MS Jamnagar GAU 114 p. 5. Aruṇadatta's definition: हेत्वर्थो नाम यदन्यप्रस्तावोक्तमन्यत्रापि तथैवापाद्यते। *Sarvāṅgasundarī* on 6.40.80 (Ah 1939: 947). Śrīdāsa Paṇḍita's definition: हेत्वर्थो नामान्यप्रस्तावोक्तमन्यत्रापि तथैवापाद्यते। *Hṛdayabodhikā* (AHS 1940: 2).

<sup>1149</sup> हेत्वर्थो हेतुनैव स्यात् तत्तदर्थप्रकाशनम् ॥३॥ यथा—‘रोगस्तु दोषवैषम्यम्’ (अ.ह.सू. १.२९) इत्यादौ रोगो नाम दोषवैषम्यहेतुः। न तु दोषवैषम्यम्। तत्तु वृद्धिः क्षयो वा। अतो हेतोर् एव रोगः। अत्र तुशब्देन रोगोऽपि दोषवैषम्यस्य हेतुरिति द्योतयति। TYV: 4.

the author of *Tantrayukti* uses Aruaṇadatta's definition without attribution. He concludes with another definition, describing *hetvartha* as a statement where a reason is expressed.<sup>1150</sup> Neither V. R. Ramachandra Dikshitar nor P. S. Subrahmanya Sastri identified *hetvartha* with any *utti* mentioned in the *Tolkāppiyam*.<sup>1151</sup>

The term *hetvartha* has been translated in various ways, including "extension of argument," "implication," "goal of a reason," and merely "reason." We chose to translate *hetvartha* as "purpose of a reason" based on the components of the compound, which closely aligns with Olivelle's translation, "goal of a reason."<sup>1152</sup> While other translations may capture the application of *hetvartha*, they do not convey the lexical meaning of the term.

## 5–6. *uddeśa* and *nirdeśa*

It is necessary to consider the *tantrayuktis uddeśa* and *nirdeśa* in relation to each other as they form a pair of relational antonyms. They consistently appear together in all listings—following *hetvartha* in the earlier listing and *pradeśa* in the later listing. The *Suśrutasaṃhitā* defines *samuddeśa* as a brief statement and *nirdeśa* as a detailed statement. An example of *uddeśa* is given as the simple mention of the word "spike (*śalya*).<sup>1153</sup> In contrast, the example of *nirdeśa* is the phrase "in the body or exogenous," where spike is described in more detail as being of two kinds. These two *tantrayuktis* are stylistic structural devices used in scientific compositions for precision and clarity.

The texts of the earlier listing provide identical or near-identical definitions of *uddeśa* and *nirdeśa*.<sup>1153</sup> They are also similarly defined and exemplified in the *Yuktidīpikā*.<sup>1154</sup> Commentators on the works of Dṛḍhabala and Vāgbhaṭa also defined *uddeśa* and *nirdeśa* similarly.<sup>1155</sup>

1150 हेतुना सह यत्रोक्तिः स हेत्वर्थः प्रकीर्तितः ॥ TY: 8.

1151 Chevillard 2009: 84.

1152 Olivelle 2013: 436.

1153 See table 11.

1154 Wezler and Motegi 1998: 7.

1155 उद्देशो नाम सङ्क्षेपाभिधानम्...निर्देशो नाम विस्ता... MS Jamnagar GAU 114 p. 6. उद्देशो नाम सङ्क्षेपाभिधानम्...निर्देशो नाम संख्ययोक्तस्य (सङ्क्षेपोक्तस्य ?) विवरणम् । *Āyurvedadīpikā* on 8.12.42 (Ca 1941: 736). उद्देशो नाम सङ्क्षेपाभिधानम्...निर्देशो नाम तस्यैव विस्तारोक्तिः । *Sarvāṅgasundarī* on 6.40.80 (Ah 1939: 947) and *Hṛdayabodhikā* (AHS 1940: 2). उद्देशो नाम तन्त्रयुक्तिः सा,

However, Indu's definitions of these two *tantrayuktis* are more informative. According to him, *uddeśa* refers to objects mentioned merely by single words, while *nirdeśa* involves restating those objects to show their specific features.<sup>1156</sup>

There is a difference between the examples of *uddeśa* and *nirdeśa* in the *Suśrutasaṃhitā* and other texts. In the *Suśrutasaṃhitā*, the example of *uddeśa* is a single word, not a complete sentence, while in other texts, including the *Arthaśāstra*, it is a complete sentence, usually a simple equative sentence. For instance, Aruṇadatta and Śrīdāsa Paṇḍita quote 1.1.6b (Ah 1939: 6) as an example of *uddeśa*: वायुः पित्तं कफश्चेति त्रयो दोषाः समासतः।, “the three humours are wind, bile, and phlegm.” As an example of *nirdeśa*, they quote 1.1.11 (Ah 1939: 9), which describes the characteristics of wind: तत्र रूक्षो लघुः शीतः खरः सूक्ष्मश्चलोऽनिलः।, “wind is rough, light, cold, harsh, subtle, and mobile.” Even in these cases, where *uddeśa* is given with a complete sentence, *uddeśa* is exemplified by the individual items in those sentences. Thus, there are three *uddeśas* in that sentence, and the description of each functions as *nirdeśa*. What constitutes *uddeśa* and *nirdeśa* is contextually determined. In the example of the *Suśrutasaṃhitā*, spike (*śalya*) is the *uddeśa*, and its *nirdeśa* is the expression that provides its two varieties: (1) in the body and (2) extraneous. When each variety is further described, each variety of the spike functions as *uddeśa*. The author of the *Tantrayukti* indicates this mutual relatedness of *uddeśa* and *nirdeśa* in a verse.<sup>1157</sup> He also provides a versified definition of these two *tantrayuktis*, in addition to repeating Nīlamegha's statements.<sup>1158</sup> Nīlamegha also defined these *tantrayuktis* in a similar fashion.<sup>1159</sup> Similar *uttis* also appear in the *Tolkappiyam*.

यत् समासकथनम्।...निर्देशो नाम तन्त्रयुक्तिः सा, यद् विस्तरेणोच्यते। *Jalpakaḥ* 3, 3816.

1156 उद्देशो नाम यत्रार्थानां शब्दमात्रेणैव कीर्तनमुद्देशः।...निर्देशो नाम यच्छब्दमात्रेण निर्दिष्टानां स्वरूपविशेष-प्रदर्शनाय पुनः कीर्तनं निर्देशः। *Śaśilekhā* on 6.50.150b (As 1980: 960).

1157 उद्देशनिर्देशकयोरन्योन्यापेक्षिता भवेत्।

यत्तदोरिव नित्यैव शास्त्रे सर्वत्र सर्वदा ॥

TY: 12.

1158 प्राक् सङ्क्षेपेण कथनमुद्देश इति कीर्तितम्।

निर्देशो नाम तस्यैव विस्तरोक्तिरुदाहृतः ॥

TY: 12.

1159 उद्देशः समवायोक्तिरिति प्राहुर्मनीषिणः।

निर्देशः स्याद् विवरणं पूर्वोक्तानामनुक्रमात् ॥

TYV: 6.

However, Sastri and Dikshitar differently identified these *tantrayuktis* with the *uttis* of *Tolkāppiyam*.<sup>1160</sup>

*Uddeśa* is a common technical term in Sanskrit literature.<sup>1161</sup> Sometimes it appears paired with *lakṣaṇa*, where *uddeśa* means mentioning an item by name, and *lakṣaṇa* is its definition. In this sense, *lakṣaṇa* and *nirdeśa* are similar. However, *nirdeśa* means any elaboration of the mentioned item, whereas *lakṣaṇa* refers to precise features. In Pakṣilasvāmin's *Nyāyabhāṣya*, the term *uddeśa* appears with *lakṣaṇa* and investigation (*parīkṣā*), and the triad of these three is called the course of the discipline.<sup>1162</sup>

We mentioned before that Hariścandra added four more *tantrayuktis* to the later listing. Indu and Cakrapāṇi suggested that the scope of these *tantrayuktis* could be included in those already enumerated. According to Cakrapāṇi *paripraśna* could be included in *uddeśa* and *vyutkrāntābhidhāna* is a variety of *nirdeśa*.<sup>1163</sup> The only manuscript of Hariścandra's *Carakanyāsa* available to us (MS MS Jamnagar GAU 114) is full of lacunae, making it challenging to determine its reading. It seems that asking a question about a topic is *paripraśna*, and stating something without mentioning the order of its items or objects is *vyutkrāntābhidhāna*. Including *paripraśna* and *vyutkrāntābhidhāna* under *uddeśa* and *nirdeśa* respectively may be an oversimplification.

The *tantrayukti uddeśa* has been variously translated as enunciation, concise statement, allusion, mention, etc. We chose the translation “mention.” The expressions enunciation, allusion, and concise statement are vaguer than “mention.” The *tantrayukti nirdeśa* is translated as elaboration, detailed statement, explanation, amplification, exposition, etc. All these translations are accurate. We translated *nirdeśa* as “exposition.”

<sup>1160</sup> Chevallard 2009: 85.

<sup>1161</sup> For more references to the term *uddeśa* check Prets and Prandstetter 1991–2006: 2, 28–30.

<sup>1162</sup> त्रिविधा चास्य शास्त्रस्य प्रवृत्तिः, उद्देशो लक्षणं परीक्षा चेति । तत्र नामधेयेन पदार्थमात्रस्याभिधानमुद्देशः । तत्रोद्दिष्टस्यातत्त्वव्यवच्छेदको धर्मो लक्षणम् । लक्षितस्य यथालक्षणमुपपद्यते न वेति प्रमाणैरवधारणं परीक्षा । D. Jośī 1922: 14.

<sup>1163</sup> तत्र परिप्रश्न उद्देशोऽन्तर्भवति, ... व्युत्क्रान्ताभिधानं निर्देशप्रभेदः *Āyurvedadīpikā* on 8.12.41b–45a (Ca 1941: 737).

## Notes on Significant Variants

...द्वितीये पादे...

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

यत्र तु स्नेहस्वेदाभ्यञ्जनेषु...पूर्वापरयोगसिद्धो भवति ।

There is a dangling relative clause, योऽर्थः, in the Nepalese version that is avoided in the vulgate recension by the addition of स ग्रहीतव्यः. There are two possible explanations for this discrepancy: firstly, the missing main clause may have been present in the archetype but inadvertently omitted in the Nepalese version due to a scribal error. Alternatively, the main clause could have been elliptical in the archetype. The scribes of the Nepalese manuscripts accurately transmitted the text. However, at some stage during the transmission process, the main clause was supplied as an attempt to rectify the ungrammatical sentence. The interpolation may also stem from Ḍalhaṇa’s commentary in which the exact clause was used.<sup>1164</sup> Considering the principle *lectio difficilior potior*, we may posit that the second scenario is more plausible. This is because the subject of the main clause can be inferred from the subject of the previous sentence, and within the context, the meaning of the sentence remains totally intelligible even without the explicit main clause.

सामवेदादयश्च वेदाः

Both , Su 1938 and the excerpts from the *Suśrutasaṃhitā* cited in the *Jalpakaḷpataru* read ऋग्वेदादयस्तु वेदाः, ê “*R̥gveda* and so on are the Vedas.” Traditionally, the *R̥gveda*, being the earliest composed *Veda*, is often considered the prototype. However, the selection of *Sāmaveda* as the prototype in the Nepalese Version of the *Suśrutasaṃhitā* is intriguing. This choice brings to mind a verse from the *Bhagavadgīta* where Kṛṣṇa declares,

<sup>1164</sup> तत्र योऽर्थ इत्यादि । पूर्वोक्तपरोक्तवाक्यसम्बन्धेनोपपन्नो योऽर्थो भवति स ग्रहीतव्य इत्यर्थः Ḍalhaṇa on 6.65.10 (Su 1938: 816).

वेदानां सामवेदोऽस्मि<sup>1165</sup>, "I am the *Sāmaveda* among the Vedas." With its incorporation of musical elements, the *Sāmaveda* holds a unique charm compared to the *Rgveda*. Thus, the decision to prioritize the *Sāmaveda* as the prototype may stem from its intrinsic appeal or enchantment rather than chronological precedence.<sup>1166</sup> However, this reading not just appear in the Nepalese version. Another early *Suśrutasaṃhitā* manuscript from 1595 also keeps the same reading.<sup>1167</sup>

### ...विद विन्द इत्येतयोश्च धात्वोः...

Three issues need to be addressed here: (1) nomenclature of the verb roots in Sanskrit, (2) the homonymy of *vid*, and (3) variant readings in , *Su 1938* and *Jalpakaḥpataru*.

(1) The text suggests the etymology of the word *veda* by mentioning two verb roots, namely *vinda* and *vida*. It is worth noting that there are multiple ways of representing Sanskrit verb roots, even within traditional Sanskrit grammar like that of Pāṇini. Verb roots are presented in various forms, including mere lexical root forms,<sup>1168</sup> forms ending in *-a*,<sup>1169</sup> ending in *-i*,<sup>1170</sup> or with the ending *-ti* in the present stem,<sup>1171</sup> or sometimes with indicatory sounds (*anubandha*) as found in the *Dhātupāṭha*.<sup>1172</sup> In the reading of the Nepalese version of the *Suśrutasaṃhitā*, the second option, representing the verbs with a final *-a*, is adopted.

(2) The second issue pertains to the homonymy of *vid* in Sanskrit *Dhātupāṭhas*, where at least four homonymous verbs are mentioned. They

<sup>1165</sup> 10.22 *BhaGī*: 456.

<sup>1166</sup> Cf. Madhusūdana Sarasvatī's comment on the same verse: चतुर्णां वेदानां मध्ये गानमाधुर्येणातिरमणीयः सामवेदोऽहमस्मि (10.22 *BhaGī*: 456), "amongst the four Vedas I am the *Sāmaveda*, which is extremely delightful due to its musical charm."

<sup>1167</sup> MS Jodhpur RORI 20060 f.265r5.

<sup>1168</sup> E.g. as  $\sqrt{gup}$ ,  $\sqrt{tij}$ , and  $\sqrt{kit}$  are mentioned in गुप्तिज्जिह्वः सन् (*Aṣṭādhyāyī*: 3.1.5).

<sup>1169</sup> E.g. as  $\sqrt{gam}$ ,  $\sqrt{han}$ ,  $\sqrt{vid}$ , and  $\sqrt{viś}$  are mentioned in विभाषा गमहनविदविशाम् (*Aṣṭādhyāyī*: 7.2.68).

<sup>1170</sup> E.g. as  $\sqrt{mrj}$  is mentioned in मृजेर्विभाषा (*Aṣṭādhyāyī*: 3.1.113).

<sup>1171</sup> E.g. as  $\sqrt{as}$ ,  $\sqrt{vac}$ , and  $\sqrt{khyā}$  are mentioned in अस्यतिवक्तिख्यातिभ्योऽङ् (*Aṣṭādhyāyī*: 3.1.52).

<sup>1172</sup> E.g. as  $\sqrt{iṣ}$  is mentioned in इषुगमियमां छः (*Aṣṭādhyāyī*: 6, 7.3.77). Cf. इषुम् इच्छायाम् (*Dhātupāṭha* 6.78).



all belong to different classes and signify different meanings:  $\sqrt{\text{vid}}$  “to know” belongs to the second class (*adādi* or the root class),  $\sqrt{\text{vid}}$  “to find, to attain” to the sixth class (*tudādi* or the suffixally accented thematic class),  $\sqrt{\text{vid}}$  “to consider” to the 7th class (*rudhādi* or the athematic nasal infix class) and  $\sqrt{\text{vid}}$  “to exist” to the fourth class (*divādi* or the thematic *ya*-suffix class).<sup>1173</sup> A 10th-class verb  $\sqrt{\text{vid}}$  is also mentioned in the *Dhātupāṭha* but this appears to be derived from the other *vid* verbs with a pleonastic causative suffix. The 4th-class *vid* is also originally a derivative of the other *vid* verbs formed with the passive suffix. The sixth-class verb *vid* belongs to a subclass called *mucādi*, characterized by a nasal infix. Thus, it is clear that *vinda*, the first of the two verbs mentioned in the *Suśrutasaṃhitā*, is the *vid* of the 6th class. The form *vinda* is, therefore, the present stem of the sixth-class verb *vid*.<sup>1174</sup> The other one may be the 2nd- or the 7th-class *vid*. The nominalized form of all of these verbs, using the suffix *GHañ*, is *veda*. This is where the ambiguity appears.

(3) In , [Su 1938](#), the verbs are represented as they appear in the Paninian *Dhātupāṭha*, with indicatory letters (*anubandha*) and meanings attached to the roots: विद् विचारणे, विद् लाभे.<sup>1175</sup> However, the citation from the *Jalpakaḥpataru* presents another variant— विद् विचारणे विद् विन्दति.<sup>1176</sup> In both of these variants, the meanings of the verb roots appear. The verbs mentioned here are the 7th- and the 6th-class  $\sqrt{\text{vid}}$  respectively. The absence of meanings attached to the verb roots in the Nepalese version suggests the preservation of an older form of the text.<sup>1177</sup>

<sup>1173</sup> Cf. सत्तायां विद्यते ज्ञाने वेत्ति विन्दते विचारणे । विन्दते विन्दति प्राप्तौ श्यन्लुक्श्रमोष्विदं क्रमात् ॥ (*SiddhKau*: 402).

<sup>1174</sup> Mentioning verbs in their present stem forms is not uncommon. The same 6th class verb  $\sqrt{\text{vid}}$  is mentioned as *vinda* in this rule: अनुपसर्गाह्मिन्विन्दधारिपारिवेद्युदेजिचेतिसाति-साहिभ्यश्च (*Aṣṭādhyāyī*: 3.1.138).

<sup>1175</sup> 6.65.10 (*Su 1938*: 813).

<sup>1176</sup> *Ca 1928–33*: 3, 3816.

<sup>1177</sup> Scholars believe that meanings were not initially attached to verb roots in the original Paninian *Dhātupāṭha* and were later additions, possibly by Bhīmasena. See Cardona 1976: 161–163.

...धात्वोरेकार्थः । पश्चात् पदं भवति...

The Nepalese version of this passage significantly diverges from other witnesses. For a comparison the readings of four witnesses are provided:

1. पूर्वापरम् उपलक्ष्य विन्द विद इत्येतयोश्च धात्वोरेकार्थः । पश्चात् पदम् भवति आयुर्वेदोत्पत्तिमयं विवक्षुरिति (Nepalese version)
2. तत्र पूर्वापरयोगमुपलभ्य विन्दतीत्येतयोश्च धात्वोरेकार्थयोः पश्चात् पदं भवति आयुर्वेदोत्पत्तिमयं विवक्षुरिति (*Śuśrutapāṭhaśuddhi* MS London BL IOLR 1842)
3. तत्र पूर्वापरयोगमुपलभ्य विद् विचारणे विद् विन्दतीत्येतयोश्च धात्वोरनेकार्थयोः प्रयोगः पश्चात् प्रतिपत्तिर्भवति आयुर्वेदोत्पत्तिमयं विवक्षुरिति (*Jalpakaḥpataru*)
4. विद विचारणे, विद् लाभे, इत्येतयोश्च धात्वोरनेकार्थयोः प्रयोगात्, तत्र पूर्वापरयोगमुपलभ्य प्रतिपत्तिर्भवति आयुर्वेदोत्पत्तिमयं विवक्षुरिति (*Su 1938*)

Evidently, the readings gradually change across these manuscripts, with the Nepalese version representing the earliest and the last drawing from more recent manuscripts. Two key issues emerge: firstly, the contradictory readings of एकार्थः or एकार्थयोः versus अनेकार्थयोः, and secondly, the syntactic structure of the sentence.

(1) The Nepalese version and MS London BL IOLR 1842 uphold the former of the contradictory readings, while the *Jalpakaḥpataru* and (*Su 1938*) adhere to the latter. Ḍalhaṇa's commentary provides no definitive insight about his preferred reading. Nevertheless, the earlier reading appears more coherent. Although the two homonymous verbs bear distinct meanings, the context fails to privilege one over the other. In essence, we are not able to grasp the relevant meaning (*padārtha*) of the word *veda* by choosing one or the other meanings of the homonymous verb *vid*—be it *Sāmaveda* or *Āyurveda*, the meaning of the root *vid* does not change. The comprehension of *veda* as *Āyurveda* only occurs upon encountering the word “*āyurveda*” itself appearing after two sentences.<sup>1178</sup> Hence, the reading अनेकार्थयोः appears less tenable. But if we take the meaning of the word *artha* as “meaning,” the phrase विन्द विद इत्येतयोश्च धात्वोरेकार्थः does not make sense either because these two homonymous verbs indeed have two different meanings. However, interpreting the word *artha* as “purpose” offers a more plausible explanation—both verbs,

<sup>1178</sup> Cf. ‘आयुर्वेदमिच्छाम इहोपदिश्यमानम्’ इत्यस्मिन्नायुर्वेदशब्दः श्रूयते, अतोऽत्र वेद आयुर्वेद इत्यभिप्रायः ॥ (Ḍalhaṇa on 6.65.10 (*Su 1938*: 816)).



regardless of their individual meanings, serve the same purpose when nominalized with the suffix *GHaÑ*, yielding the same form *veda*.

(2) The other issue pertains to the sentence's syntax. In the Nepalese version, there are two separate sentences: "पूर्वापरमुपलक्ष्य विन्द विद इत्येतयोश्च धात्वोरेकार्थः" and "पश्चात् पदम् भवति...", whereas all other witnesses present a unified sentence. The fact of having two different sentences in the Nepalese version is determined by the use of the nominative case in the word एकार्थः, while the nominative of the second sentence is पदम्. In other readings, the genitive case is employed (एकार्थयोः) and thus the entire chunk in question constitutes a single sentence. Under this interpretation, the sentence conveys the meaning as: "when the prior and the subsequent elements are considered, after the fact that the roots *vind* and *vid* have the same meaning, the clue appears that he wants to talk about the origin of Āyurveda." Here, the word पदम् likely denotes a sign or a clue, rather than its conventional meaning "word", which would be incongruous in this context.

### यदुक्तं साधनं भवति स हेत्वर्थः

The reading in 6.65.11 (Su 1938: 813) is यदन्यदुक्तमन्यार्थसाधकं भवति स हेत्वर्थः. The same reading appears in MS London BL IOLR 1842 and the testimony in the *Jalpakaḥpataru*. MS Jodhpur RORI 20060 reads यदुक्तमुभयार्थसाधनं भवति स हेत्वर्थः. Clearly, the reading in the Nepalese version represents an older stage of the textual transmission, while the vulgate version indicates an attempt to clarify the definition. A comparison with the readings found in the texts of earlier listing may also suggest that the reading in the Nepalese version is older.

### ...तथा माषदुग्धप्रभृतिभिर्ब्रणः क्लिद्यते

The reading माषदुग्ध...presents some challenges. The Nepalese manuscripts, (Su 1938), Dalhaṇa's reading in (Su 1938), and MS London BL IOLR 1842—all have *māṣadugdha*-. However, this reading does not make much sense. Should we interpret it as a *dvandva* (beans and milk) or a *tatpuruṣa* (milk mixed with beans or bean milk)? The first option (*dvandva*) is untenable because a wound cannot be moistened with a solid substance like beans. The second option is also unlikely for two reasons:

1. In the *Suśrutasaṃhitā*, the word *-prabhṛti-* typically follows more than one item in a *dvandva* compound. Therefore, the reading माषदुग्धप्रभृतिभिः, where *māṣadugdha* signifies one item, is statistically improbable.
2. Does *māṣadugdha* mean bean milk? This expression is not found elsewhere. Does it mean milk mixed with beans? If so, it should be used for a specific remedial recipe and mentioned in the *Suśrutasaṃhitā*. However, there is no such reference to *māṣadugdha* in the text. If *māṣadugdha* is not mentioned elsewhere, it is unlikely the author intended such a complex example.

We conjecture that the original term was not *māṣadugdha-* but *cājyadugdha-* or *ājyadugdha-*. MS Jodhpur RORI 20060 supports this reading. In this manuscript, The character before *jya* is unclear, but it is clear that there is a medial vowel *ā* before *jya*. The expression *ājyadugdha-* appears in other Sanskrit texts. If we read *ājya-* or *cājya-* instead of *māṣa*, it would mean “a wound gets moistened with ghee, milk, etc.,” which makes much more sense. If *ājya-* or *cājya-* was the original reading, the scribal error likely occurred quite early when the ligature *jya* looked similar to *ṣa*.

समासवचनं समुद्देशः |

The reading समुद्देशः appears in the Nepalese manuscripts and MS Jodhpur RORI 20060. Everywhere else, the reading is उद्देश, which matches the list of *tantrayuktis* provided at the beginning of the chapter. The version of the *Jalpakaḥpataru* includes another variant, समासकथनम्, which is not supported by any other witnesses.

## Characteristics of the Manuscript Transmission

## Translation

- 1 Now we shall explain the chapter called, “the enunciation of the logical methods of the system (*tantrayukti*).”
- 3 There are thirty-two logical methods of the system. They are as follows:
 

1. topic ( <i>adhikaraṇa</i> )	18. objection ( <i>pūrvapakṣa</i> )
2. cohesion ( <i>yoga</i> )	19. determination ( <i>nirṇaya</i> )
3. relevant meaning ( <i>padārtha</i> )	20. consent ( <i>anumata</i> )
4. purpose of a reason ( <i>hetvārtha</i> )	21. itemization ( <i>vidhāna</i> )
5. mention ( <i>samuddeśa</i> )	22. future reference ( <i>anāgatāpekṣaṇa</i> )
6. exposition ( <i>nirdeśa</i> )	23. past reference ( <i>atīkrāntāpekṣaṇa</i> )
7. prescription ( <i>upadeśa</i> )	24. doubt ( <i>saṁśaya</i> )
8. statement of reason ( <i>apadeśa</i> )	25. explication ( <i>vyākhyāna</i> )
9. indication ( <i>pradeśa</i> )	26. field-specific term ( <i>svasaṁjñā</i> )
10. prediction ( <i>atideśa</i> )	27. interpretation ( <i>nirvacana</i> )
11. exception ( <i>apavarga</i> )	28. illustration ( <i>nidarśana</i> )
12. ellipsis ( <i>vākyaśeṣa</i> )	29. compulsion ( <i>niyoga</i> )
13. implication ( <i>arthāpatti</i> )	30. option ( <i>vikalpa</i> )
14. contraposition ( <i>viparyaya</i> )	31. aggregation ( <i>samuccaya</i> )
15. recontextualization ( <i>prasaṅga</i> )	32. deducible ( <i>ūhya</i> )
16. invariable statement ( <i>ekānta</i> )	
17. variable statement ( <i>anekānta</i> )	
- 4 It is said about this, “what is the purpose of these methods?” The answer is, “cohesion of a sentence and cohesion of meaning”.<sup>1179</sup>
- 5-6 There are **two** verses about this:

*The logical methods of the system prohibit statements employed by people who do not speak the truth. They also bring about the validity of one's own statements. And they also clarify meanings that are stated back to front, that are implicit, unclear and any that are partially stated.*

<sup>1179</sup> Ḍaḥaṇa on 6.65.4 (Su 1938: 815) explained “cohesion of a sentence” as “connecting up a sentence that is not connected,” and “cohesion of meaning” as “clarifying or making appropriate a meaning that is implied or inappropriate.”

- 8 Among them, “topic (*adhikaraṇa*)” refers to the object, with reference to which statements are made, such as flavour (*rasa*) or humour (*doṣa*).<sup>1180</sup>
- 9 “Cohesion (*yoga*)” is that by which a sentence coheres, as when words that are in a reversed order, whether placed close or apart, have their meanings unified.

Sesame oil he should drink, with heart-leaved moonseed creeper, neem tree, maidenhair fern, Indrajao, and long pepper

that is cooked with heart-leaf sida and country mallow, and deodar, always for a benefit in the case of the disease goitre.

In this verse, one ought to say, first, “one should drink cooked....” However, the word “cooked” is used in the second line.<sup>1181</sup> Unifying the meanings of words in this way, even though they are far apart, is cohesion.

- 10 The meaning that is conveyed in an aphorism (*sūtra*) or a word is called relevant meaning (*padārtha*). The meaning that is attached to one or more words is the meaning of one or more words (*padārtha*). There are innumerable meanings of a word or words.<sup>1182</sup>

Where two or three meanings of words such as *sneha*, *sveda* or *añjana* appear to be possible, the relevant meaning is the one that coheres with prior and subsequent elements. For example, when it is said that, “We

1180 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

1181 See note on 378.

1182 Contrary to the translations by previous translators Singhal and J. Mitra and P. V. Sharma, we believe that there is a distinction in how the term *padārtha* is employed in the first sentence, which serves as the definition of this *tantrayukti*, and in the two subsequent sentences, which pertain to the non-technical understanding of the word *padārtha*. We have translated the initial use of the word *padārtha* as “relevant meaning” and the subsequent use as mere “meaning of one or more words.” Without presupposing the distinct usage of the word *padārtha* in this passage, the statement, अपरिमिताश्च पदार्थाः, might seem out of context, as it would not make sense to assert that there are innumerable *padārthas* once the text has already specified that *padārtha* refers to the particular meaning conveyed in a *sūtra* or a word. Furthermore, the subsequent illustration featuring three polysemic words—*sneha*, *sveda*, and *añjana*—also supports our argument. Through these examples, the text advocates for the perspective that in cases where a word has multiple meanings, only the interpretation that aligns with the preceding and subsequent elements should be regarded as *padārtha*.

are going to explain the chapter on the *veda*-origin" the mind may be confused about which "*veda*" will be spoken about. *Sāmaveda* and so on are the Vedas. Taking note of the prior and subsequent elements, the two roots *vind* "find" and *vid* "know" have a single meaning.<sup>1183</sup> Subsequently, the understanding takes place that there is a wish to talk about the origin of *āyurveda*. So that is the meaning of the word.

- 11 The purpose of a reason (*hetvārtha*) is a statement that becomes a premise (*sādhana*). For example, just as a lump of earth is moistened by water, so a wound is moistened by substances like milk with green gram.
- 12 A mention (*samuddēśa*) is a brief statement such as "spike (*śalya*)".<sup>1184</sup>
- 13 A exposition (*nirdeśa*) is a detailed statement. For example, "in the body or exogenous".<sup>1185</sup>
- 14 "Prescription" (*upadeśa*) refers to statements like "it should be this way." For example, one should not stay awake at night; one should not sleep during the day.
- 15 "Statement of reason" (*apadeśa*) refers to statements like "this happens because of this." For example, in the sentence "Sweet substances increase phlegm," the reason is stated.<sup>1186</sup>
- 16 Substantiation of the subject matter through past evidence is "indication (*pradeśa*). For example, he pulled out Devadatta's splinter (*śalya*), therefore he will pull out Yajñadatta's.
- 17 Substantiation of the subject matter through a future event is "prediction (*atideśa*). For example, if his wind moves upwards, that will cause him to have colic."<sup>1187</sup>

1183 The Nepalese text here is hard to follow, and the vulgate has a significantly different reading. But the problem situation seems to be as follows. The *Suśrutasamhitā* opens with a statement saying that it will describe the "origin of the *veda*" (*vedotpatti*). The problem is, what does this word "*veda*" refer to? Is it the Veda, as in *Sāmaveda*? Or 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 *Suśrutasamhitā* is talking about the origin of *ayurveda*, specifically. This same issue is also addressed by Ḍaḥṇa at 1.1.1 (Su 1938: 1).

1184 Generally, शल्य refers to any painful foreign body embedded in the flesh that requires surgical removal.

1185 This is a reference to 1.26.4 (Su 1938: 121) where शल्य is described in more detail as being of two kinds.

1186 A technical term also in Nyāyaśāstra (Jhalakīkar 1978: 54).

1187 A technical term also in Nyāyaśāstra (Jhalakīkar 1978: 6–7).

- 18 A deviation after generalization is exception (*apavarga*). For example, those afflicted by poison should not go through sudorific treatment other than the cases of poisoning by urinary worms.
- 19 Ellipsis (*vākyasēṣa*) refers to an unstated word that completes a sentence. For example, despite not mentioning the word 'person', when mentioning someone as 'the one having a head, hands, feet, flanks, and abdomen,' it's apparent that the reference is to a person.
- 20 Implication refers to an unstated idea that becomes evident through context. For example, when one said, "We will eat rice" it becomes evident from the context that he did not wish to drink gruel.
- 21 When there is the reversal of it, it is contraposition (*viparyaya*). For example, when it is said, "Weak, dyspneic, and fearful people are difficult to treat," the converse holds true: "Those who are strong and so on are easily treatable."
- 22 Recontextualization (*prasaṅga*) refers to a concept common to another section. For example, a concept belonging to another section is brought up by mentioning it repeatedly throughout.
- 23 Invariable statement (*ekānta*) is one that is stated with certainty. For example, **turpeth** causes purgation; **emetic nut** induces vomiting.
- 24 Variable statement (*anekānta*) is one that is true in one way in some cases and in another way elsewhere. For example, some teachers identify the main element as substance, others as fluid, some as semen, and some as digestion.
- 25 A first point of view (*pūrvapakṣa*) is something stated with certainty. For example, how are the four types of diabetes caused by wind incurable?<sup>1188</sup>
- 26 Its answer is determination. For example, afflicting the body and trickling downwards, it creates urine mixed with fat, fatty tissues, and marrow. Thus, those caused by wind are incurable.
- 28 Consent (*anumata*) refers to others' opinion that is not rejected. For example, when the assertor says that there are six flavours and that somehow gets accepted with affirmation, it is termed consent.
- 29 Itemization (*vidhāna*) refers to sequentially ordered statements within a chapter. For example, the eleven lethal points of thigh are mentioned

See chapter  
40 of Sūtra-  
sthāna.

vasā / me-  
das / maj-  
jan

<sup>1188</sup> The adverb निःसंशयम् is problematic: the example expresses a query or doubt, the opposite of certainty, which is answered in the next passage. It would seem to make more sense to read something like यस् तु संशयम् अभिधीयते स पूर्वपक्षः, but our manuscripts are unanimous in their reading.

- sequentially in a chapter.
- 30 A statement like “Thus will be stated” is future reference (*anāg-atāpekṣaṇa*) such as when he says in the *Sūtrasthāna*, “I will mention it in the *Cikitsāsthāna*.”
- 31 A statement like “Thus has been stated” is past reference (*atīkrāntāpekṣaṇa*) such as when one says in the *Cikitsāsthāna*, “As mentioned in the *Sūtrasthāna*....”
- 32 An indication pointing to causes on both sides is doubt (*saṃśaya*). For example, a blow to the sole-heart (*talahr̥daya*)<sup>1189</sup> is fatal, whereas cutting hands and feet is not fatal.
- 33 An elaborate description is explication (*vyākhyāna*). For example, the twenty-fifth entity, person (*puruṣa*), is being explicated here. Thus, no other Āyurvedic texts discuss entities beginning with matters.
- 34 A field-specific term (*svasaṃjñā*) is uncommon in other fields of studies. The term used in one’s own systems is called field-specific term, such as in this system, pair (*mithuna*) denotes honey and ghee, and triad (*mithuna*) denotes ghee, sesame oil and fat.
- 35 A customary portrayal is interpretation (*nirvacana*). For example, one goes along the shade fearing heat.
- 36 Providing examples is illustration (*nidarśana*). For example, just as fire spreads rapidly in a dry forest when accompanied by wind, a wound intensifies affected by wind, bile, and phlegm.
- 37 A statement like “This is the only way...” ... compulsion (*niyoga*). For example, one should consume only a healthy diet.
- 39 A statement like “This and this...” is option (*vikalpa*). For example, in the section on meat, the major ones are blackbuck, deer, quail and part-ridge.<sup>1190</sup>
- 38 A summarized statement is aggregation (*samuccaya*).<sup>1191</sup> For example, let there be rice with meat broth, rice with milk, or burley with ghee.

Does  
bhūtādi a  
compound  
or it means  
ahankāra or  
ego?

triad? –DW

A meaningful reading of these two rules would be

1189 तलहृदय is one of the muscle-group of lethal points mentioned in 3.6.7 (Su 1938: 370).

1190 The example here matches समुच्चय (next text), not विकल्प. There seems to have been a metathesis of terms. Yādavaśarma Trivikramācārya Ācārya and N. R. Ācārya (Su 1945: 1005, footnote 6) notes that this text and the next have been swapped in the Calcutta edition that includes Hārānacandra’s commentary C. Bhaṭṭācārya 1908–11: 2, in the same way as in the Nepalese version.

1191 As stated in the previous footnote, the example here is of विकल्प, not समुच्चय.

39 idaṃ vedaṃ veti vikalpaḥ / yathā rasodanaḥ kṣīrodanaḥ  
saghṛtā vā yavāgūr bhavatu iti //

38 saṃkṣepavacanāṃ samuccayaḥ / yathā māṃsavarge eṇa-  
hariṇalāvatittirāḥ pradhānā iti

- 40 What is not explicitly stated but can be understood through discernment is deducible (*ūhya*). For example, in the section on rules of foods and drinks, four types of foods and drinks are mentioned— masticable (*bhakṣya*), edible (*bhojya*), suckable (*lehya*), and drinkable (*peya*). Thus, while four types are needed to be stated, two types are actually mentioned. Here it is deducible that in the section on foods and drinks, by specifically mentioning two types, the four types are also mentioned. Furthermore, a masticable item is not excluded from the category of food because it shares the same characteristic of solidity. A suckable item is not excluded from being classified as a drink because it shares the same characteristic of liquidity. Four types of aliments are rare. They are usually just twofold. Therefore, lord Dhanvantari says “Two-fold is popular”.



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## Index of Manuscripts

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

Bikaner RORI 5157: 202

Cambridge Add.2491: 135

Hyderabad Osmania 137-3(b): 62

Jamnagar GAU 114: 375, 377f

Jodhpur RORI 20060: 382, 385f

Kathmandu KL 699: 16, 20, 57, 63, 201, 213, 226, 231, 331

Kathmandu NAK 1-1079: 17, 25, 39, 57, 63

Kathmandu NAK 1-1146: 40

Kathmandu NAK 1/1648: 361

Kathmandu NAK 5-333: 17, 25, 57, 63, 128, 131, 203, 213, 216, 224, 226,  
230f

London BL IOLR 1842: 384f

MS Jamnagar GAU 114: 363, 368, 380

Paris BNF Greek suppl. 247: 193

Thanjavur TMSSML 10773: 394

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# Materia Medica

## Abbreviations

ADPS	Sivarajan, V. V., and Balachandran, Indira (1994), <i>Ayurvedic Drugs and Their Plant Sources</i> (New Delhi, Bombay, Calcutta: Oxford & IBH Publishing).
AVS	Warrier, P. K., Nambiar, V. P. K., and Ramankutty, C. (1994–96) (eds.), <i>Indian Medicinal Plants: A Compendium of 500 Species</i> . Vaidyaratnam P. S. Varier's Arya Vaidya Sala, Kottakal, 5 vols. (Madras: Orient Longman).
BIA	Prater, S. H. (1993), <i>The Book of Indian Animals</i> (3rd edn., Bombay, Delhi, etc.: Oxford University Press), <a href="https://nbn-resolving.org/urn:ark:/13960/t6356w32f">ARK: ark:/13960/t6356w32f</a> ; 4th impression of 3rd corrected 1980 edition.
Chevillard	Chevallier, Andrew (2000), <i>The Encyclopedia of Herbal Medicine</i> , ed. Penny Warren, Valerie Horn, Christa Weil, et al. (1st edn., New York: Dorling Kindersley), ISBN: 9780751303148, <a href="https://nbn-resolving.org/urn:ark:/13960/s2bh76qc88s">ARK: ark:/13960/s2bh76qc88s</a> .
Chopra	Chopra, R. N., Nayar, S. L., and Chopra, I. C. (1956), <i>Glossary of Indian Medicinal Plants</i> (3rd reprint, 1992, New Delhi: Council of Scientific and Industrial Research); vol. 2: R. N. Chopra, I. C. Chopra, and Varma ( <a href="#">Chopra<sub>sup</sub></a> ).
Chopra IDG	Chopra, R. N., Chopra, I. C., Handa, K. L., et al. (1958), <i>Chopra's Indigenous Drugs of India</i> (2nd edn., Calcutta: Dhur & Sons), <a href="https://nbn-resolving.org/urn:ark:/13960/t9673t140">ARK: ark:/13960/t9673t140</a> .
Chopra <sub>sup</sub>	Chopra, R. N., Chopra, I. C., and Varma, B. S. (1969), <i>Supplement to Glossary of Indian Medicinal Plants</i> (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/hbph9m](https://doi.org/10/hbph9m).
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- GJM1 Meulenbeld, Gerrit Jan (1974a), "Sanskrit Names of Plants and their Botanical Equivalents," in id., *The Mādhavanidāna and Its Chief Commentary: Chapters 1–10. Introduction, Translation, and Notes* (Leiden: Brill), chap. Appendix Four, 520–611, ARK: [ark:/13960/t25b8q97g](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-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 Brhatrayi* (Varanasi: Chowkhamba Sanskrit Series Office), ARK: [ark:/13960/s2c7p72x58j](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-s2c7p72x58j).
- HK Hilgenberg, Luise, and Kirfel, Willibald (1941), *Vāgbhaṭa's Aṣṭāṅgahrdayasaṃhitā, ein altindisches Lehrbuch der Heilkunde, aus dem Sanskrit ins Deutsche übertragen mit Einleitung, Anmerkungen und Indices* (Leiden: Brill), ARK: [ark:/13960/t52h05616](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-t52h05616).
- IGP Griffiths, Mark (1994), *The New Royal Horticultural Society Index of Garden Plants* (London: Macmillan), ARK: [ark:/13960/t2q61gn9z](https://nbn-resolving.org/urn:nbn:de:hbz:5:1-3960-t2q61gn9z).



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- Issar Issar, T. P. (1994), *Blossoms of Bangalore* (Bangalore: T. P. Issar).
- IW Israel, Samuel, Sinclair, Toby, Grewal, Bikram, et al. (1988), *Indian Wildlife: Sri Lanka Nepal* (Insight Guides; Singapore etc.: APA Publications), ISBN: 9780245545238, ARK: [ark:/13960/s2p9d5pqd1w](https://nbn-resolving.org/urn:nbn:de:bsz:13960-s2p9d5pqd1w).
- K&B Kirtikar, K. R., Basu, B. D., and an I.C.S (1987), *Indian Medicinal Plants*, ed. E. Blatter, J. F. Caius, and K. S. Mhaskar, 8 vols. (2nd edn., Dehradun: International Book Distributors), URL: <https://archive.org/details/biodiversity?tab=collection&query=kirtikar>; First published in Allahabad, 1918.
- MBG Missouri Botanical Garden (2024), "Missouri Botanical Garden: Plant Finder," Missouri Botanical Garden, URL: <https://bit.ly/MissouriPlantfinder>.
- NEH Bown, Deni (2001), *New Encyclopedia of Herbs and Their Uses* (2nd edn., London, New York etc.: Dorling Kindersly).
- NK Nadkarni, K. M. (1982), *Dr. K. M. Nadkarni's Indian Materia Medica, with Ayurvedic, Unani-tibbi, Siddha, Allopathic, Homeopathic, Naturopathic & Home Remedies, Appendices & Indexes ... in Two Volumes*, ed. A. K. Nadkarni, 2 vols. (3 ed., revised and enlarged by A. K. Nadkarni, Bombay: Popular Prakashan), ISBN: 8171541429, URL: <https://tinyurl.com/Nadkarni1982>; First published in 1954.
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- Potter<sub>rev</sub> Wren, R. C., Williamson, Elizabeth M., and Evans, Fred J. (1994), *Potter's New Cyclopaedia of Botanical Drugs and Preparations* (Saffron Walden: C. W. Daniel Company Ltd.); Reprint of revised 1988 edition.
- POWO Kew Gardens (2024), "Plants of the World," Royal Botanic Gardens, URL: <https://powo.science.kew.org>.
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- Watt<sub>Comm</sub> Watt, George (1908), *The Commercial Products of India, Being an Abridgement of "the Dictionary of the Economic Products of India"* (London: John Murray), ARK: [ark:/13960/t8cg7dm79](https://nbn-resolving.org/urn:ark:/13960/t8cg7dm79).
- Watt<sub>Dict</sub> Watt, George (1889–96), *A Dictionary of the Economic Products of India* (Calcutta: Dept. Revenue and Agriculture, Government of India), URL: <https://tinyurl.com/watt1889>, accessed 28/04/2021.
- WDMPP Quattrocchi, Umberto (2012), *CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology* (Boca Raton, FL: CRC Press), ISBN: 978-1-4822-5064-0, ARK: [ark:/13960/s2k3j7xg2ff](https://nbn-resolving.org/urn:ark:/13960/s2k3j7xg2ff).

## Flora

Numbers after the final colon refer to pages in this book. Silent reference regarding plant names has also been made to Wikipedia, which has well-curated botanical information, including up-to-date nomenclature and synonym lists.

- a large aroid (*mahākarambha*) name from etymology; see **an aroid** (*karambha*): [211](#)
- adder's mouth orchid (*ṛṣabhaka*) another member of the mysterious *aṣṭavarga* group, according to **GVDB**: 55. But *Microstylis wallichii* Lindl. is commonly used. Identified as the Himalayan plant *Malaxis muscifera* (Lindley) Kuntze by **ADPS**: 371–374, i.e., **malaxis orchid** (*jīvaka*): [172](#)
- agarwood (*aguru*) *Aquilaria malaccensis* Lam., **GVDB**: 3: [164](#), [274](#)
- 'alas, alas' (*hālāhala*) unknown. See Cf. *Soḍhalanighantu* p.43 (sub *bola*) = *stomaka* = **Indian aconite** (*vatsanābha*):



- 212, 214  
 Alexandrian laurel (*punnāga*)  
*Calophyllum inophyllum*, L. See  
 AVS: 1, 338, NK: 1, #425: 255, 274  
 amaranth (*taṇḍulīya*) see prickly amaranth  
 (*taṇḍulīyaka*): 256  
 an aroid (*karambha*) probably a plant  
 belonging to Araceae, GVDB: 76 for  
 useful discussion. E.g., *Alocasia*  
*macrorrhiza* (L.) G.Don is an Old  
 World aroid occurring in S. Asia and has  
 poisonous sap; any part of the aroid  
*Colocasia* spp. chewed or eaten raw can  
 cause burning pain and buccal  
 swelling, salivation, difficulty  
 breathing, swallowing or speaking.  
 E.g., *C. esculenta* (L.) is native to India  
 and has these properties,  
 WDMPP: 1060–62. The same source  
 (2847–2848) gives the extremely  
 irritant *Pergularia daemia* (Forssk.)  
 Chiov. as *karambha*. Cf. taro (*piṇḍāluka*)  
*karambha* is possibly a syn. for plumed  
 cockscomb (*indīvara*), GVDB: 76,  
 44–45: 211, 438, 458  
 Arabian jasmin (*tr̥ṇaśūnya*) see Arabian  
 jasmine (*mallikā*), GVDB: 190 MW: 453  
 says *Jasminium sambac*. GVDB: 190  
 also suggest screw-pine (*ketaka*): 439  
 Arabian jasmine (*mallikā*) *Jasminum*  
*sambac* (L.) Aiton, GVDB: 300: 439  
 Arabian jasmine (*tr̥ṇaśūlya*) probably an  
 alternative pronunciation for Arabian  
 jasmine (*tr̥ṇaśūnya*), GVDB: 190: 274  
 arjun (*arjuna*) *Terminalia arjuna* (Roxb.)  
 Wight & Arn., see HK: 738, GVDB: 61:  
 52, 108, 271, 296, 439  
 arjun tree (*kakubha*) *Terminalia arjuna*  
 (Roxb.) Wight & Arn., GVDB: 61. But  
 these authors also point out that this  
 plant is sometimes cited together with  
 arjun (*arjuna*), so it may be bluebell  
 barleria (*ārtagala*) (see GVDB: 39 for  
 extensive discussion): 295  
 Asoka tree (*aśoka*) *Saraca indica* Linn.,  
 GVDB: 26: 165, 166, 256, 274, 312, 452  
 atis root (*śṛṅgīviṣa*) *Aconitum*  
*heterophyllum*, Wall. ex Royle. See  
 AVS: 1, 42, NK: 1, #39: 212, 214  
 axelwood (*dhavaka*) see axlewood (*dhava*):  
 171  
 axlewood (*dhava*) *Anogeissus latifolia*  
 (Roxb. ex DC.) Wall. ex Guill & Perr.  
 See AVS: 1, 163 f, Chopra: 20: 52, 107,  
 225, 271, 274, 439  
 bamboo (*vaṃśa*) *Bambusa arundinacea*  
 (Retz.) Willd.: 295  
 bamboo leaves (*veṇupatrikā*) *Bambusa*  
*bambos*, Druce, NK: 1, #307. But  
 GVDB: 380 argues for *Setaria glauca*  
 Beauv.: 202  
 banyan (*nyagrodha*) *Ficus benghalensis*, L.,  
 GVDB: 356, HK: 748: 439  
 banyan (*vaṭa*) see banyan (*nyagrodha*): 108,  
 111, 296  
 barley (*yava*) *Hordeum vulgare*, L. See  
 HK: 752: 178  
 barley ash (*yavakṣāra*) The preparation  
 method is described at GVDB: 327:  
 181, 439  
 barley ash (*yavanāla*) see barley ash  
 (*yavakṣāra*), GVDB: 327: 265  
 bayberry (*kaṭphala*) *M. esculenta*  
 Buch.-Ham. ex D.Don, which is  
 native to the Himalaya, from Kashmir  
 to Assam, as well as S. China and SE  
 Asia. *Nageia nagi* (Thunb.) Kuntze  
 (syn of *Myrica nagi* Thunb.), as  
 suggested by T. B. Singh and Chuneekar  
 (GVDB: 66), is native to East Asia, not  
 India: 256  
 bearded premna (*vasuka*) *Premna barbata*  
 Wall. (← *vasuhaṭṭa*), according to  
 Cakrapāṇidatta. See the discussion by  
 T. B. Singh and Chuneekar  
 (GVDB: 362–363), where other  
 candidate species such as *Osmanthus*,  
*Calotropis*, and *Trianthema* are  
 discussed. T. B. Singh and Chuneekar  
 (GVDB: 363) note that when *vasuka* is

- mentioned with *vasira*, two varieties of salt are often meant (see *vasukavasirā*). See also NK: #1299 who identifies it with *Indigofera enneaphylla*, Linn. (Birdsville Indigo), apparently without controversy : 107
- beautyberry (*śyāmā*) *Callicarpa macrophylla*, Vahl. See AVS: 1, 334, NK: 1, #420 : 171, 200, 202, 257
- beggarweed (*aṃśumatī*) see **beggarweed** (*śālaparnī*), GVDB: 1, mentioning that the pair of these refers to **beggarweed** and **hare foot uraria** : 219, 266
- beggarweed (*sthirā*) see **beggarweed** (*śālaparnī*), GVDB: 458 : 266, 295
- beggarweed (*vidārigandhā*) see **beggarweed** (*śālaparnī*), GVDB: 369–370 : 61, 165, 177, 289, 440, 453
- beggarweed (*śālaparnī*) *Desmodium gangeticum* (L.) DC. See Dymock: 1, 428, GJM1: 602, NK: 1, #1192; ADPS: 382, 414 and AVS: 2, 319, 4.366 are confusing. Also called **beggarweed** : 440
- beleric myrobalan (*bibhītaka*) *Terminalia bellirica* Roxb. One of the components of the **three myrobalans** (*triphalā*) GVDB: 274, 196 : 463
- Bengal quince (*bilva*) *Aegle marmelos* (L.) Corr. See AVS: 1, 62, Chevillard: 161, NK: 1, #62, i(MW: 732a) : 107, 166, 172, 257, 440, 446, 461
- big poison (*mahāviṣa*) unknown : 212, 214
- bitter gourd (*paṭolī*) see **pointed gourd** (*paṭola*), cite[233]gvdb : 256
- bitter melon (*kāravellaka*) *Momordica charantia* L., GVDB: 92. : 440
- bitter melon (*suṣavī*) GVDB: 442 identify this with **bitter melon** (*kāravellaka*), q.v., or **cumin** (*jīraka*) : 171, 175
- bitumen (*adrija*) → *śilājī*. A tar-like, black, resinous rock exudate. See *Mahākośa*: 1, 21 : 238
- black Bengal quince (*kṛṣṇaśrīphalikā*) GVDB: 412, on *śrīphala*, synonym of **Bengal quince** (*bilva*) fruit : 448
- black creeper (*kālānusārī*) *Ichnocarpus frutescens* R. Br. or *Cryptolepis buchanani* Roemer & Schultes. Probably a synonym for *kṛṣṇasārīvā* (GVDB: 94–95). I. frutescens has dark, rust-colored stems, so has been preferred here. However, *Cryptolepis grandiflora*, Wight, also has black stems. Synonym of *kālānusārīṇī*, *kālānusārīvā*. *kālānusārya* may be a synonym of *tagara*, itself hard to identify : 255, 440
- black creeper (*pālindī*) *Ichnocarpus frutescens*, (L.) R.Br. or *Cryptolepis buchanani*, Roemer & Schultes. See AVS: 3, 141, 145, 203, NK: 1, #1283, 1210, ADPS: 434. Ḍalhaṇa on SS 5.1.82 identified *pālindī* with *trivṛt* (**turpeth**) and T. B. Singh and Chunekar (GVDB: 246) supported this as a usual identification : 202, 205, 219, 256
- black nightshade (*kākamācī*) *Solanum nigrum*, Linn., GVDB: 86–87. May also be the less poisonous *S. dulcamara*, “bittersweet nightshade,” K&B: 1, 889–892 : 267, 274, 444
- black pepper (*marica*) *Piper nigrum*, L. See ADPS: 294, NK: 1, #1929. Known to ancient Greek authors (Ball 1888: 341) : 178, 272, 312, 446, 463
- black sarsaparilla (*kālānusārīvā*) see **Indian sarsaparilla** (*sārīvā*); see also **black creeper** (*kālānusārī*). Problems about identifying this plant are discussed at GVDB: 94–95 and GVDB: 429–431 : 274
- blackboard tree (*saptachada*) *Alstonia scholaris* R. Br. GVDB: 420 : 202, 440
- blackboard tree (*saptaparnā*) see **blackboard tree** (*saptachada*) : 272
- blackbuck (*hariṇa*) *Antelope cervicapra*, L. See BIA: 270 IW: 95, 165, et passim : 205
- blue water-lily (*utpala*) *Nymphaea stellata*, Willd. See GJM1: 528, IGP 790;

- Dutt: 110, NK: 1, #1726: 43, 128, 200, 219, 274, 312, 313, 445  
 bluebell barleria (*kuravaka*) see [bluebell barleria](#) (*kuruvaka*): 257  
 bluebell barleria (*kuruvaka*) Or *kurubaka*. T. B. Singh and Chuneekar (GVDB: 108) notes that this is sometimes listed as a type of rice, as at *Suśrutasaṃhitā* 1.46.8 (Su 1938: 215). Further discussion at GVDB: 447–448, sub [bluebell barleria](#) (*saireyaka*), where *kurubaka* is said to be identifiable with *baka* and *būka*. T. B. Singh and Chuneekar (GVDB) finally propose a red-flowering *Rhododendron*, admitting that this is a novel suggestion: 211, 441  
 bluebell barleria (*sahā*) see [bluebell barleria](#) (*sahācara*), GVDB: 428: 175, 265  
 bluebell barleria (*sahācara*) see [bluebell barleria](#) (*saireyaka*), GVDB: 427: 441  
 bluebell barleria (*saireyaka*) A *Barleria*, perhaps *B. cristata* L. that is particularly well-known in South India. Four kinds are distinguished in ayurveda, based on the colour of their flowers. See substantive discussion at GVDB: 444–449: 441  
 bluebell barleria (*ārtagala*) A variety of [bluebell barleria](#) (*saireyaka*), q.v.; GVDB: 39 argue for *Xanthium strumarium* L., “clotbur” and for *Acanthus ilicifolius* Linn., which is not native to S. Asia. See also GVDB: 446: 439  
 bread flower (*āsphota*) GVDB: 41 argue for *Vallisneria spiralis* (Roth ex Roem. & Schult.) Kuntze. This has the right distribution in S. Asia POWO: s.v.: 267  
 bull’s head (*gokṣura*) *Tribulus terrestris* L. GVDB: 144–145, 193. A component of [lesser five roots](#): 441  
 bull’s head (*trikaṇṭaka*) → [bull’s head](#) (*gokṣura*) GVDB: 193. A component of [lesser five roots](#): 453  
 bulrush (*kaṣeru*) “Two species, *Scirpus kysoor* Roxb., and *S. grossus* Linn. f., are used” GVDB: 85. Also *kaṣeruka* and *kaseru*: 171, 175, 441  
 bulrush (*kaṣerukā*) see [bulrush](#) (*kaṣeru*): 172  
 burflower tree (*kadamba*) *Neolamarckia cadamba* (Roxb.) Bosser, sometimes “wild chinchona,” NK: 1, #204, GVDB: 70, Wikipedia contributors 2025f. Cf. *Mitragyna parvifolia* (Roxb.) Korth, which looks similar to *N. cadamba* and is claimed by some to be the ancient tree of this name (Wikipedia contributors 2025e): 441, 453  
 burflower tree (*nīpa*) see [burflower tree](#) (*kadamba*), GVDB: 228, q.v. for more detail and alternatives: 166  
 camphor (*karpūra*) *Camphora officinarum*, Nees. or *Dryobalanops aromatica*, Gaertn.f., nom cons. The latter is native to the Malay Archipelago. See GVDB: 82, IGP: 253; see also [camphor](#) (*śītaśīva*): 441  
 camphor (*śītaśīva*) rarely mentioned. Taken as [rock salt](#) (*saindhava*) or [shami tree](#) (*śamī*), etc., by some authors, GVDB: 402. Ḍaḥaṇa on 5.6.18 (Su 1938: 581) glossed it as [camphor](#) (*karpūra*), but noticed other interpretations: 274, 441  
 cardamom (*elā*) *Elettaria cardamomum*, Maton. See AVS: 2, 360, NK: 1, #924, Potter<sub>rev</sub>: 66: 164, 219, 227, 255, 256, 264, 274, 295, 441, 463  
 cardamom (*kṣudrailā*) see [cardamom](#) (*elā*), GVDB: 128. This expression, “small cardamom” is only used at *Suśrutasaṃhitā* Kalpasthāna 6.17: 274  
 carray cheddie (*viśvadevā*) → *gāṅgerukī* *Canthium parviflorum*, Lam. See AVS: 1, 366 f. Or *Sida rhombifolia* Linn. (GVDB: 372, 444 ff. et passim): 111  
 castor oil tree (*gandharvahaṣṭa*) see [castor-oil](#) (*eraṇḍa*). GVDB: 135,

- K&B: 3, 2277 : 57, 166  
 castor-oil (*eraṇḍa*) *Ricinus communis*, L.  
 See NK: 1, #2145, [Chopra](#): 214 : 62, 210, 441, 442  
 castor-oil tree (*vardhamāna*) see [castor-oil](#) (*eraṇḍa*), [GVDB](#): 361 : 272  
 catechu (*khadira*) *Senegalia catechu* (L.f.)  
 P. J. Hurter & Mabb = *Acacia catechu* Willd. [GVDB](#): 129–130 : 108  
 certain minerals (*tārāvitāra*) Unknown. It is not even certain that these are minerals. The variant reading in the vulgate, *tāraḥ sutāraḥ* was glossed by Ḍaḥaṇa on 5.3.14 ([Su 1938](#): 568) as follows *tāro rūpyam, sutāraḥ pāradaḥ*, “tāra means silver; sutāra means mercury.” : 226  
 chaff (*kāṇḍana*) The word *kāṇḍana* is not found in dictionaries; *kaṇḍana* is threshing, separating the chaff from the grain in a mortar. Cf. Hemādri’s *Caturvargacintāmaṇi* (PWK: 2, 8) (Śiromaṇi 1873: 1, 138: 21, citing the *Vāyupurāṇa*) : 45, 460  
 champak (*campaka*) *Magnolia champaca* (L.) Baill. ex Pierre, [GVDB](#): 154 : 274  
 charoli nut (*piyāla*) see [charoli nut](#) (*priyāla*) : 172, 175  
 charoli nut (*priyāla*) *Buchanania lanzan* Spreng. [GVDB](#): 264 : 442  
 chebulic myrobalan (*harītakī*) *Terminalia chebula* Retz. [GVDB](#): 466 : 173, 174, 201, 274, 463  
 cherry (*elavālu*) *Prunus cerasus*, L. See [GVDB](#): 58 for a thoughtful discussion NK: 1, #2037 : 219, 274, 442  
 cherry (*elavāluka*) see [cherry](#) (*elavālu*) : 272  
 chickling pea (*kalāya*) *Lathyrus sativa* L. [GVDB](#): 84. See [AVS](#): 4, 308, [IGP](#): 901; cf. NK: 1, #1940 : 86  
 chinaberry tree (*mahānimba*) *Melia azedarach* L., [GVDB](#): 302 : 442, 449  
 chinaberry tree (*ramyaka*) according to Ḍaḥaṇa, this is [chinaberry tree](#) (*mahānimba*), q.v. ([GVDB](#): 334) : 165  
 chir pine (*sarala*) *Pinus roxburghii*, Sarg. [GVDB](#): 423 : 107, 175, 272, 274  
 cinnamon (*tvac*) *Cinnamomum cassia*, Blume. See NK: 1, #579 : 266, 274, 295, 442, 463  
 cinnamon (*tvak*) see [cinnamon](#) (*tvac*) : 256  
 cinnamon (*varāṅga*) see [cinnamon](#) (*tvac*), [GVDB](#): 360 : 272  
 citron (*mātulūṅga*) *Citrus medica*, Linn. [GVDB](#): 276, 306. Also spelled *mātulūṅga*, *mātulaṅga*, *mātulāṅga*. See further [mandarin orange](#) (*nāraṅga*) : 107, 172, 180, 181, 256, 290  
 climbing diamond flower (*prapaunḍarika*) conjectural; see the substantial discussion by T. B. Singh and Chuneekar ([GVDB](#): 261). They note that it is used mainly in eye troubles and frequently with [liquorice](#) (*yaṣṭimadhu*), than which it is has been said to be thicker, and is sweet in taste. Candidates they suggest include *Wendlandia heynei* (Schult.) Santapau & Merchant (formerly *W. exserta*), native to India and *Hedychium flavescens*, Carey. But neither of these plants have any reports of toxicity. Another Indian candidate may be *Hedyotis scandens* Roxb. (syn. *Dimetia scandens* (Roxb.) R.J.Wang) that is poisonous but also used for eye conditions and whose root is abortifacient; the whole plant is used as a fish poison ([WDMPP](#): 1934) : 212, 255, 274, 454  
 clove bean (*śaṅkhinī*) *Ipmoea muricata* (L.) Jacq., Pl. Hort. Schoenbr., [GVDB](#): 385–386 : 164, 178  
 cluster fig (*udumbara*) *Ficus racemosa*, L. See [ADPS](#): 487 : 271  
 cobra’s saffron (*nāgapuṣpa*) → *nāgakeśara*. *Mesua ferrea*, L. See NK: 1, #1595, [GVDB](#): 220 : 219  
 cogongrass (*balvaja*) possibly *Imperata cylindrica* (L.) P. Beauv. [GVDB](#): 271  
 describe the debate about this identity : 295

- coleus (*hrīvera*) *Coleus vettiveroides* K.C.Jacob, *GVDB*: 474, where it is stated that this is a synonym for *scented pavonia* (*bālaka*), also a disputed plant. See *POWO*: <https://powo.science.kew.org/taxon/446211-1>. Some say this is *Pavonia odorata*, Willd., "scented pavonia": 296, 461
- colocynth (*indravāruṇī*) *Citrullus colocynthis* (L.) Schrad., *GVDB*: 46. The two varieties of this plant are discussed by (*ADPS*: 180–183); the first is agreed to be colocynth, the second is debated but is likely to be a *Curcubitaceae*: 210, 272, 274, 443
- colocynth (*mṛgādanī*) see *colocynth* (*indravāruṇī*) *GVDB*: 46, 318: 256
- common smilax (*śvadamṣṭrā*) *Smilax aspera* L., *GVDB*: 414: 171
- convolvulus (*lakṣmaṇā*) Sivarajan and Balachandran (*ADPS*: 273–275) suggest *Ipomoea marginata* (Desr.) Verdc. or *I. obscura* (Linn.) *AVS*: 3, 237–238 suggests *Ipomoea sepiaria* Roxb. (looks like a little boy (*putraka*), and generates a boy (*putrajananī*), according to the *Bhāvaprakāśa*). Sivarajan and Balachandran (*ADPS*: 273–275) firmly reject *Mandragora officinalis* which is European; but possible consideration could be given to *Mandragora caulescens* C.B.Clarke, a variant that is known in South Asia. Cf. *GVDB*: 346–347. *NK*: #1546, #2323 suggests *Mandragora officinalum*, Linn., known as *putrada*: 111
- coriander (*dhānyaka*) *Coriandrum sativum* L., *GVDB*: 213: 443
- coriander (*kustumburya*) see *coriander* (*dhānyaka*), *GVDB*: 113: 274
- corky coral tree (*pāribhadra*) *Erythrina suberosa* Roxb. See *GVDB*: 245: 225, 443
- corky coral tree (*pāribhadra*) see *corky coral tree* (*pāribhadra*): 166, 271
- costus (*kuṣṭha*) *Dolomiaea costus* (Falc.) Kasana & A. K. Pandey. See *GVDB*: 112, *NK*: 1, #2239. Known to ancient Greek authors (Ball 1888: 345): 164, 172, 202, 219, 227, 255, 256, 264, 272, 274, 295, 296
- cottony jujube (*kākolī*) *Ziziphus mauritiana*, Lam. See *IGP*: 1233, *NK*: 1, #2663; *IGP* 1233. Cf. *NK*: 1, #1170. A member of the notoriously difficult *aṣṭavarga*, q.v.: 163, 171–173, 252
- country mallow (*atibalā*) *Abutilon indicum*, (L.) Sweet, but may be other kinds of mallow, e.g., *Sida rhombifolia*, L.. See *NK*: 1, #11, *IGP*: 1080, *NK*: 1, #2300, *ADPS*: 71, 77, and cf. *heart-leaf sida* (*balā*): 61, 171, 172, 175, 386
- country mallow (*sahadevā*) see *balā* (*GVDB*: 428). Contains ephedrine: 111, 175
- country sarsaparilla (*ananta-poison*) see *country sarsaparilla* (*anantā*), with which I conjecturally identify this poisonous root plant. See footnote 620, p. 210: 210
- country sarsaparilla (*anantā*) *Hemidesmus indicus*, (L.) R. Br. See *ADPS*: 434, *AVS*: 3, 141–145, *NK*: 1, #1210. But see *GVDB*: 13 for complications that may suggest that it is to be equated with *sārivā*, which may sometimes be *Cryptolepis* or *Ichnocarpus frutescens* R. Rr. (*GVDB*: 429–431): 61, 210, 219, 226, 443
- crape jasmine (*tagara*) *Tabernaemontana divaricata* (L.) R.Br. ex Roem. & Schultes. See *GJM*: 557, *AVS*: 5, 232. Synonym of *nata*. But some say *Valeriana jatamansi*, Jones. See *GVDB*: 173–174 for discussion (and charming comments on brain-liquid testing). Some say *tagara* is Indian rose-bay or Indian valerian or a



- Nymphoides (see [water snowflake](#) (*kumudavatī*)), but there remain many historical questions about the ancient and regional identities of this plant See, e.g., [AVS](#): 5, 334, 345. See also [IGP](#): 1147, [K&B](#): 1, 796, #758: 164, 172, 202, 219, 255, 274, 448, 465
- crimson trumpet-flower tree (*pāṭalā*) *Stereospermum chelonides*, (L. f.) A. DC. See [GJM1](#): 573, [AVS](#): 5, 192 ff, [ADPS](#): 362 f, [AVS](#): 3, 1848 f, [IGP](#) 1120, [Dymock](#): 3, 20 ff: 446, 465
- croton tree (*nāgadantī*) *Croton persimilis* Müll.Arg., [GVDB](#): 222: 272, 444, 459
- croton tree (*nāgavinnā*) *Croton persimilis* Müll.Arg. [GVDB](#): 222 I have taken this as [croton tree](#) (*nāgadantī*) because of context in *Suśrutasaṃhitā* *Kalpasthāna* 5: 257
- crow (*kāka-plant*) an unidentified poisonous plant apparently called "crow." T. B. Singh and Chuneekar ([GVDB](#): 86) note that several drugs named after the crow are unidentifiable. Thus, [black nightshade](#) (*kākamācī*) is toxic, but this is a stretch: 211
- cucumber (*trapuṣa*) *Cucumis sativus* L., [GVDB](#): 191: 445
- cumin (*jīraka*) Three types of *jīraka* – white, dark, earthy, are distinguished, identified as *Cuminum cyminum* L. (cumin), *Carum carvi*, L. (caraway), and *Nigella sativa* L. respectively (black cumin/caraway) ([GVDB](#): 169): 440
- datura* (*dhattūra*) *Datura metel*, L. See [AVS](#): 2, 305 (cf. *Abhidhānamāñjarī*), [NK](#): 1, #796 ff. [Potter<sub>rev</sub>](#): 292 f, [ADPS](#): 132. See Geeta and Gharaibeh 2007 and related literature for the evidence that all *Datura* species are originally a New World genus, introduced to S. Asia in pre-Columbian times. Note that *dhattūra* is mentioned three times the *Suśrutasaṃhitā* (4.17.37, 5.7.52, 53) but never in the *Carakasamhitā* or the *Bhelasamhitā*: 58, 444
- datura* (*dhuttūrakā*) see [datura](#) (*dhattūra*): 269
- deodar (*bhadradāru*) *Cedrus deodara*, (Roxb.ex D.Don) G. Don. See [AVS](#) 41, [NK](#): 1, #516: 52, 171, 177, 219, 272
- deodar (*devadāru*) *Cedrus deodara* (Roxb.) Loud. [GVDB](#): 206–207: 107, 172, 274, 386, 444
- deodar (*suradāru*) see [deodar](#) (*devadāru*): 255
- devil's dung (*hiṅgu*) *Ferula foetida* Regel., [GVDB](#): 471–472: 108, 109, 255
- dried ginger (*nāgara*) → [dried ginger](#) (*śuṇṭhī*) [GVDB](#): 221–222: 109, 256
- dried ginger (*śuṇṭhī*) *Zingiber officinale*, Roscoe. See [ADPS](#): 50, [NK](#): 1, #2658, [AVS](#): 5, 435, [IGP](#): 1232: 171, 444, 463
- dried meat (*vallūra*) [MW](#): 929, [Mahākośa](#): 1, 730. The term is used, rarely, in both the CS (1.5.10) and SS (1.13. 16, 6.42.75–76). It is a Dravidian loanword and occurs in the *Arthaśāstra* etc. ([KEWA](#): 3, 167): 43
- drum-giver (*lambaradā*) unknown; name from etymology. Cf. [GVDB](#): 348: 211
- durva grass (*dūrvā*) *Cynodon dactylon* (L.) Pers., [GVDB](#): 205, where some questions are raised about white and green varieties: 295, 448, 461
- eggplant (*vārtāku*) *Solanum melongena* L., [GVDB](#): 366: 166
- elixir salve (*rasāñjana*) cf. [Indian barberry](#) (*añjana*): 52, 62, 450
- embelia (*viḍaṅga*) *Embelia ribes*, Burm. f., [ADPS](#): 507, [AVS](#): 2, 368, [NK](#): 1, #929, [Potter<sub>rev</sub>](#): 113. Poisonous to fish and mammals, [WEP](#): 271: 52, 107, 164, 219, 255, 256, 272
- emblic myrobalan (*āmalaka*) *Phyllanthus emblica*, L. See [AVS](#): 4, 256: 107, 173, 175, 292, 293, 312, 463
- emetic nut (*madana*) *Randia dumetorum*,

- Lamk., [GVDB](#): 291–292 and [NK](#): 1, #2091: [201](#), [388](#), [456](#)
- false daisy (*bhr̥ṅga*) *Eclipta prostrata* (L.) L. See [GVDB](#): 288, but this is a new-world species: [107](#), [449](#)
- fermented rice-water (*dhānyāmla*) → *kāñjī*, *kāñjikā*, *sauvīra*. [GVDB](#): 458, [NK](#): 2, appendix VI, #18: [59](#), [60](#)
- fern (*ajaruhā*) *Nephrodium* species [GVDB](#): 7, uncertain. *Perhbaps Christella dentata* (Forssk.) Brownsey & Jermy, which is reported to have folk applications against skin diseases in India: [204](#)
- fire-flame bush (*dhātakī*) *Woodfordia fruticosa* (L.) Kurz. See [AVS](#): 5, 412, [NK](#): 1, #2626. Known to ancient Greek authors (Ball 1888: 344): [108](#), [201](#)
- five roots (*pañcamūla*) Described at *Suśrutasaṃhitā* 1.38.66–69 ([Su](#) 1938: 169). There are two *pañcamūlas*, the *laghupañcamūla* (the lesser five roots (*laghupañcamūla*) and greater five roots (*bṛhatpañcamūla*), with differing properties. Combined they are called *daśamūla* (ten roots). See also [Mahākośa](#): 1, 468: [107](#), [463](#)
- flame-of-the-forest (*kiṃśuka*) see [flame-of-the-forest](#) (*palāśa*), [GVDB](#): 97–98: [264](#)
- flame-of-the-forest (*palāśa*) *Butea monosperma* (Lam.) Taub. [GVDB](#): 241. *pālāśa* in some sources: [108](#), [166](#), [445](#)
- foxtail millet (*priyaṅgu*) also *śyāmā*. *Setaria italica* (L.) P. Beauvois [GVDB](#): 263–264, [GJM1](#): 576. The most widely-grown species of millet in Asia. Some say *Callicarpa macrophylla*, Vahl. See [AVS](#): 1, 334, [NK](#): 1, #420. The fruits of *S. italica* and *C. macrophylla* are similar. See also [GVDB](#): 413, where the authors suggest that *priyaṅgu* is meant by *gondī* or *gondanī* and may have originally been called *gundrabīja*: [52](#), [219](#), [227](#), [255](#), [256](#), [296](#), [312](#), [445](#), [449](#)
- foxtail millet (*priyaṅgū*) see [foxtail millet](#) (*priyaṅgu*): [274](#)
- fragrant lotus (*saugandhika*) A type of [white water-lily](#) (*kumuda*) or [blue water-lily](#) (*utpala*), [GVDB](#): 457: [43](#)
- frankincense (*śallakī*) *Boswellia serrata* Roxb., [GVDB](#): 392. Derived from several *Boswellia* species, e.g., *Boswellia sacra* Flueck, *Boswellia frereana* Birdw., etc. To be distinguished from [guggul](#) (*guggulu*): [266](#), [447](#), [450](#)
- fruit of the marking-nut (*āruṣkara*) see [marking-nut tree](#) (*aruṣkara*). “*āruṣkara* = *aruṣkara phala*” [ADPS](#): 23; see also [MW](#): 151: [256](#)
- gajpipul (*gajapippalī*) [GVDB](#): 469, 132, syn. *hastipippalī*. A controversial plant, but the conjecture of T. B. Singh and Chuneekar that *Scindapsus officinalis* (Roxb.) Schott is the more ancient identity is accepted here: [445](#), [470](#)
- gajpipul (*hastipippalī*) see [gajpipul](#) (*gajapippalī*), [GVDB](#): 469, 132: [272](#)
- galangal (*galaṅgala*) *Alpinia galanga* (L.) Sw. Identified with [grey orchid](#) in Kerala ([ADPS](#): 398). The name is borrowed from Chinese, perhaps via Persian or Arabic ([Peter](#): 2, 304), and the name does not occur in early āyurvedic literature ([GVDB](#)): [446](#)
- galls (*karkaṭa*) almost impossible to identify with certainty, [GVDB](#): 78–80. Perhaps *Toxicodendron succedaneum* (L.) Kuntze, 1891, see [NK](#): 1, #2136. Sometimes identified with [cucumber](#) (*trapuṣa*), which however is not toxic: [212](#), [445](#)
- galls (*karkaṭaka*) see [galls](#) (*karkaṭa*): [210](#)
- gamboge (*suvarṇakṣīrī*) see [gamboge](#) (*suvarṇakṣīrī*): [164](#)
- gamboge (*suvarṇakṣīrī*) [GVDB](#): 441, 461–462 describes the two varieties mentioned in the *Suśrutasaṃhitā*, and the three mentioned by Ḍalhana. Candidates are

- Garcinia morella (Gaertn.) Desr. (gamboge) and Euphorbia thomsoniana Boiss. The latter plant is native to Pakistan, Afghanistan and regions north (POWO); its latex is toxic on ingestion and dangerously irritant: 445
- garjan oil tree (*aśvakarṇa*) Dipterocarpus turbinatus Gaertn. f. See GVDB: 28, Chopra: 100: 225, 271, 274
- giant potato (*kṣīravidārī*) possibly → *kṣīraśukla*. Ipmoea mauritiana, Jacq. See ADPS: 510, AVS: 3, 222, AVS: 3, 1717 ff: 171, 450, 455, 457, 459
- ginger (*mahaśadha*) Zingiber officinale, Roscoe. See ADPS: 50, NK: 1, #2658, IGP: 1232: 205
- gold and sarsaparilla (*surendragopa*) Unknown. Ḍalhaṇa on 5.3.15 (Su 1938: 568) glossed *surendra* as “gold” and *gopā* as “Indian sarsaparilla.” He also noted other opinions that *surendra* was “Tellicherry bark”: 227
- golden shower tree (*rājadruma*) see golden shower tree (*āragvadha*): 226
- golden shower tree (*rājavyrkṣa*) see golden shower tree (*āragvadha*): 107
- golden shower tree (*āragvadha*) Cassia fistula L. GVDB: 37–38, ADPS: 48, AVS: 2, 11 ff, AVS: 2, 854, IGP: 215. Known to ancient Greek authors (Ball 1888: 343). The plant has many synonyms: 174, 254, 264, 266, 446
- gourd (*alābu*) Lagenaria siceraria Standl. GVDB: 25. Some say Lagenaria vulgaris, Seringe (NK: 1, #1419) but this is not appropriate for blood-letting: 39, 40, 201, 252
- gourd (*vallija*) see gourd (*vallīja*): 211
- gourd (*vallīja*) This is a guess. According to some lexical sources, syn. for black pepper (*marica*) (MW: 929). See NK: 1, #1929. T. B. Singh and Chunekar (GVDB: 362) note that *vallīphala* may be wax gourd (*kūṣmāṇḍa*), which I follow. The related spiny bitter gourd has poisonous seeds, but not flowers. Commenting on *Bṛhatsaṃhitā* 8.13ab and 16.24ab, Bhaṭṭotpala glossed it as *mudgādi*, “mung beans etc.”: 211, 446
- grapes (*drākṣā*) Vitis vinifera L. GVDB: 208–209: 256
- greater five roots (*bṛhatpañcamūla*) described at *Suśrutasaṃhitā* 1.38.68–69 (Su 1938: 169). Consists of Bengal quince (*bilva*), headache tree (*agnimantha*), Indian trumpet tree (*tiṇṭuka*), crimson trumpet-flower tree (*pāṭalā*), and white teak (*kāśmarī*): 445, 452, 463
- green gram (*māṣa*) Vigna radiata (L.) R. Wilcz. See ADPS: 296, IGP 1204: 52, 172, 387
- grey orchid (*rāśnā*) Vanda tessellata (Roxb.) Hook. ex G.Don, usually. But Pluchea lanceolata (DC.) C.B. Clarke, is a more common identification in Punjab and Gujarat (GVDB: 337–338); Alpinia galanga (L.) Sw. is more common in Kerala (ADPS: 398; Peter: 2, 303–318), though this is usually identified with galangal (*galaṅgala*). As all authorities note, the identification of this plant is debated. Sivarajan and Balachandran (ADPS: 398–401) note that sources describe it as having leaves like cardamom and sweet-smelling roots and that “there is great confusion with regard to the identity of the drug *rāśnā*”: 107, 171, 172, 255, 295, 445, 446
- grey orchid (*surabhi*) commonly identified with grey orchid (*rāśnā*), including by Ḍalhaṇa. GVDB: 438 note that “it has been identified differently in different places” and list various alternative synonyms including *rāśnā*, *śallakī*, *devadāru*, *tulasī*: 171, 172
- guggul (*guggulu*) Commiphora wightii



- (Arn.) Bhandari (GVDB: 140), also known as Indian bdellium-tree. This is a flowering shrub or small tree that produces a fragrant resin. The name sometimes refers to the plant and sometimes to the resin. Known to ancient Greek authors (Ball 1888: 340). Sometimes “yellow Indian frankincense” To be distinguished from *frankincense* (*śallakī*) : 182, 445, 450
- gummy gardenia (*pr̥thvikā*) ← *hīṅupatrikā*, *Gardenia gummifera* L.f., GVDB: 257, q.v. for discussion : 256, 274
- hairy bergenia (*pāṣāṇabheda*) *Bergenia ligulata* (Wall.) Engl. GVDB: 246–247 : 107
- hairy-fruited eggplant (*br̥hatī*) *Solanum lasiocarpum* Dunal. (syn. *S. ferox*, L. & *S. indicum* L.), GVDB: 277–278, who discuss the two kinds of *br̥hatī*, which may be large and small eggplants (*Solanum melongena* L.). See also ADPS: 100, NK: 1, #2329, AVS: 5, 151, IHR: 429–430 : 166, 174, 218, 219, 265, 266, 453
- halfa grass (*darbha*) *Demostachya bipinnata* Stapf. GVDB: 201. Synonym of *kuśa* : 110
- halfa grass (*kuśa*) *Desmostachya bipinnata*, (L.) Stapf. GVDB: 111, AVS: 2, 326 : 249, 272, 295
- hare foot uraria (*kroṣṭakamekhalā*) see *hare foot uraria* (*pr̥śniparṇī*) *Mahākośa*: 1, 246. *kroṣṭaka* can mean “jackal” *śṛgāla*, as in *śṛgālavinna*, “a kind of *pr̥śniparṇī*” *Mahākośa*: 1, 839 : 256
- hare foot uraria (*pr̥thakparṇī*) → *hare foot uraria* (*pr̥śniparṇī*) and *rajmahal hemp* (*mūrvā*) GVDB: 257. A component of *lesser five roots* : 174, 453
- hare foot uraria (*pr̥śniparṇī*) see *pr̥śniparṇī* : 440
- hare foot uraria (*pr̥śniparṇī*) → *sahā*? *Uraria lagopoides*, DC. and *U. picta* Desv. See GVDB: 257–258, GJM1: 577, Dymock: 1, 426, AVS: 1, 750 ff, NK: 1, #2542; ADPS: 382, AVS: 2, 319 and AVS: 4, 366 are confusing. Also called *pr̥thakparṇī*. A component of *lesser five roots* : 172, 447
- headache tree (*agnimantha*) *Premna serratifolia* L. See ADPS: 21, NK: 1, #2025, AVS: 4, 348–352; GJM1: 523. Many taxonomic synonyms, including *P. integrifolia*, *corymbosa*, etc. : 218, 446, 447
- headache tree (*vaijayantī*) see *headache tree* (*agnimantha*), GVDB: 382 : 166
- heart-leaf sida (*balā*) *Sida cordifolia*, Linn. See ADPS: 71, NK: 1, #2297. On the various types of *heart-leaf sida* (*balā*), see GVDB: 270–271, who point out that there are several species of *Sida*, e.g., *S. acuta*, *S. rhombifolia*, *S. spinosa* and *S. cordifolia* that may all be types of *balā* : 61, 171, 172, 175, 179, 219, 386, 443, 447
- heart-leaved moonseed (*amṛtā*) *Tinospora cordifolia* (Thunb.) Miers., synonym of *guḍūcī*. See ADPS: 38, NK: 1, #2472, 624, Dastur #229, GVDB: 17–18. Also *amṛta*, m. : 202, 218, 266, 267
- heart-leaved moonseed (*guḍūcī*) *Tinospora cordifolia*, (Thunb.) Miers. ADPS: 38, NK: 1, #2472 & #624, Dastur #229, GVDB: 141–142. Also identified as *Cocculus cordifolius* DC. by Nadkarni (NK) and others (see also the *Tropicos botanical database*). Also commonly called *amṛtā* : 107, 173
- heart-leaved moonseed (*somavallī*) *Tinospora cordifolia* (Thunb.) Miers. GVDB: 456. Likely, but uncertain : 202
- heart-leaved moonseed creeper (*amṛtavallī*) See *amṛtā* : 386
- hedge caper (*himsrā*) *Capparis sepiaria* L., GVDB: 471, IHR: 124, K&B: 1, 109 : 447
- hedge caper (*kākādanī*) synonym of *hedge caper* (*himsrā*), GVDB: 88, 471, IHR: 124, K&B: 1, 109. This name is not used in the *Carakasamhitā*. At 5.7.31

- (Su 1938: 583), Dalhaṇa glossed *kādādanī* as **black Bengal quince** (*kṛṣṇaśrīphalikā*). GVDB: vi, 471 note that they have identified *kādādanī* as *Cardiospermum halicacabum* L. “balloonvine” : 267
- henna** (*madayantikā*) *Lawsonia inermis*, L. See AVS: 3, 303, NK: 1, #1448, Potter<sub>rev</sub>: 151 : 203
- hibiscus** (*ambaṣṭhā*) possibly *Hibiscus rosa-sinensis* L. T. B. Singh and Chuneekar (GVDB: 18–19) discuss the confusions surrounding the identity of this plant, and especially between this plant and **velvet-leaf** (*pāṭhā*); they must be different items. T. B. Singh and Chuneekar propose that *ambaṣṭhā* is either the fruit of *Hibiscus* or the galls of a *Quercus* or *Tamarix* species. According to Meulenbeld 1974b: 599, *vanakārpāsī* is more likely a name for a *hibiscus* : 257
- Himalayan birch** (*bhūja*) see **Himalayan birch** (*bhūrja*) : 272
- Himalayan birch** (*bhūrja*) *Betula utilis* D. Don, GVDB: 287 : 448
- Himalayan mayapple** (*vakra*) *Podophyllum hexandrum*, Royle (NK: #1971), K&B: 1, 68. But perhaps a synonym of **crape jasmine** (*tagara, nata* q.v. (GVDB: 354)) : 227, 255, 256, 266, 267, 295
- Himalayan yew** (*sthaṇṇeya*) see **Himalayan yew** (*sthaṇṇeyaka*) : 274
- Himalayan yew** (*sthaṇṇeyaka*) T. B. Singh and Chuneekar (GVDB: 458–459) suggested *Taxus baccata* L., but that tree is endemic to the Mediterranean and not South Asia. Poudel, Gao, Möller, et al. 2013 show that *T. contorta* Griff., *T. mairei* (Lemée & Lév.) and *T. wallichiana* Zucc. are distributed in the Hindu Kush - Himalaya region. The Nepalese name *Thuneraka* is etymologically cognate with the Sanskrit name. *T. contorta* is of medicinal importance, so its common name is used here : 255, 448
- hog plum** (*āmṛātaka*) *Spondias pinnata* (L.f.) Kurz, GVDB: 37, ADPS: 36–37. A member of the *ambaṣṭhādi* group : 128, 296
- hogweed** (*punarnavā*) *Boerhaavia diffusa*, L. See ADPS: 387, AVS: 1, 281, NK: 1, #363 : 174, 203, 218, 257, 448
- hogweed** (*punarnavā*) see **hogweed** (*punarnavā*) : 266
- hogweed** (*punarnavā*) see **hogweed** (*punarnavā*) : 269
- hogweed** (*varṣābhū*) see **hogweed** (*varṣābhū*) : 266
- hogweed** (*varṣābhū*) see **hogweed** (*punarnavā*). According to GVDB: 361, it is *Trianthema portulacastrum* L., but this is mainly known from Africa and the new world. The name is often considered a synonym for **hogweed** (*punarnavā*) : 448
- Holostemma creeper** (*jīvantī*) → *sūryavallī*? *Holostemma ada-kodien*, Schultes. See ADPS: 195, AVS: 3, 167, 169, NK: 1, #1242 : 175, 457
- holy basil** (*surasa*) *Ocimum tenuiflorum*, Linn. GVDB: 438–439. Not always distinguished from *O. basilicum* L., Watt<sub>Dict</sub>: 5, 443 : 257, 290
- honey** (*kṣaudra*) Eight varieties of honey are described in the *Suśrutasaṃhitā* (NK: 2, Appendix 192). *Kṣaudra* is the product of a small bee of tawny colour, called *kṣudra* : 182, 205, 312, 313
- horned pondweed** (*śaivāla*) also *śaivāla, śevāra*. *Zannichellia palustris* L. The uncertainties of this identification are discussed by T. B. Singh and Chuneekar (GVDB: 409). Sometimes identified with **durva grass** (*dūrvā*) (GVDB: 409). Identified as *Ceratophyllum demersum* Linn. (“hornwort”) by AVS: 2, 56–57x : 173, 449, 458

hornwort (*jalaśūka*) → *jalanīlikā*.

*Ceratophyllum demersum*, L. See [AVS: 2, 56](#), [IGP: 232](#). T. B. Singh and Chuneekar ([GVDB: 166](#)) suggest [horned pondweed](#). Ḍalhaṇa noted on 1.16.19 ([Su 1938: 79](#)) that some people interpret it as a poisonous, hairy, air-breathing, underwater creature: [61](#)

horse gram (*kaulattha*) See [horse gram](#) (*kulattha*): [250](#)

horse gram (*kulattha*) *Macrotyloma uniflorum* (Lam.) Verdcourt, syn. *Dolichos biflorus*, L., *D. uniflorus*, Lam., [GVDB: 109](#), [POWO: sub Macrotyloma uniflorum: 178, 254, 275, 449](#)

horseradish tree (*akṣīva*) see [horseradish tree](#) (*śigru*). [GVDB: 2–3, 27](#) discusses the contradictions in identifying this plant. I am adopting the most common traditional identification with *śigru* (Meulenbeld [2009: 77](#), note 12), although [chinaberry tree](#) (*mahānimba*) is also likely. The suggestion by T. B. Singh and Chuneekar about the name being an erroneous reading for *akṣīra*[*aśmantaka*] cannot stand since the name occurs in a ninth-century *Suśrutasamhitā* manuscript. This occurrence in the *Suśrutasamhitā* was not known to the definitive study by Meulenbeld ([2009: 77–78](#)): [296](#)

horseradish tree (*kṛṣṇagandhā*) see [horseradish tree](#) (*śigru*), [GVDB: 115: 166](#)

horseradish tree (*madhukaśigru*) See [horseradish tree](#) (*śigru*), [GVDB: 398–399: 272](#)

horseradish tree (*murungī*) see [horseradish tree](#) (*śigru*), ([GVDB: 311](#)): [256](#)

horseradish tree (*śigru*) *Moringa oleifera* Lam. See [IGP: 759](#), [GJM1: 603](#), [Dymock: 1, 396](#), [GVDB: 398–399](#), [K&B: 1, 396–399, #336](#). The definitive study is that by Meulenbeld ([2009](#)),

who suggested that the name may have denoted pungent, pro-pitta plants, while Spiers ([2022](#)) took this further, suggesting that “*śigru*” may historically have referred more generally to plants with a sharp taste, perhaps including garlic: [172, 174, 449](#)

hyacinth beans (*niṣpāva*) *Lablab purpureus* (L.) Sweet (1826) [GVDB: 228: 161](#)

Indian aconite (*ativiṣā*) *Aconitum ferox*, Wall. ex Ser., or perhaps *A. heterophyllum* Wall. ex Royle, [GVDB: 12, NK: 1, #39](#). Also called “atis roots” or just *viṣā*. *A. ferox* is also called aconite, monkshood, wolfsbane, etc. *A. ferox* is extremely poisonous. See also [Indian aconite](#) (*vatsanābha*). It grows especially in mountainous Sikkim: [162, 203, 205, 227, 272, 274, 449](#)

Indian aconite (*bhaṅgurā*) alternate name of [Indian aconite](#) (*ativiṣā*) or [foxtail millet](#) (*priyaṅgu*), [MW: 744](#); in SS 5.2.5, I have taken it as the former. [GVDB: 288](#) have *bhaṅgarā* as a variant of [false daisy](#) (*bhr̥ṅga*), but that is not toxic: [449](#)

Indian aconite (*subhaṅgurā*) see [Indian aconite](#) (*bhaṅgurā*), it’s usual form, without the prefix *su-* “good”: [210](#)

Indian aconite (*vatsanābha*) *Aconitum ferox*, Wall. ex Ser. Cf. [AVS: 1, 47](#) (*A. Napellus*, L., wolfsbane, is European and now taxonomically separated from *A. ferox*), [NK: 1, #42](#), [Potter<sub>rev</sub>: 4 f.](#) *A. chasmanthum* Stapf ex Holmes according to [GVDB: 357](#), but that is distributed in Pakistan, Afghanistan and Tibet, Mongolia and Siberia. “*vatsanābha*” occurs in only once in the *Carakasamhitā* and thrice in the *Suśrutasamhitā* (4.23.11 ([Ca 1941: 571](#)), 5.2.5, 6, 12 ([Su 1938: 564](#))): [212, 213, 438, 449](#)

Indian aconite (*viṣā*) see [Indian aconite](#) (*ativiṣā*), [GVDB: 12, 373: 458](#)

Indian barberry (*añjana*) see [Indian](#)

- barberry (*dāruharidrā*) Cf. elixir salve (*rasāñjana*) : 62, 204, 444
- Indian barberry (*dāruharidrā*) *Berberis holstii* Engl., *Dymock*: 1, 65, *NK*: 1, #335, #685, *GJM*<sub>1</sub>: 562, *IGP*: 141, *GVDB*: 203 : 218, 219, 290, 449, 450, 463
- Indian barberry (*dārvī*) see *Indian barberry* (*dāruharidrā*) : 313
- Indian barberry (*kālīyaka*) see *Indian barberry* (*dāruharidrā*) : 202
- Indian bat tree (*śuṅḡā*) → *parkaṭīvrkṣa* according to *Śabdāsindhu*: 1058; idem also suggests *vaṭavrkṣa*, i.e., *Ficus benghalensis* Linn. and *āmratāka*, *Spondias pinnata* (L.f.) Kurz. (native to S.E Asia but naturalized in S. Asia). Contrasted with *vaṭa* at *Suśrutasamhitā* 3.2.32. Cf. *MW*: 1081. : 111
- Indian bdellium-tree (*guggula*) See *guggulu* (*guggulu*) : 255, 299
- Indian beech (*naktamāla*) *Pongamia pinnata*, (L.) Pierre. See *AVS*: 4, 339, *NK*: 1, #2003 : 52, 166
- Indian cherry (*śelu*) *Cordia myxa*, L. non Forssk. See *GJM*<sub>1</sub>: 529 (2), *IGP*: 291b, cf. *AVS*: 3, 1677 f; cf. *AVS*: 2, 180 (*C. dichotoma*, Forst.f.), *NK*: 1, #672 (*C. latifolia*, Roxb.). See *Indian cherry* (*śleṣmātakī*) : 174, 218, 296
- Indian cherry (*śelū*) see *Indian cherry* (*śleṣmātakī*), *GVDB*: 408 : 274
- Indian cherry (*śleṣmātaka*) see *Indian cherry* (*śleṣmātakī*) : 296
- Indian cherry (*śleṣmātakā*) see *Indian cherry* (*śleṣmātakī*) : 272
- Indian cherry (*śleṣmātakī*) *Cordia dichotoma* G. Forst., *AVS*: 2, 180–183. See *POWO*: *C. dichotoma*; *Cordia myxa* L., according to T. B. Singh and Chuneekar (*GVDB*: 413–414), although they also suggest *C. dichotoma* (synonym of *C. wallichii* G. Don.) and *C. rothii* (synonym of *Cordia sinensis* Lam.) : 256, 450
- Indian dill (*śatapušpa*) see *Indian dill* (*śatapušpā*) : 172
- Indian dill (*śatapušpā*) *Anethum graveolens* L. May also be *Foeniculum vulgare* Mill. See *GVDB*: 388 for discussion : 175, 274, 296, 450
- Indian elm (*cirabilva*) *Holoptelea integrifolia* (Roxb.) Planch. *GVDB*: 158, who also say that *pūtika* is a synonym; but that must be different than *pūtikā* : 450
- Indian elm (*ciribilva*) see *Indian elm* (*cirabilva*) : 272
- Indian frankincense (*agamṛttikā*) see *frankincense* (*śallakī*), according to Ḍalhaṇa's comment on *Suśrutasamhitā* 5.7.29. A variant form of *Indian frankincense* (*agavṛttikā*) : 266
- Indian frankincense (*agavṛttikā*) see *frankincense* (*śallakī*), *GVDB*: 3, 392 : 450
- Indian frankincense (*gajavṛttikā*) *Boswellia serrata* Roxb.; equated with *frankincense* (*śallakī*) by some, *GVDB*: 392. See also *Indian frankincense* (*nagavṛttikā*) : 256
- Indian frankincense (*nagavṛttikā*) see *frankincense* (*śallakī*) : 450
- Indian fumitory (*parpaṭa*) the ancient plant is probably impossible to identify, and many alternatives are used today, including especially *Fumaria* species (*GVDB*: 239–240). I have chosen *Fumaria indica* (Hausskn.) Pugsley, which can be poisonous : 450
- Indian fumitory (*reṇu*) see *Indian fumitory* (*parpaṭa*), *GVDB*: 339. To be distinguished from *pollen* (*reṇukā*) : 211
- Indian ipecac (*payasyā*) Uncertain. Possibly *Tylophora indica* (Burm.f.) Merr. Perhaps a synonym of *panacea twiner*, *giant potato*, *purple roscoca*, and *plants like asthma plant and Gulf sandmat* (*GVDB*: 237–238). Also “curds” when not a plant : 61, 173, 451, 457
- Indian jujube (*sauvīraka*) *Zizphus jujuba*

- Mill., *GVDB*: 458, *MBG*: sub jujuba : 250  
 Indian kudzu (*vidārī*) see also *Indian ipecac* (*payasyā*). *Pueraria tuberosa* (Willd.) DC. See *ADPS*: 510, *AVS*: 1, 792 f, *AVS*: 4, 391; not *Dymock*: 1, 424 f. See *GJM2*: 444, 451, *AVS*: 1, 187, but *AVS*: 3, 1719 = *Ipomoea mauritiana*, Jacq : 61, 107
- Indian laurel (*plakṣa*) *Ficus microcarpa*, L. f. See *ADPS*: 377 : 272
- Indian madder (*mañjiṣṭhā*) *Rubia cordifolia*, L. See *IGP*, Chopra: 215, *GVDB*: 289 : 57, 219, 255, 256, 265, 272
- 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) : 41
- Indian mustard (*sarṣapa*) *Brassica juncea*, Czern. & Coss. See *AVS*: 1, 301, *NK*: 1, #378, *GVDB*: 426–427, without suggestion of any poisonous tuber : 44, 272, 295, 451
- Indian mustard derivative (*sārṣapa*) this would normally mean “derived from *Indian mustard* (*sarṣapa*).” Excessive consumption of mustard oil can be harmful. This seems not to fit in a list of tuber poisons (SS 5.2.11–17). However, the *Sauśrutaniḡhaṇṭu* (156) gives *raṣṣoghñā* as a synonym for *sarṣapā*. This can be *Semecarpus anacardium*, L.f., which has some poisonous parts (“the black fruit is toxic and produces a severe allergic reaction if it is consumed or its resin comes in contact with the skin” M. Semalty, A. Semalty, Badola, et al. 2010). But this is still not a tuber product : 213
- Indian pennywort (*maṇḍūkapaṇṇī*) *Centella asiatica* (L.) Urban. See *GVDB*: 290, *ADPS*: 289–291, Emmerick 1984: 104–106 : 257
- Indian sarsaparilla (*sugandhikā*) see *Indian sarsaparilla* (*śvetasārivā*) *GVDB*: 430, 436 : 256, 274
- Indian sarsaparilla (*sārivā*) → *anantā*. The *śveta* variety is *Hemidesmus indicus*, (L.) R. Br. *ADPS*: 434, *AVS*: 3, 141–145, *NK*: 1, #1210, *GVDB*: 430; and the black form, black creeper, *pālindī*. *Ichnocarpus frutescens*, (L.) R.Br. or *Cryptolepis buechanani*, Roemer & Schultes *AVS*: 3, 141, 145, 203, *NK*: 1, #1283, 1210, *ADPS*: 429–430 : 219, 440, 446, 451
- Indian sarsaparilla (*śvetasārivā*) *Hemidesmus indicus*, (L.) R. Br. See *Indian sarsaparilla* (*sārivā*). *ADPS*: 434, *AVS*: 3, 141–145, *NK*: 1, #1210, *GVDB*: 430 : 451
- Indian snakeroot (*nākulī*) see *Indian snakeroot* (*sarpagandhā*). See *GVDB*: 219 for discussion of the difficulties in this identification : 294
- Indian snakeroot (*sarpagandhā*) *Rauvolfia serpentina*, (L.) Benth. ex Kurz. See *NK*: 1, #2099, *ADPS*: 439, *GVDB*: 425; cf. SS 5.5.76–78 : 257, 451
- Indian snakeroot (*sarvagandhā*) common spelling in Nepalese MSS for *Indian snakeroot* (*sarpagandhā*), q.v. : 266
- Indian spinach (*pūtika*) see *Indian spinach* (*pūtikā*) : 166
- Indian spinach (*pūtikā*) *Basella alba*, L. See *NK*: 1, #318 (*rubra*), *ADPS*: 489, *AVS*: 1, 253, *IGP*: 129b : 451
- Indian symphorema (*ananta*) Not in *GVDB* but *MW*: 25 says “*sinduvāra*” on no authority (see *Indian symphorema* : 272
- Indian symphorema (*sinduvāra*)



- T. B. Singh and Chuneekar (GVDB: 435) settles on *Symphorema polyandrum* Wight as the identity of this plant. Other authors choose *Vitex negundo* Linn. See further NK: 1, #2603 (cf. use of leaves), IGP: 1210a, MW: 1088b. Discussion by GVDB: 433–435: 255, 257, 265, 274, 451
- Indian trumpet tree (*śyonāka*) *Oroxylum indicum* (L.) Benth. ex Kurz. GVDB: 172–173. A component of greater five roots: 452
- Indian trumpet tree (*tuṇṭuka*) → Indian trumpet tree (*śyonāka*). *Oroxylum indicum* (L.) Benth. ex Kurz. GVDB: 172–173. A component of greater five roots: 446
- Indian trumpet tree (*tuṇṭuka*) see Indian trumpet tree (*śyonāka*), GVDB: 172–173: 272
- Indian willow (*vañjala*) see Indian willow (*vañjala*): 295
- Indian willow (*vañjala*) see Indian willow (*vetasa*); see GVDB: 356 for discussion. Doubts about this identification go back as far as Jejjāṭa (Ḍalhaṇa on 5.8.105 (Su 1938: 592)). T. B. Singh and Chuneekar (GVDB: 356) noted that this is a tree in the *nyagrodha* group and has sometimes been equated with *Asoka tree* (*aśoka*) and sometimes with *sandan* (*tiniśa*): 173, 272, 295, 452, 466
- Indian willow (*vetasa*) *Salix tetrasperma* Roxb, GVDB: 380–381, q.v. for the argument that this is not the same as *rattan* (*vetra*). The identification of *vetasa* with *Salix caprea* L. is unlikely since the distribution of that *S. caprea* does not include S. Asia: 452, 455
- indigo (*nīlinī*) *Indigofera tinctoria*, L. See NK: 1, #1309. GVDB: 229–230 propose that this may differ from *indigo* (*nīlī*), and be rather the *Ipomoea hederacea* Jacq., “ivy-leaved morning glory.” But that plant is native to the Americas, as are most *Ipomoea* species. *I. tinctoria* was known to ancient Greek authors (Ball 1888: 343): 267, 452
- indigo (*nīlā*) see *indigo* (*nīlinī*). Although T. B. Singh and Chuneekar (GVDB: 229) refer to an unidentified creeper mentioned in *Carakasamhitā* Ci.1-4.7, the use in the Nepalese *Suśrutasaṃhitā* 5.6.24 is likely to refer to *indigo* (*nīlī*): 266
- indigo (*nīlī*) see *indigo* (*nīlinī*): 274, 452
- Indrajao (*indrayava*) see *vrkṣaka* (Indrajao) *Holarrhena pubescens* Wall. ex G. Don 1837 GVDB: 376, 45 and 84: 162
- Indrajao (*vrkṣaka*) → *indrayava*, *indrabīja*, *kaliṅga*, and *kuṭaja*. *Holarrhena pubescens* Wall. ex G. Don 1837 GVDB: 376, 45 and 84: 109, 386, 452
- ironwood tree (*nāgakeśara*) *Mesua ferrea* L. GVDB: 220: 463
- itchytree (*nicula*) *Barringtonia acutangula* (L.) Gaertn., GVDB: 224: 272
- jambul (*jambū*) *Syzygium cumini*, (L.) Skeels. See ADPS: 188, NK: 1, #967, Potter<sub>rev</sub>: 168, Dominik Wujastyk 2003a: 201, 313, 455
- jequirity (*guñjā*) see *jequirity* (*kālakūṭā*): 210, 211
- jequirity (*kālakūṭa*) see *jequirity* (*kālakūṭā*): 213
- jequirity (*kālakūṭā*) possibly *Abrus precatorius*, L. See AVS: 1, 10, NK: 1, #6, Potter<sub>rev</sub>: 168. Jequirity contains a dangerous toxin called *Abrin* in its seeds and to a lesser extent in its leaves, but apparently not in its roots or bulb. *Abrin* is not harmful if eaten, but an infusion of the bruised (not boiled) seeds injected or rubbed in the eyes can be fatal (NK: # 6). The dose can be quite small. The Nepalese witnesses agree on the feminine form, *kālakūṭā*, while the more normal gender is masculine. The etymology of the name *kāla-kūṭa*, “black-top,” fits with the

- striking appearance of jequirity seeds. **GVDB**: 93 does not attempt to identify the plant. The *Rasaratnasamuccaya* of pseudo-Vāgbhaṭa (21.14) says that the *kālakūṭa* poison is similar to “crow’s beak” (*kākacañcu*), which is a more certain name for jequirity. The *Rājanighaṇṭupariśiṣṭa* (9.35) gives *kālakūṭaka* as a synonym for *kāraskara*, or *Strychnos nux-vomica*, L., whose seeds are notoriously poisonous. Another hypothesis for the name, which could be translated “time/death-peak” might connect it with Sandakphu mountain, whose name is Lepcha for “the height of the poisonous plant” because of the abundance of *Aconitum ferox* on the mountain : 212, 452
- kadam flowers (*kādamba*) conjectural, based on **burflower tree** (*kadamba*). *kādamba* is a hapax, “a kind of flower poison” **GVDB**: 90. Kadam flowers are not reported to be toxic : 211
- koda millet (*kodrava*) *Paspalum scrobiculatum* L., **GVDB**: 119 : 183
- kumkum tree (*kampillaka*) *Mallotus philippensis* (Lam.) Muell.Arg., **GVDB**: 74. **AVS**: 3, 375–379 describes the different plant used in Kerala, with the variant name *kampippāla* and **ADPS**: 203–205 cites this as a good example of how Sanskrit plant identities can be misinterpreted in Kerala : 453
- kumkum tree (*kampilya*) see **kumkum tree** (*kampillaka*) : 164, 295
- kutki (*kaṭurohiṇī*) see **kutki** (*kaṭukā*), **GVDB**: 66, 64–65, 66; possibly a scibal error in MS H at SS.4.5.8 : 173
- kutki (*kaṭukā*) *Picrorhiza kurroa* Royle ex Benth. (**GVDB**: 64–65) : 162, 182, 453, 456
- kutki (*kaṭurohaṇī*) → **kutki** (*kaṭukā*), **GVDB**: 66, 64–65 : 255
- kutki (*kaṭurohiṇī*) see **kutki** (*kaṭukā*), **GVDB**: 66, 64–65, 66 : 274
- leadwort (*citraka*) *Plumbago zeylanica* (or *indica? rosea?*), L. The roots of both rose and white leadwort are very toxic. Cf., *Rājanighaṇṭu* 6.124 and see **ADPS**: 119, **NK**: 1, #1966, 1967 : 52, 108, 162, 166, 181, 255, 453
- leadwort (*pālaka*) see **leadwort** (*citraka*) : 212, 213
- leadwort (*vidyutśikhā*) see **leadwort** (*citraka*) : 210
- lemongrass (*lāmajja*) *Cymbopogon iwarancusa* (Jones ex Roxb.) Schult. See **NK**: 1, #176, **POWO**: <https://powo.science.kew.org/taxon/396948-1>. **GVDB**: 350 points out that the identity of this grass remains uncertain, though it one of the two *uśīras*. The Linnean name *C. iwarancusa* derives from William Jones’ use of the Sanskrit name *jvarāṇkuśa* for this plant : 199, 453, 464
- lemongrass (*lāmajjaka*) see **lemongrass** (*lāmajja*) : 295, 296
- lemongrass (*uśīrabheda*) see **lemongrass** (*lāmajja*) : 464
- lesser five roots (*laghupañcamūla*) Described at *Suśrutasaṃhitā* 1.38.66–67 (**Su** 1938: 169). Consists of **bull’s head** (*trikaṇṭaka*), **hairy-fruited eggplant** (*bṛhatī*), **yellow-berried nightshade** (*kaṇṭakārī*), **hare foot uraria** (*pr̥thakparṇī*), and **beggarweed** (*vidārīgandhā*) : 441, 445, 447, 463, 467
- liquorice (*klītaka*) *Glycyrrhiza glabra*, L. **GVDB**: 123–124 discuss the many difficulties in identifying this plant, and suggest *Hygrophila auriculata*, Schumacher (marsh barbel) and *Sesbania bispinosa* (Jacq.) W.Wight (prickly sesban), neither of which is noted for toxic roots (as mentioned in SS 5.2.5). Lüde, Vecchio, Sinno-Tellier, et al. 2016 identify *G. glabra* as a cause of poisoning, sometimes severe, when

- used as a food, but do not specifically mention the root : 210
- liquorice (*madhuka*) also *yaṣṭi* (*ka/kā*), *yaṣṭimadhuka*, *Glycyrrhiza glabra*, L. AVS: 3, 84, NK: 1, #1136, GVDB: 329 f. : 61, 107, 171, 173–175, 178, 180, 205, 217, 219, 255, 272, 274, 296, 313, 454
- liquorice (*yaṣṭimadhu*) see liquorice (*madhuka*) : 442
- liquorice (*yaṣṭī*) see liquorice (*madhuka*) : 256
- liquorice (*yaṣṭimadhuka*) see liquorice (*madhuka*) : 62
- lodh tree (*lodhra*) *Symplocos racemosa*, Roxb. See GJM1: 597, ADPS: 279 f, NK: 1, #2420. T. B. Singh and Chuneekar (GVDB: 351–352) notes that there are two varieties, *S. racemosa*, qualified as *sāvāra*, and *S. crataegoides* Buch.-Ham. for *paṭṭikā lodhra* : 52, 219, 255, 313
- long pepper (*kṛṣṇā*) see long pepper (*pippalī*) : 312
- long pepper (*māgadha*) see long pepper (*pippalī*) : 204
- long pepper (*pippali*) see long pepper (*pippalī*) : 255
- long pepper (*pippalī*) *Piper longum*, L. See ADPS: 374, NK: 1, #1928, GVDB: 249–250, but cf. AVS: 3, 245 : 107, 166, 174, 181, 182, 205, 219, 272, 275, 312, 386, 454, 463
- long pepper root (*pippalīmūla*) see long pepper (*pippalī*) : 272
- long-stamen *Wendlandia* (?) (*tilaka*) see climbing diamond flower (*prapaunḍarika*), GVDB: 183–184. Sometimes thought to be a synonym of *viburnum* (*tilvaka*), q.v., but this is probably erroneous : 274, 465
- lotus (*nalina*) see sacred lotus (*kamala*), GVDB: 218 : 312, 313
- lotus stalk (*mṛṇālā*) “Leaf stalk of sacred lotus (*kamala*)” GVDB: 318 : 173
- luffa (*jālīnī*) see luffa (*koṣātakī*), GVDB: 168 : 212, 264, 265
- luffa (*koṣavatī*) see luffa (*koṣātakī*) : 218
- luffa (*koṣātakī*) *Luffa cylindrica*, (L.) M. J. Roem. or *L. acutangula*, (L.) Roxb. ADPS: 252–253, NK: 1, #1514 etc. “*Koṣātakī* appears to be used in a general way for all the fruit drugs of the family *Cucurbitaceae* which have a net-like structure of fibres in the pulp. It thus includes nearly all *Luffa* species...” GVDB: 121 : 454
- mahua (*madhūka*) *Madhuca longifolia*, (J. Koenig) J. F. Macbride. See AVS: 3, 362 f. Known to ancient Greek authors (Ball 1888: 339–340) : 107, 171, 316–318
- maidenhair fern (*haṃsāhvayā*) *Adiantum lunulatum* Burm f. GVDB: 463 : 386
- Malabar nut (*aṭarūṣaka*) *Justicia adhatoda* L. GVDB: 34, 367 : 166
- malabathrum (*patra*) *Cinnamomum tamala*, (Buch.-Ham.) Nees. See AVS: 2, 84, NK: 1, #589. Other common names include Indian bay leaf etc., but the plant has an ancient history in the classical world as “malabathrum.” See Ball 1888: 341, who also suggests that the chief source of the plant in India is Assam. See also Wikipedia contributors 2025d. Kokoszko and Rzeźnicka (2018: 581) discuss the abbreviations “leaf” (*φύλλα*, *folium*) in the Mediterranean world that parallels the Sanskrit usage. Kokoszko and Rzeźnicka 2018: 584 note that Dioscorides (fl. 1st cent. CE) stated that malabathrum came from India, although Dioscorides’ description of malabathrum is of a plant like a *Nymphoides indica* (L.) Kuntze, not a tree (Osbaldeston and Wood 2000: 17) : 164, 173, 202, 219, 264, 274, 463
- malaxis orchid (*jīvaka*) “one of the group of eight drugs called *Aṣṭavarga* about whose identity nothing definite is known” (GVDB: 169–170). Identified unproblematically as *Malaxis*



- acuminata D.Don by [ADPS](#): 367–370 : 172, 438
- Malay beechwood (*śrīparṇī*) → *kāśmarī*.  
Gmelina arborea Linn., [GVDB](#): 412, 96–97 : 107
- maloo creeper (*aśmantaka*) T. B. Singh and Chuneekar ([GVDB](#): 27) note that this is the name of two different drugs, *Piliostigma malabaricum* (Roxb.) Benth. or *Phanera vahlii* (Wight & Arn., 1834) Benth. (non-lactiferous), and *Ficus cordifolia* Roxb. (lactiferous). I have selected *P. vahlii* in this context because of its abundance in S. Asia and its Himalayan and Nepalese distribution : 257, 272
- mandarin orange (*nāraṅga*) Citrus reticulata Blanc., [GVDB](#): 223. Genetic studies have shown that the mandarin, as also the Citron, is one of the earliest citrus fruits and the ancestor of many other family members including sweet oranges. Wild mandarin is one of the pure ancestral citrus taxa (Fuller, Castillo, Kingwell-Banham, et al. 2017). The citron is native to south India, the east coast and the Himalayan foothills (ibid., Fig.1). The *C. indica*, Yu. Tanaka, or Indian Wild Orange, is indigenous to Meghalaya (idem). (Wikipedia contributors 2026) includes a useful diagram of genetic descent created by Chiswick Chap. : 442
- mango (*āmra*) *Mangifera indica* Linn. [GVDB](#): 37 : 128, 201, 257, 272, 312, 313
- mangosteen (*amla*) *Garcinia pedunculata* Roxb. ex Buch.-Ham. See [GVDB](#): 20–21 : 165, 254, 290
- marking-nut tree (*aruṣkara*) see marking-nut tree (*bhallātaka*) : 211, 445
- marking-nut tree (*bhallātaka*) *Semecarpus anacarium*, L. See [NK](#): 1, #2269, [AVS](#): 5, 98, [ADPS](#): 85–86, [GVDB](#): 23, 283 : 166, 204, 455
- marsh barbel (*ikṣuraka*) *Hygrophila auriculata*, Schumach. (multiple synonyms, including *Asteracantha longifolia* (L.) Nees), [GVDB](#): 42–43. See marsh barbel (*nādeyī*) : 272, 455
- marsh barbel (*kokilākṣa*) *Hygrophila auriculata*, Schumach., [ADPS](#): 249; see marsh barbel (*nādeyī*) : 455
- marsh barbel (*nādeyī*) *Hygrophila auriculata*, Schumach. Only occurs at *Suśrutasaṃhitā* 4.4.32 and not in the *Carakasaṃhitā*. In the *Mahākośa*: 441, later sources are cited that identify it with “a kind of Indian willow (*vetasa*),” “a kind of jambul (*jambū*)” “nutgrass (*mustā*),” and so on. [ADPS](#): 249 identifies it with marsh barbel (*kokilākṣa*) because it grows in marshy ground. See marsh barbel (*ikṣuraka*) : 166, 455
- medhshingi (*vijayā-poison*) *Dolichandrone falcata* (Wall. ex DC.) Seem. This identification is tenuous. The *Sauśrutasaṃhitā* gives a number of synonyms for *vijayā* (Suvedī and Tivārī 2000: 5.77, 10.143). But one of them, *viṣāṇī* (also *meṣaśṛṅgi*), is sometimes equated with *Dolichandrone falcata* (DC.) Seemann, [GVDB](#): 373 f; [ADPS](#): 518, a plant used as an abortifacient and fish poison ([NK](#): #862) : 210, 211
- milk-white (*kṣīraśuklā*) An unidentified plant. [GVDB](#): 126: see purple roscoe and giant potato : 61, 459
- monkey (*markaṭa*) name from etymology. T. B. Singh and Chuneekar ([GVDB](#): 299) said of *markaṭa*, “an unidentified vegetable poison.” Cf. Suvedī and Tivārī 2000: v.36 for synonyms that lead to the non-toxic jujube tree : 214
- mountain gardenia (*karaghāṭa*) synonym for mountain gardenia (*karaghāṭaka*) and probably mountain gardenia (*karahāṭa*), q.v., [GVDB](#): 74 : 210, 456
- mountain gardenia (*karaghāṭaka*) see

- mountain gardenia (*karahāṭa*) : 211, 271, 455
- mountain gardenia (*karahāṭa*) *Ceriscoides turgida* (Roxb.) Tirveng. (syn. *Gardenia turgida*), following the suggestion of GVDB: vi, 77 made partly on the basis of local knowledge in U. P. The ripe fruit of *C. turgida* is poisonous. Other authors suggest identity with **emetic nut** (*madana*), q.v. T. B. Singh and Chunekar (GVDB: 74, 77–78) noted that *karahāṭa* may be a synonym for **mountain gardenia** (*karahāṭa*) : 210, 455, 456
- mountain gardenia (*karaṭā*) see **mountain gardenia** (*karahāṭa*), as read for *karaṭā* in the vulgate text of SS 5.2.5. Not in GVDB as such. This poisonous root cannot at present be securely identified, although mountain gardenia has poisonous fruits. Monier-Williams, Leumann, Cappeller, et al. (MW: 255) cite an unknown lexical source that equates *karaṭa* (mn.) with safflower (*Carthamus tinctorius*, L.), but this plant does not have a poisonous root either : 210
- muddy-bulb (*kardamaka*) unknown; name from etymology. MW: 258 records variously, a kind of “rice, poisonous bulb, snake or erysipelas” with references to *Suśrutasaṃhitā* and *Carakasamhitā* : 212, 213
- mulberry (*kramuka*) probably the **mulberry** (*tūda*); see discussion by T. B. Singh and Chunekar (GVDB: 122) : 256
- mulberry (*tūda*) *Morus indica* L., GVDB: 189 : 456
- mung beans (*mudga*) *Phaseolus radiatus* L. GVDB: 310–311 : 172, 176, 319
- mung beans (*māṣaka*) *Phaseolus mungo* Linn. GVDB: 308 : 202
- munj grass (*nārācaka*) *Saccharum bengalense*, Retz.?. See NK: 1, #2184 : 211
- munj sweetcane (*muñja*) *Tripidium bengalense* (Retz.) H.Scholz., GVDB: 309, 391. Synonym of **munj sweetcane** (*śara*) : 295
- munj sweetcane (*śara*) *Tripidium bengalense* (Retz.) H.Scholz., GVDB: 309, 391 : 456
- musk mallow (*latākastūrikā*) *Abelmoschus moschatus* Medik., GVDB: 348 : 456
- musk mallow (*ullaka*) **kutki** (*kaṭukā*) or **musk mallow** (*latākastūrikā*), according to GVDB: 54; I have chosen the latter identity since *A. moschatus* can cause phototoxic dermatitis (Diedrich, Zweerink, and Elder 2024: 621) : 456
- musk mallow (*ullika*) see **musk mallow** (*ullaka*) : 211
- myrobalan (*abhayā*) *Terminalia chebula*, Retz. See ADPS: 172, NK: 1, #2451, Potter<sub>rev</sub>: 214 : 162, 218, 227
- myrobalans (*pathyā*) *Terminalia chebula* Retz. See NK: 1, #2451 : 312
- natron (*suvarcikā*) Sodium carbonate. NK: 2, #45. Ḍalhaṇa identifies *suvarcikā* with *svarjikṣāra* 4.8.50 (Su 1938: 441) : 181, 219, 255
- neem (*picumarda*) see **neem tree** (*nimba*), GVDB: 247–248 : 271
- neem tree (*nimba*) *Azadirachta indica* A. Juss., GVDB: 226 : 58, 386, 456
- nutgrass (*kuruvinda*) Unknown. Ḍalhaṇa on 5.3.15 (Su 1938: 568) glossed the term as **nutgrass**, but noted other opinions that it was a whetstone or a very special metallic gem. T. B. Singh and Chunekar (GVDB: 108) added that it could be a variety of rice, *ṣaṣṭika dhānya* : 227
- nutgrass (*mustaka*) *Cyperus rotundus*, L., GVDB: 313–314, ADPS: 316, AVS: 2, 296, NK: 1, #782. The root is commonly used in āyurveda and is not poisonous. However some dictionaries list *mustaka* amongst serious poisons, for example *Rājanighaṇṭu* (22

- v. 42) and *Rasaratnasamuccaya* 16, v. 80. Its ancient identity as a poison is still in doubt (see [GVDB](#): 314) : [212](#), [213](#)
- nutgrass (*mustā*) *Cyperus rotundus*, L. See [ADPS](#): 316, [AVS](#): 2, 296, [NK](#): 1, #782 : [455](#), [456](#)
- odal oil plant (*īṅgudī*) see [odal oil plant](#) : [264](#)
- odal oil plant (*īṅgudī*) Kirtikar, Basu, and an I.C.S ([K&B](#): 5, 79) also firmly identify *īṅgudī* as *Sarcostigma kleinii* Wight & Arn., a liana well known in the Western Ghats and widely used in āyurveda, including for skin diseases. *Balanites agyptiaca* (L.) Delile, [GVDB](#): 43 is an African plant and unlikely to be the original āyurvedic *īṅgudī*. : [457](#)
- oleander spurge (*mahāvṛkṣa*) see [oleander spurge](#) (*snuhī*), [GVDB](#): 302-303 : [272](#)
- oleander spurge (*nandā*) see [oleander spurge](#) (*snuhī*), [GVDB](#): 215 : [462](#)
- oleander spurge (*snuhā*) see [oleander spurge](#) (*snuhī*) : [166](#), [212](#), [265](#)
- oleander spurge (*snuhī*) *Euphorbia neriifolia*, L., or *E. antiquorum*, L. See [ADPS](#): 448, [AVS](#): 2, 388, [AVS](#): 3, 1, [NK](#): 1, #988, [IGP](#): 457b. T. B. Singh and Chuneekar ([GVDB](#): 459) discuss the two varieties distinguished by Caraka on the basis of their spines. *Euphorbia* all share the feature of having a poisonous, latex-like sap : [457](#), [462](#)
- orchid tree (*kovidāra*) *Bauhinia purpurea* Linn. or *B. variegata* Linn. (probably the former), [GVDB](#): 120, [AVS](#): 1, 256-260. The fruit of *kovidāra* is contrasted with the mango in Patañjali's *Mahābhāṣya* (on P1.2.45, varttika 8) : [250](#)
- paddy rice (*śālī*) *Oryza sativa*, Linn. [GVDB](#): 395-396 mentioning 33 Sanskrit sub-variety names; [AVS](#): 4, 193 : [45](#), [460](#)
- painted uraria (*prṣṇaparṇīkā*) see [painted uraria](#) (*prṣṇaparṇī*) : [294](#)
- painted uraria (*prṣṇaparṇī*) *Uraria picta* (Jacq.) Desv. ex DC. and *U. lagopoides* DC are both to be used for this plant according to [GVDB](#): 257-258. See also [IHR](#): 188-190 : [266](#), [457](#)
- painted uraria (*śṛgālavinnā*) see [painted uraria](#) (*prṣṇaparṇī*), according to Ḍalhaṇa on *Suśrutasaṃhitā* 4.5.7 : [171](#)
- pale Java tea (*arjaka*) *Orthosiphon pallidus* Royle ex Benth., [GVDB](#): 24, based on Ḍalhaṇa's descriptions, and by P. V. Sharma [1982](#): 127, #60. But *Ocimum basilicum* L., according to [AVS](#): 4, 160 : [274](#)
- panacea twiner (*arkapuṣpī*) → *arkaparṇī*, *Tylophora indica* (Burm. f.) Merr. [GVDB](#): 23-24. Maybe identical to [Indian ipecac](#), [giant potato](#) and similar sweet, milky plants. See [GVDB](#): 24, 127, 238, 441, 443 for discussion. For discussion in the context of [Holostemma creeper](#), see [ADPS](#): 195 and [AVS](#): 3, 171. The etymology of the name suggests *Helianthus annuus* Linn., but this plant is native to the Americas : [218](#), [450](#)
- peas (*hareṇu*) *Pisum sativum*, L. T. B. Singh and Chuneekar ([GVDB](#): 419-420, 467-468) note that two plants are usually meant under this name, but there is no agreement on the identity of the second. Synonym of [peas](#) (*satīna*). [GVDB](#): 468 make an argument for *Symphorema polyandrum* Wight : [172](#), [218](#), [219](#), [227](#), [256](#), [295](#), [312](#), [313](#), [457](#), [458](#)
- peas (*hareṇukā*) see [peas](#) (*hareṇu*) : [274](#)
- peas (*satīna*) see [peas](#) (*hareṇu*), [GVDB](#): 419-420 : [457](#)
- peepul tree (*aśvattha*) *Ficus religiosa*, L. See [ADPS](#): 63. Known to ancient Greek authors (Ball [1888](#): 338-339) : [229](#)
- periploca of the woods (*meṣaśṛṅga*) *Gymnema sylvestre* (Retz.) R. Br. See [AVS](#): 3, 107, [NK](#): 1, #1173. See the

- extensive discussion in [GVDB](#): 320–323, where the plant *Dolichandrone falcata* (Wall. ex DC.) Seem. is preferred : [204](#), [458](#)
- periploca of the woods (*meṣaśṛṅgī*) see [periploca of the woods](#) (*meṣaśṛṅga*) : [171](#), [172](#)
- phalsa (*parūṣaka*) *Grewia asiatica* Linn., [GVDB](#): 238 : [108](#)
- plants like asthma plant and Gulf sandmat (*dugdhikā*) synonym of [plants like asthma plant and Gulf sandmat](#) (*kṣīriṇī*), [GVDB](#): 204–205, 127 : [458](#)
- 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) : [450](#), [458](#)
- plants like asthma plant and Gulf sandmat (*yavaphalā*) synonym of [plants like asthma plant and Gulf sandmat](#) (*dugdhikā*), and [plants like asthma plant and Gulf sandmat](#) (*kṣīriṇī*), q.v., [GVDB](#): 327, 127 : [274](#)
- plumed cockscomb (*indīvara*) Uncertain; possibly *Celosia argentea* Linn. (which is not toxic). But see the useful discussion in [GVDB](#): 44–45. Possibly another name for [an aroid](#) (*karambha*), q.v. : [439](#)
- pointed gourd (*paṭola*) *Trichosanthes dioica*, Roxb., [GVDB](#): 232–233 : [173](#), [218](#), [440](#)
- poison-bench (*viṣavedikā*) unknown; name from etymology. Perhaps syn. [strychnine tree](#) (*viṣamuṣṭika*) or [Indian aconite](#) (*viṣā*) ([GVDB](#): 373) : [211](#)
- poison-leaf (*viṣapatrikā*) Name from etymology. Perhaps the “leaf of [Indian aconite](#) (*viṣā*)” (but that is feminine). Cf. [GVDB](#): 373, “unidentified” : [211](#)
- pollen (*reṇukā*) An unidentifiable plant. Perhaps a misreading for [peas](#) (*hareṇu*), although this is a long shot. T. B. Singh and Chuneekar ([GVDB](#): 339) suggest, on no authority, the synonyms *vrkṣaruhā*, *māmsarohiṇī*, or *durvā*, none of which help : [211](#), [450](#)
- pomegranate (*dāḍima*) *Punica granatum* Linn. [GVDB](#): 201–202 : [107](#), [108](#), [180](#), [181](#), [257](#), [266](#)
- pondweed (*paripelavā*) Normally a neuter noun. T. B. Singh and Chuneekar ([GVDB](#): 238, 264–265, 409) argued that *plava* and *śaivāla* are the same thing, and may be either *Zannichellia palustris*, L., or *Potamogeton pectinatus*, L. : [219](#)
- pondweed (*śevāla*) *Zannichellia palustris* L. See [horned pondweed](#) : [43](#)
- pongame oiltree (*karañja*) see [pongame oiltree](#) (*karañjikā*) : [183](#), [266](#), [295](#)
- pongame oiltree (*karañjikā*) T. B. Singh and Chuneekar ([GVDB](#): 74–76) discuss complications, but probably *Pongamia pinnata* (L.) Pierre in *Suśrutasaṃhitā* 5.6.3 : [272](#), [458](#)
- powdered ruffle lichen (*śaileya*) *Parmotrema perlatum* (Huds.) M.Choisy (1952), although there are some inconsistencies in groups and synonyms. See [GVDB](#): 408–409, [AVS](#): 4, 222–225. The plant has a notably complex taxonomic history : [274](#), [458](#)
- powdered ruffle lichen (*śaileyaka*) see [powdered ruffle lichen](#) (*śaileya*) : [255](#)
- prickly amaranth (*taṇḍulīyaka*) *Amaranthus spinosus* L. See [GVDB](#): 174, [Dutt](#): 321, [NK](#): 1, #144, [Potter<sub>rev</sub>](#): 15. Cf. [AVS](#): 1, 121. Amaranth (etym. amṛta!) is a large family, many originally endemic to S. America. *A. hypochondriacus* L. is sometimes identified with *taṇḍulīyaka*, but *A. spinosus* L. is better known and attested in S. Asia in the first millennium BCE (Saraswat [1991](#)). See also [WEP](#): 45 : [202](#), [264](#), [267](#), [272](#), [439](#)
- prickly chaff-flower (*apāmārga*)

- Achyranthes aspera, L. See [GVDB: 14](#), [GJM1: 524 f](#), [AVS: 1, 39](#), [ADPS: 44 f](#), [AVS: 3, 2066 f](#), [Dymock: 3, 135: 57, 61, 166, 171, 274, 295, 459](#)
- prickly chaff-flower (*vasira*) also *vaśira*. Perhaps Achyranthes aspera, L. [GVDB: 362](#) describes several possible identities, including *sūryāvarta*, [prickly chaff-flower](#) and *markaṭatṛṇa*. See also *vasukavasira* ([GVDB: 363](#)): [107](#)
- prickly-leaved elephant's foot (*gojihvā*) syn. *gojī*. Elephantopus scaber, L. See [AVS: 2, 357](#). T. B. Singh and Chuneekar ([GVDB: 145–146](#)) argue that *gojihvā śāka* is Launaea asplenifolia (Willd) Hook. f. (creeping Launaea), a plant with Himalayan to SE Asian distribution: [459](#)
- prickly-leaved elephant's foot (*gojī*) T. B. Singh and Chuneekar ([GVDB: 145–146](#)) observe that this plant name is unique to the *Suśrutasamhitā*. Since the usage is similar to that of [prickly-leaved elephant's foot](#) (*gojihvā*), q.v, it is almost certain to be the same plant.: [272](#)
- products of the wood-apple (*kāpitta*) a reading in the Nepalese MSS for [products of the wood-apple](#) (*kāpittha*), q.v.: [267](#)
- products of the wood-apple (*kāpittha*) relating to or derived from the [wood-apple](#) (*kapittha*): [459](#)
- purging nut (*dravantī*) Jatropha curcas, L. See [AVS: 3, 261](#), [NK: 1, #1374](#). A.k.a. *mūṣikaparṇī*. But J. curcas is a New World species: [459](#)
- purging nut (*mūṣikā*) Jatropha curcas, L. See [AVS: 3, 261](#), [NK: 1, #1374: 204](#)
- purging nut (*putraśreṇī*) Commonly identified as [croton tree](#) (*nāgadantī*), [GVDB: 253](#) "a variety of [red physic nut](#) (*dantī*).” But it appears in a list with *nāgadantī* at *Suśrutasamhitā* 5.6.3, and *Ḍalhaṇa* identified it there as [purging nut](#) (*dravantī*): [272](#)
- purging nut tree (*mūṣikakarṇī*) Jatropha curcas, L. [AVS: 3, 261](#), [NK: 1, #1374](#), [GVDB: 317](#). [GVDB: 317](#); [ADPS: 23–25](#) discuss this issue well: [202, 203](#)
- purple calotropis (*arka*) Calotropis gigantea, (L.) R. Br. See [ADPS: 52](#), [AVS: 1, 341](#), [NK: 1, #427](#), [Potter<sub>rev</sub>: 57](#), [Chopra IDG: 305–308: 52, 61, 166, 210, 250, 269, 272, 294](#)
- purple fleabane (*bākucī*) Identified as Cullen corylifolia (L.) Medik. [ADPS: 69–70](#), [GVDB: 272](#). Synonym Psoralea corylifolia L. This plant is reported to have hepatotoxic effects (Philips and Theruvath [2024: §3.4](#)): [459](#)
- purple fleabane (*somarājī*) see [purple fleabane](#) (*bākucī*), but [GVDB: 455–456](#) note that two areas of therapy (antitoxin, antileucoderma) may point to two plants being used under this name or a different plant with two active ingredients. A particular alternate candidate is Baccharoides anthelmintica (L.) Moench.: [274](#)
- purple roscoea (*kṣīrakākolī*) [GVDB: 89](#) note that many physicians use *Roscoea procera* Wall. in this context. But the identification is uncertain. Possibly connected to [milk-white](#) or [giant potato](#): [172, 450, 455](#)
- radish (*mūlaka*) Raphanus sativus, L. See [NK: 1, #2098: 178, 212, 214](#)
- rajmahal hemp (*moraṭa*) see [rajmahal hemp](#) (*mūrvī*). Good discussion at [GVDB: 314–316, 324: 218, 466](#)
- rajmahal hemp (*mūrvā*) Gongronemopsis tenacissima (Roxb.) S.Reuss, Liede & Meve (syn. Marsdenia tenacissima (Roxb.) Moon), [GVDB: 314–316, 324](#). One of the twenty-two drugs in the group *madanādi*. T. B. Singh and Chuneekar and [ADPS: 310–313](#) discuss the long controversy about the identity



- of this plant. *Sansevieria roxburghiana* Schult. & Schult.f. ("Indian bowstring hemp") was preferred by Meulenbeld (GJM1: 590) and the sources he cited, including NK: 1, #2216, K&B: 4, 2457; ADPS: 310 mention this identity as being local to Bengal, but note that that plant is not a creeper, as *mūrvā* should be: 175, 447
- rajmahal hemp (*mūrvī*) *Gongronemopsis tenacissima* (Roxb.) S.Reuss, Liede & Meve (syn. *Marsdenia tenacissima* (Roxb.) Wight et Arn.) Good discussion at GVDB: 314–316, 324. See [rajmahal hemp](#) (*mūrvī*): 459, 460
- rajmahal hemp (*nirdahanī*) see [rajmahal hemp](#) (*mūrvī*), GVDB: 227: 460
- rajmahal hemp (*nirdahyānya*) the variant of [rajmahal hemp](#) (*nirdahanī*) appearing in the Nepalese version of the *Suśrutasaṃhitā*. The term does not appear in the *Sauśrutanighaṇṭu* (Suvedi and Tivārī 2000). See [rajmahal hemp](#) (*mūrvī*): 166
- rattan (*vetra*) *Calamus rotang*, L. See AVS: 1, 330, NK: 1, #413. T. B. Singh and Chunekar (GVDB: 381) prefer *C. tenuis*, Roxb., which is also native to S. and S.E. Asia: 211, 452
- red gourd (*bimbī*) *Coccinia indica*, W. & A. See PVS 1994.4.715; NK: 1, #534: 201
- red physic nut (*dantī*) *Baliospermum solanifolium* (Burm.) Suresh, GVDB: 200: 164, 212, 267, 272, 459
- resin of white dammer tree (*sarjarasa*) GVDB: 424–425. See [white dammer tree](#) (*sarja*): 175, 274
- rice grains (*taṇḍula*) *Oryza sativa*, Linn. Same as [paddy rice](#) (*śālī*) GVDB: 174; or just "grains": 45
- rice-grain chaff (*śālitaṇḍulakāṇḍana*) See [chaff](#): 44
- rosha grass (*dhyāmaka*) *Cymbopogon martinii* (Roxb.) Wats. See AVS: 2, 285, NK: 1, #177: 219, 255, 274
- royal jasmine (*mālatī*) *Jasminium grandiflorum*, L. See NK: 1, #1364, ADPS: 285–288: 202, 460
- royal jasmine (*sumanā*) see [royal jasmine](#) (*mālatī*), GVDB: 437: 274
- sacred fig (*pippala*) *Ficus religiosa* L., GVDB: 248 etc.: 296
- sacred lotus (*kamala*) *Nelumbo nucifera*, Gaertn., GVDB: 73–74, Dutt: 110, NK: 1, #1698: 454, 460
- sacred lotus (*padma*) see [sacred lotus](#) (*kamala*), GVDB: 235–236: 43, 128, 173, 202, 274, 295, 466
- safflower (*kusumbha*) *Carthamus tinctorius* L. GVDB: 113: 290, 298
- saffron (*bāhlīka*) syn. of [saffron](#) (*kuṅkuma*), q.v., GVDB: 273–274: 272
- saffron (*kuṅkuma*) *Crocus sativus* Linn., GVDB: 100. On the history of confusions between saffron and turmeric, see Cox 2011: 267, 460
- sage-leaved alangium (*aṅkolla*) *Alangium salvifolium* (Linn. f.) Wang., GVDB: 5–6. See also AVS: 1, 77; cf. NK: 1, #88: 202, 257, 264, 267, 460
- sage-leaved alangium (*aṅkoṭha*) see [sage-leaved alangium](#) (*aṅkolla*): 272
- sal group of trees (*śālasārādī*) *śālasārādī* is a group (*gaṇa*) of twenty-three trees listed at 1.38.8–9 (Su 1938: 165), *Mahākośa*: 1, 898: 108
- sal tree (*śālā*) *Shorea robusta*, Gaertn.f. See AVS: 5, 124: 312
- sandalwood (*candana*) *Santalum album*, L. See ADPS: 111, NK: 1, #2217. See GVDB: 152–153 for discussion of types, including white and red (*Pterocarpus santalinus* (L.f.)): 109, 173, 175, 219, 250, 256, 274, 295, 296, 466
- sandan (*tiniśa*) *Ougeinia oojenensis* (Roxb.) Hochr. GVDB: 181, q.v. for discussion about whether *tiniśa* and *syandana* are to be separated. If other trees are in the frame for either name, T. B. Singh and Chunekar (GVDB)

- suggest Lagerstroemia parviflora Roxb. (*sidhraka/siddhaka*) and L. flos-reginae Retz. (*jārula* by some). See [GVDB: 432 : 271, 274, 452](#)
- sappanwood (*pattāṅga*) Also *pattāṅga*. Caesalpinia sappan, L. [AVS: 1, 323](#), [K&B: 2, 847 f](#), [GVDB: 234 : 52, 62](#)
- scarlet mallow (*bandhujīva*) Pentapetes phoenicea, L. [NK: #1836](#), [GVDB: 268 : 203](#)
- scented pavonia (*bālaka*) Pavonia odorata, Willd. See [ADPS: 498](#), [NK: 1, #1822](#). But [GVDB: 273](#) argue for Coleus vettiveroides K.C.Jacob; see [coleus \(hrīvera\) : 219, 443](#)
- scented pavonia (*toya*) → *bālaka*? Pavonia odorata, Willd. [ADPS: 498](#), [NK: 1, #1822 : 274](#)
- scramberry (*tālīsapatra*) see [scramberry \(tālīśa\) : 274](#)
- scramberry (*tālīśa*) T. B. Singh and Chunekar ([GVDB: 179, 458–459](#)) discusses the several identifications and regional differences in identifying this plant. Taxus baccata Linn. is a common candidate, as is Flacourtia jangomas (Lour.) Raeusch. (*scramberry*) : [173, 313, 461](#)
- screw-pine (*ketaka*) Pandanus odorifer (Forssk.) Kuntze, [GVDB: 116](#) (not P. tectorius that is from eastern Indonesia–PNG–Australia) : [439](#)
- scutch grass (*granthilā*) see [durva grass \(dūrvā\)](#), [Mahākośa: 1, 303](#), citing the *Rājanighaṇṭu*. It should be an aromatic in this context. Monier-Williams, Leumann, Cappeller, et al.: 371 said “two kinds of Dūrvā grass and of a kind of Cyperus” on lexical authority, perhaps also the *Rājanighaṇṭu* where it is listed amongst sweet-smelling plants. Other sources identify it as Cissus quadrangularis, L., i.e., Veltd grape (Ś. Gupta 1887: 272), or Bengal quince (*bilva*) : [274](#)
- sedge (*kuṭannaṭa*) → *plava*, *tagara*, or *śyonāka*, according to commentators ([GVDB: 102–103](#)). T. B. Singh and Chunekar leans towards the *plava*, but that plant too is difficult to identify. Various sources identify *kuṭannaṭa* as Cyperus rotundus L., C. scariosus R. Br., Oroxylum indicum (L.) Benth. ex Kurz (= Bignonia Indica L.) or even Cinnamomum verum J.Presl. The Cyperus genus comprises about 700 species of sedges, and I have chosen “sedge” as a generic indication of the likely identity of this plant : [255, 461](#)
- sedge (*kuṭannaṭā*) see [sedge \(kuṭannaṭa\) : 274](#)
- sesame (*tila*) Sesamum indicum L. [GVDB: 183](#). Known to ancient Greek authors (Ball 1888: 344) : [274, 275](#)
- sesame oil (*taila*) Sesamum indicum L. [GVDB: 183 : 61, 250](#)
- shami tree (*śamī*) Prosopis cineraria (L.) Druce [GVDB: 390 : 272, 441](#)
- sickle senna (*cakramarda*) Senna tora (L.) Roxb., [GVDB: 150](#). See a useful discussion of the taxonomic issues surrounding this plant in Wikipedia contributors 2025h : [290](#)
- silk-cotton tree (*śālmālī*) Bombax malabarica. See [Issar: 152 : 274](#)
- silky Dalbergia (*gaṇḍīra*) [GVDB: 133–135](#) gives a long discussion, asserting that this name refers to at least three plant species, including plants like *siris (śirīṣa)* like Albizia julibrissin Durazz., 1772 non sensu Baker, 1876 (originally from Persia) or Dalbergia sericea G.Don. Other possibilities include Coleus amboinicus Lour, or a Mentha variety. I have chosen D. sericea because it is strongly distributed in S. Asia : [166](#)
- siris (śirīṣa)* Albizia lebbeck, Benth. See [AVS: 1, 81](#), [NK: 1, #91](#), [GVDB: 399–400](#). Cf. *white siris* : [218, 250, 264, 265, 267](#),

- 274, 290, 295, 312, 461, 466  
 siris seeds (*śiṛīṣamāṣaka*) *Albizia lebbbeck*, Benth. See *AVS*: 1, 81, *NK*: 1, #91 : 202, 265  
 small-flowered crape myrtle (*sidhraka*) *Lagerstroemia parviflora* Roxb., *GVDB*: 432 : 225  
 smooth angelica (*coraka*) *Angelica glauca* Edgw. *GVDB*: 161. Distribution: Afghanistan, Himalaya, western Tibet (*POWO*). Edgeworth even recorded the indigenous name “chura” (Edgeworth 1851: 53) : 257, 272, 462  
 smooth angelica (*taskara*) see smooth angelica (*coraka*), *GVDB*: 176 : 274  
 snake mallow (*nāgabālā*) perhaps *Sida veronicaefolia* Lam.; see *GVDB*: 221 for discussion : 171  
 snakeroot (*sugandhā*) → *sarpagandhā* *Rauvolfia serpentina* Benth. ex. Kurz. See *sarpagandhā*. But may be *Aristolochia indica* Linn. Has been identified with *nākulī*, or *gandhanākulī*. See (*GVDB*: 219, 436) : 210  
 spikenard (*jaṭā*) see spikenard (*jaṭāmāṁsī*) : 265, 274  
 spikenard (*jaṭāmāṁsī*) *Nardostachys jatamansi* (D.Don) DC, *GVDB*: 163. See also *NK*: 1, #1691. Known to ancient Greek authors (Ball 1888: 343–344) : 462  
 spikenard (*māṁsī*) see spikenard (*jaṭāmāṁsī*) : 219, 256, 274  
 spikenard (*nalada*) see spikenard (*jaṭāmāṁsī*) : 199, 256, 274, 295  
 spiny bitter gourd (*karkāruka*) *Momordica cochinchinensis* (Lour.) Spreng., (Thunb.) Cogn. See *AVS*: 2, 1135, *IGP* 754 (or *Benincasa hispida*? *AVS*: 2, 1127; cf. *AVS*: 1, 261). *M. cochinchinensis* has poisonous seeds (*NEH*: 279) : 446  
 spurge (*nandanā*) an unknown poisonous plant, a.k.a. (equally obscurely) *udīmānaka*, *GVDB*: 215 (where it is m.). Perhaps a synonym of oleander spurge (*snuhī*), like oleander spurge (*nandā*) : 211  
 spurge (*saptalā*) T. B. Singh and Chuneekar (*GVDB*: 421–422) discuss the four candidates for this plant, three of which are Euphorbias : 178, 257  
 strychnine tree (*viṣamuṣṭika*) *Strychnos nux vomica* Linn., *GVDB*: 373 : 458  
 sugar (*sitā*) Ḍalhaṇa makes this equation at 1.37.25 (*Su* 1938: 162) : 219, 256  
 sugar (*śarkara*) *Saccharum officinarum*, Linn. *NK*: #2182 : 205  
 sugar cane (*ikṣu*) *Saccharum officinarum*, Linn. *NK*: #2182 : 205  
 sunflower (*sūryavallī*) → *ādityavallī*, *sūryamukhī*, *Helianthus annuus* Linn. *GVDB*: 35, 443 : 218  
 sweet flag (*vacā*) *Acorus calamus* Linn. See *GVDB*: 352–355 : 171, 172, 181, 272, 462  
 sweet flag and white clitoria (*haimavata*) probably a collective noun for sweet flag (*vacā*) and white clitoria (*śvetā*), *GVDB*: 474 : 166  
 sweet plants (*madhuravarga*) The sweet plants are enumerated at *Suśrutasaṁhitā* 1.42.11. See also *GVDB*: 127 : 61  
 sweet-scented oleander (*aśvamāraka*) *Nerium oleander*, L. See *ADPS*: 223, *NK*: 1, #1709, *GVDB*: 77, which discusses the white and red forms. The roots are highly toxic, as are most parts of the plant, (Vijay V. Pillay and Sasidharan 2019) : 210  
 tall reed (*nala*) *Phragmites karka* (Retz.) Trin. ex Steud, *GVDB*: [217] : 173, 295  
 taro (*piṇḍāluka*) conjecturally *Colocasia esculenta* (Linn.), *GVDB*: 248. A member of the *āluka* group, *ibid.* : 439  
 teak (*śāka*) *Tectona grandis*, L.f. See *AVS*: 5, 245, (*MW*: 1061) : 272  
 Tellicherry bark (*kuṭaja*) *Holarrhena pubescens* Wall. ex G.Don, with *Wrightia tinctoria* and *W. arborea* considered *GVDB*: 101–102,



- ADPS: 267–270 : 166, 272, 446
- ten roots (*daśamūla*) Described at *Suśrutasamhitā* 1.38.70–71 (Su 1938: 169) as a combination of the lesser five roots and the greater five roots : 171, 445, 463
- ten roots (*dvipaṇcamūlaka*) see ten roots (*daśamūla*), i.e., a combination of the two kinds of five roots (*pañcamūla*) : 171
- the five grass roots (*trṇapaṇcamūlī*) GVDB: 189 lists them. In the *Carakasamhitā* (1.1.1.44 (Ca 1941: 378)) they are the roots of *śara*, *ikṣu*, *darbha*, *kāśa*, and *śāli*, but in the *Suśrutasamhitā* (1.38.76 (Su 1938: 169)) they are *kuśa*, *kāśa*, *nala*, *darbha* and *kāṇḍeḥṣu*, and are recommended for urinary ailments etc. : 171
- the four *jāta* drugs (*caturjāta*) a group of four drugs, cinnamon (*tvac*), malabathrum (*patra*), cardamom (*elā*), and ironwood tree (*nāgakeśara*) GVDB: 152 : 463
- the four *jāta* drugs (*caturjātaka*) see the four *jāta* drugs (*caturjāta*) : 290
- the greater five roots (*mahāpañcamūlī*) see greater five roots (*bṛhatpañcamūla*) : 165
- the lesser five roots (*pañcamūlī*) see five roots (*pañcamūla*) : 163
- the three myrobalans (*triphalā*) chebulic myrobalan beleric myrobalan and emblic myrobalan (*harītakī bibhītaka* and *āmalaka*) One of the most-often mentioned drugs in the Bṛhatṭrayī GVDB: 194–196 : 164, 255, 256, 265, 267, 440
- the three pungent drugs (*kaṭutrika*) see the three pungent drugs (*trikaṭu*) : 267, 274
- the three pungent drugs (*trikaṭu*) dried ginger, long pepper, and black pepper (*śuṇṭhī*, *pippalī*, and *marica*) GVDB: 193 : 255, 463
- the three pungent drugs (*vyoṣa*) see the three pungent drugs (*trikaṭu*), GVDB: 382–383 : 266, 290
- the two types of clitoria (*śvete*) see white clitoria (*śvetā*) : 274
- the two types of turmeric (*haridre*) see turmeric (*haridrā*) and Indian barberry (*dāruharidrā*), GVDB: 465–466 : 274
- three heating spices (*tryūṣaṇa*) *śuṇṭhī* (Dried ginger) *Zingiber officinale*, Roscoe. ADPS: 50, NK: 1, #2658, AVS: 5, 435, IGP 1232, pippalī (long pepper) *Piper longum*, L. ADPS: 374, NK: 1, #1928, and marica (black pepper) *Piper nigrum*, L. ADPS: 294, NK: 1, #1929 : 109, 218
- three-leaved caper (*varuṇa*) *Crataeva magna* (Lour.) DC. See AVS: 2, 202; cf. NK: 1, #696 : 204, 257, 272, 463
- three-leaved caper (*varuṇaka*) see three-leaved caper (*varuṇa*) : 274
- toothbrush tree (*pīlu*) *Salvadora oleoides* Decne. GVDB: 251. T. B. Singh and Chuneekar also mention *S. persica* L., but that is native to Africa, Syria and the Arabian peninsula (POWO: taxon/urn:lsid:ipni.org:names:779348-1). Also commonly called Vann : 171, 292, 293
- toothed-leaf limonia (*surasī*) *Naringi crenulata* (Roxb.) Nicolson (formerly *Limonia crenulata* Roxb.), GVDB: 439 : 256, 274
- top layer of fermented liquor (*surāmaṇḍa*) K&B: 2, 502, NK: 2, appendix VI, #49, McHugh 2021: 39 : 59, 60
- tree cotton (*kārpāsa*) *Gossypium arboreum* L. ADPS: 231, *pace* the identifications of T. B. Singh and Chuneekar (GVDB: 92, 247), since *G. barbadense* L. is native to South America and *G. herbaceum* L. is native to Africa : 58, 463
- tree cotton (*picu*) See tree cotton (*kārpāsa*) : 60, 62
- tree of heaven (*arala*) probably *Alanthus excelsa* Roxb., GVDB: 21–22 : 272
- turmeric (*gaurī*) *Curcuma longa*, L. See ADPS: 169, AVS: 2, 259, NK: 1, #750 : 173

- turmeric (*haridrā*) *Curcuma longa* Linn.  
GVDB: 465. On the history of confusions between saffron and turmeric, see Cox 2011 : 173, 218, 227, 255, 463
- turmeric (*rajanī*) *Curcuma longa*, L.  
ADPS: 169, AVS: 2, 259, NK: 1, #750 : 44, 219, 256, 267, 290, 294
- turpeth (*saralā*) Possibly white turpeth (*trivṛt*), q.v., according to GVDB: 423.  
Not to be confused with ?? (*saralā*) : 172
- turpeth (*trivṛt*) *Operculina turpethum* (Linn.) Silva Manso = *Ipomoea turpethum* R. Br. GVDB: 197. : 164, 205, 255, 388, 440, 464
- turpeth (*trivṛt*) The common spelling in Nepalese MSS of *trivṛt* : 266, 267
- two kinds of salt (*vasukavasira*) See the discussion by T. B. Singh and Chuneekar (GVDB: 362–363), who note that when *vasuka* is mentioned together with *vasira*, two varieties of salt are often meant (see *vasukavasirā*) : 107
- unknown fruit poison (*veṇuka*) see unknown fruit poison (*veṇukā*) : 211
- unknown fruit poison (*veṇukā*) *Bambusa bambos*, Druce?. See NK: 1, #307, GVDB: 380. The Nepalese transmission has the m. *veṇuka*, not the f. *veṇukā* T. B. Singh and Chuneekar (GVDB: 380) note that this is an unknown fruit-poison : 464
- velvet bean (*svayamguptā*) *Mucuna pruriens* (L.) DC., GVDB: 461, who say that the plant is known in the *Carakasamhitā* but not the *Suśrutasaṃhitā*. Watt (*Watt Dict*: 5, 286) noted that the English names Cowhage or Cowitch are derived from the Hindi name of *M. pruriens*, *Kiwach*, Skt. *kapikacchu*, supported by Yule and Burnell (1903: 268) : 312, 464
- velvet bean (*āṛṣabhī*) see velvet bean (*ṛṣabhī*) and velvet bean (*svayamguptā*). *Mahākośa*: 1, 94, citing the *Rājanighaṇṭu* 3.50, 201 : 265
- velvet bean (*ṛṣabhī*) see velvet bean (*svayamguptā*), MW: 226, GVDB: 56 : 464
- velvet-leaf (*pāṭhā*) *Cissampelos pariera*, L. See ADPS: 366, NK: 1, #592, GJM1: 573, AVS: 1, 95; cf. AVS: 2, 277 : 52, 109, 162, 181, 218, 255, 256, 448
- velvet-mite (*indragopa*) *Kerria lacca* (Kerr.). Lienhard 1978 : 200
- verbena (*bhārgī*) see verbena (*bhāṛṅgī*) : 256, 274
- verbena (*bhāṛṅgī*) → phaṇṇī.  
*Clerodendrum serratum* (L.) Moon or *C. serratum*; see AVS: 2, 121, ADPS: 87 : 464
- verbena (*phaṇṇī*) *Clerodendrum serratum*, L. See AVS: 2, 121, ADPS: 87 : 203
- vetiver (*uśīra*) *Chrysopogon zizanioides* (L.) Roberty, also called “khus.” NK: 1, #180, GVDB: 54 identify it as vetiver. Commentators normally identify two types of *uśīra*, the other being the same as lemongrass (*lāmajja*) : 108, 202, 250, 295, 296, 464
- vetiver and lemon grass (?) (*uśīre*) “the two *uśīras*,” perhaps vetiver (*uśīra*) and lemongrass (*uśīrabhedā*) : 274
- viburnum (*tilva*) see viburnum (*tilvaka*) : 266
- viburnum (*tilvaka*) *Viburnum nervosum* D.Don. In their thoughtful article, T. B. Singh and Chuneekar (GVDB: 185–186) separate *tilvaka* from *lodhra*, a conflation they attribute to *Drḍhabala*. They identify *V. nervosum* because of its use under a similar local name in Garhawal and Gangotri and the match with its purging properties mentioned in ayurvedic literature. AVS: 5, 219 makes the same separation, noting that in Kerala the plant *Jatropha curcas* L. is used. But that is a native of the new world. Cf. many *Viburnum* varieties listed by Griffiths

- (IGP: 1200 ff.). **POWO** confirms that *V. nervosum* has an appropriate Himalayan distribution. *Tilvaka* is also sometimes wrongly considered to be a synonym of long-stamen *Wendlandia* (?) (*tilaka*), **GVDB**: 185–186: 164, 165, 272, 454, 464, 465
- viburnum extract (*tailvaka*) see **viburnum** (*tilvaka*), **GVDB**: 185, also a ghee compound of **viburnum** (*tilvaka*): 312
- ‘Virāṭa’s plant’ (*vairāṭaka*) unknown plant with a poisonous tuber, **GVDB**: 382.
- The Virāṭas are tribal peoples: 212, 213
- water hyssop (*brāhmī*) *Bacopa monnieri* (L.) Pennel, **GVDB**: 281, who describe the substitutes that are mistakenly used in some places: 295
- water snowflake (*kumudavati*) see **water snowflake** (*kumudavati*): 211
- water snowflake (*kumudavati*) This is an unidentifiable plant whose name means, etymologically, “with lilies.” **MW**: 292 gives *Nymphoides indica* (L.) Kuntze (formerly *Villarsia indica*) on no authority; I have used the common name of *N. indica* as a possibility, but this is not known to be poisonous; on the contrary, it is used medicinally (Khan et al. 2018). *N. indica* is illustrated on p. 6 of the Voynich manuscript. Khan et al. (2018) assert that this is the same plant as *tagara*, although this is not a widely-held view (see **crape jasmine** (*tagara*)): 211, 444, 465
- watered buttermilk (*udaśvit*) **MW**: 183: 201
- wax gourd (*kūṣmāṇḍa*) *Benincasa hispida*, (Thunb.) Cogn. See **AVS**: 2, 1127; cf. **AVS**: 1, 261: 446
- weaver’s beam tree (*mokṣaka*) see **weaver’s beam tree** (*muṣkaka*): 465
- weaver’s beam tree (*muṣkaka*) *Schrebera swietenoides*, Roxb. See **AVS**: 5, 88, Lord, **NK**: 1, #2246, **GVDB**: 242–243: 166, 225, 465
- weaver’s beam tree (*pāṭalī*) usually a synonym for **crimson trumpet-flower tree** (*pāṭalā*), but T. B. Singh and Chuneekar (**GVDB**: 242–243) argue that it is **weaver’s beam tree** (*mokṣaka*) because some authors distinguish two colours (unlike *pāṭalā*): 166, 271, 274
- weaver’s beam tree (*viśalyā*) *Schrebera swietenoides* Roxb. ← *kuberākṣī*. T. B. Singh and Chuneekar (**GVDB**: 371) notes that this name is a synonym for many other plants, including *lāṅgālī*, *indravārūṇī*, *guḍūcī* etc. Ḍalhaṇa identified it with *pāṭalā*, *kāṣṭhapāṭalā*, and *agniśikhā* tree, all of which may be called *śvetamokṣaka* or *kuberākṣī*: 255
- weevil wort (*tālamūlikā*) **GVDB**: 178–179: 465
- weevil wort (*tālapatrī*) → *tālamūlikā*, **weevil wort**, q.v. **GVDB**: 178: 257
- white calotropis (*alarka*) *Calotropis procera*, (Ait.) R. Br. See **NK**: 1, #428, **Chopra**: 46b, **Chopra IDG**: 305–308: 61
- white clitoria (*śvetā*) *Clitoria ternatea*, L. See **AVS**: 2, 129, **NK**: 1, #621. **GVDB**: 416–417 notes that there are two types, *kṣudrā* (white, according to Ḍalhaṇa) and *mahā* (blue, according to Ḍalhaṇa). Sometimes given as a synonym for **winged-stem canscora**, but sometimes as a contrasting plant: 202, 256, 257, 266, 269, 274, 462, 463
- white cutch tree (*somavalka*) *Acacia polyacantha*, Willd. See **AVS**: 1, 30, **IGP** 7, **GJM**1: 602, **AVS**: 2, 935; **pace NK**: 1, #1038: 203, 226
- white dammer tree (*sarja*) *Vateria indica*, L. See **NK**: 1, #2571, **AVS**: 5, 349 f, **AVS**: 1, 292 f, **Chopra**: 253a. T. B. Singh and Chuneekar (**GVDB**: 424) discussed whether this term might be broadened to any resinous tree and decided against: 52, 107, 460, 465
- white dammer tree (*sarjja*) see **white dammer tree** (*sarja*): 271

- white lotus (*puṇḍarīka*) see [sacred lotus](#) (*padma*), [GVDB](#): 252 : 214
- white sandalwood (*bhadraśrī*)  
Santanlum album Linn. See [white sandalwood](#) (*bhadraśrī*) : 173, 274
- white sandalwood (*bhadraśrī*) Santanlum album Linn. see [sandalwood](#) (*candana*) [GVDB](#): 152, 282 and *Carakasamhitā* ci.4.102 ([Ca 1941](#): 434) where it is contrasted with *lohitacandana* : 109, 466
- white siris (*jalavetasa*) Ḍalhaṇa (5.8.105 ([Su 1938](#): 592)) thought that this was [Indian willow](#) (*vañjula*), but he noted that Jejjāṭa thought it was *kambukā*, an unidentified plant he interpreted as [white siris](#) (*kiñihī*). [AVS](#): 3, 172–174 identify *jalavetasa* as *Homonoia riparia* Lour., willow-leaved water croton, and include a survey of the confusions about this plant in various texts; they make their judgment about *H. riparia* on the basis of its medical effects. See [siris](#) (*śirīṣa*) : 295
- white siris (?) (*kapītana*) T. B. Singh and Chuneekar ([GVDB](#): 72–73) note that this stands for at least two plants, milky and non-milky. For the latter type, they propose *Albizia procera* (Roxb.) Benth., *Thespesia* (hibiscus-like, but not endemic to S. Asia) or *Spondias* (cashew). Six different identifications are made by Monier-Williams, Leumann, Cappeller, et al. ([MW](#): 251), without authority : 272
- white siris (*kaṭabhī*) *Albizia procera* (Roxb.) Benth. or *A. lebbeck* (Linn.) Benth. [GVDB](#): 63–64, [AVS](#): 1, 81–84. See [siris](#) (*śirīṣa*) : 250, 462
- white siris (*kiñihī*) *Albizia procera* (Roxb.) Benth., [GVDB](#): 98, which also discusses past confusions; [NK](#): 1, #93. See [siris](#) (*śirīṣa*) : 218, 256, 295, 466
- white teak (*kāśmarī*) see [white teak](#) (*kāśmarī*) : 313
- white teak (*kāśmarya*) see [white teak](#) (*kāśmarī*) : 274
- white teak (*kāśmaryā*) see [white teak](#) (*kāśmarī*) : 107
- white teak (*kāśmarī*) also *kāśmarya*, *kāśmarī*, *madhuparṇī*. Gmelina arborea, Roxb. See [GJM1](#): 543, [Trees](#): 51, [ADPS](#): 240, [GVDB](#): 96–97 : 173, 175, 446, 466
- white teak (*madhuparṇī*) see [white teak](#) (*kāśmarī*) : 107
- white water-lily (*kumuda*) *Nymphaea alba*, Linn., [GVDB](#): 105 : 43, 128, 274, 445
- white-bark acacia (*arimeda*) *Vachellia leucophloea* (Roxb.) Maslin, Seigler & Ebinger. See [AVS](#): 1, 23, T. B. Singh and Chuneekar ([GVDB](#): 22, 33) : 52, 272
- wild asparagus (*bahuputrā*) *Asparagus racemosus*, Willd. See further [wild asparagus](#) (*śatāvārī*) Possibly a syn. for *nandana*. The bark of wild asparagus is toxic : 203
- wild asparagus (*śatāvārī*) *Asparagus racemosus*, Willd. See [ADPS](#): 441, [AVS](#): 1, 218, [NK](#): 1, #264, [IGP](#): 103, [AVS](#): 4, 249 ff, [Dymock](#): 3, 482 ff : 171, 173, 175, 319, 466
- wild celery (*agnika*) → may be *bhallātaka*, *lāṅgalī*, *ajamodā*, *moraṭa*, or *agnimantha*, [GVDB](#): 4. Uncertain A plant often cited in *Suśrutasaṃhitā*, but rarely in *Carakasamhitā* ([GVDB](#): 4). Ḍalhaṇa glossed it at 5.2.45 ([Su 1938](#): 566) as [wild celery](#) (*ajamodā*) but noted that others consider it to be [rajmahal hemp](#) (*moraṭa*). There is considerable complexity surrounding the identification of *moraṭa*/*mūrvā* itself and related synonyms ([GVDB](#): 314–316) : 218, 466
- wild celery (*ajamodā*) *Apium graveolens*, L. Sometimes identified with *agnika* ([wild celery](#)), q.v. : 218, 255, 466
- wild Himalayan cherry (*padmaka*) *Prunus cerasoides* D.Don, [GVDB](#): 236, [AVS](#): 4, 353–355. [MW](#): 585 is wide of the

- mark : 173–175, 255, 256, 274, 295, 296  
 wild spider flower (*ajagandhā*) possibly  
 Cleome gynandra L. (syn.  
 Gynandropis gynandra L.); possibly  
 also Basil (Ocimum basilicum Linn. or  
 Crested Late Summer Mint (Elsholtzia  
 ciliata Willd.) (GVDB: 6). But E. ciliata  
 is not native to South Asia : 181  
 wild spider flower (*tailaparṇika*) see [wild  
 spider flower](#) : 274  
 wild spider flower (*tilaparṇī*) Cleome  
 gynandra L., GVDB: 184–185, but see  
 the discussion of the other drug plants  
 sometimes intended by this name : 467  
 wild sugar cane (*kāṇḍekṣu*) Saccharum  
 spontaneum L., GVDB: 90 : 107  
 wild sugarcane (*kāśa*) Saccharum  
 spontaneum L. GVDB: 96 : 295  
 winged-stem canscora (*giriḥvā*) see  
[winged-stem canscora](#) (*girikarṇikā*) :  
 256  
 winged-stem canscora (*girikarṇikā*)  
 sometimes → *śvetā*, in which case  
 possibly Clitoria ternatea, L., see  
 AVS: 2, 129, NK: 1, #621. GVDB: 41,  
 138–139 argued against the  
 identification with C. ternatea L. Since  
*śvetā* and *giriḥvā* are cited as separate  
 constituents of one formula (e.g.,  
*Suśrutasamhitā* 5.5.75 (Su 1938: 579)  
 they cannot be the same plant.  
 GVDB: 138–139 argued for  
 Symphorema polyandrum Wight,  
 which they also assigned to *sinduvāra*.  
 When discussing *śaṅkhaṇḍī*, another  
 possible synonym, Sivarajan and  
 Balachandran (ADPS: 425–427) also  
 suggest Canscora alata (Roth) Wall.  
 (syn of Canscora decussata Schultes &  
 Schultes f.) and Convolvulus  
 pluricaulis Chois. The former has a  
 more appropriate distribution and is  
 chosen here : 467  
 winged-stem canscora (*giryāhvā*) see  
[winged-stem canscora](#) (*girikarṇikā*) :  
 465  
 Withania (*aśvagandhā*) Withania somnifera  
 (L.) Dunal. See AVS: 5, 409 f,  
 Dymock: 2, 566 f, 150, GVDB: 29,  
 Chevillard: 152 : 61, 166, 174, 256  
 wood-apple (*kapittha*) Limonia acidissima,  
 L. See AVS: 3, 327, NK: 1, #1021 : 174,  
 202, 204, 257, 266, 267, 272, 312, 459  
 woody turmeric (*kāleyaka*) Coscinum  
 fenestratum (Goetgh.) Colebr.,  
 GVDB: 95. See V. K. Gupta, Tuohy,  
 O'Donovan, and Lohani 2015: 173–175 :  
 274  
 woody-fruit jujube (*ghoṇṭā*) Ziziphus  
 xylopyrus (Retz.) Willd., GVDB: 149 :  
 467  
 woody-fruit jujube (*gopaghoṇṭā*) see  
[woody-fruit jujube](#) (*ghoṇṭā*) : 272  
 yeast (*kiṇva*) MW: 282, EWA: 1, 350 : 299  
 yellow-berried nightshade (*kaṇṭakārikā*)  
 see [yellow-berried nightshade](#)  
 (*kaṇṭakārī*) : 166  
 yellow-berried nightshade (*kaṇṭakārī*)  
 Solanum virginianum L. (syn. Solanum  
 surattense Burm. f. and Solanum  
 xanthocarpum, Schrad. & Wendl.)  
 GVDB: 68–69. See also IHR: 430. A  
 component of [lesser five roots](#) : 453, 467  
 yellow-berried nightshade (*kṣudrā*) see  
[yellow-berried nightshade](#) (*kaṇṭakārī*),  
 ADPS: 100, NK: 1, #2329, AVS: 5, 164 :  
 218, 219

## Fauna



- ant (*pipīlika*) MW: 627 : 285
- arala rat (*arala-animal*) a hapax legomenon in Sanskrit, probably a Dravidian loan word or cognate from forms like Pengo, Maṇḍa, Kuwi etc., *orli*, *urli*, etc., DED<sub>2</sub>: #994 : 262, 265
- arrow-coloured (*śaravarṇa*) unknown frog, name from etymology : 284
- aṭakī (*aṭakī*) unknown : 281
- bad-marked rat (*kuliṅga*) etymologically, “having bad-marks” MW: 286, but unidentifiable : 262, 265
- beaked (*tunḍikerī*) neologism insect-name based on the etymology of *tunḍa*. Probably *tunḍikera* and *tunḍicela* are variants of the same lexeme. *tunḍa* is “Nicht überzeugend erklärt” according to Mayrhofer (EWA: 1, 653), who refers to a possible non-Indo-European origin (ibid. v. 3, 249 on *tundikā*, *tundikerī* refers to plants only). But Burrow 1971: 544 derived the term plausibly from *tud* “peck” : 280, 474
- bee (*bhramara*) bee or bumble-bee, MW: 769, etc. : 225, 281
- bee (*makṣikā*) MW: 771. May sometimes refer to a fly : 225, 286
- bee (*śilīmukha*) MW: 1073 : 472
- bhaṭābha (*bhaṭābha*) unknown : 281
- black (*kṛṣṇa-maśaka*) unknown; name based on etymology : 286
- black drongo (*dhūmyāṭa*) Dicrurus adsimilis, Bechstein, Dave 1985: 63, 65, 199 : 199
- black monitor lizard (*kṛṣṇagodhā*) unknown, name from etymology : 281
- black rat (*kṛṣṇa*) perhaps the widespread Black Rat or Common House Rat, *Rattus Rattus* L., BIA: 210 : 262, 264
- black scorpion (*kṛṣṇa-vṛścika*) unknown; name from etymology. Possibly a Heterometrus, since they are large, black and have low toxicity : 287
- black-beak (*kṛṣṇatunḍa*) unknown insect, name based on etymology; MW: 307
- But possibly “black-belly” based on the lexeme *tunda*, CDIAL: 1, #5858 : 281
- black-coloured (*kṛṣṇavarṇa*) unknown frog, name from etymology : 284
- black-face (*kṛṣṇamukhā*) an unidentified spider : 294, 297
- brahman woman ant (*brāhmaṇī*) unknown; meaning from etymology : 285
- brown (*kapilā*) unknown; meaning from etymology : 286
- brown rat (*kapila-animal*) name from etymology; unidentified; see *tawny rat* (*aruṇa*) : 262, 265, 474
- brown scorpion (*śyāva-vṛścika*) unknown; name from etymology : 287
- brown spider (*kapilā-spider*) an unidentified spider : 294, 295
- bull (*vṛṣabha*) MW: 1012, etc. *Bos taurus*, Linn. : 199
- carp (*nalāmīna*) a kind of Rohu carp (*rohita*) fish, according to Ḍalhaṇa (Ḍalhaṇa on 4.5.7 (Su 1938: 425)), who gives the name “*mīṭṭka*” apparently used by commoners (cf. *মুগুন?*). Sometimes *naḷa*-. Cf. perhaps with Dravidian forms *nāri*, *nārī*, *nārī*, *nārī* “baam fish” (DED<sub>2</sub>: 323). Identified as a sprat, prawn or eel in various sources : 172
- cat (*biḍāla*) normally the house cat, *Felis catus* L. On Indian cats in general, see BIA: ch. 3 : 164
- cavity (*kuhara*) unknown frog, name from etymology : 284
- celestial (*svarga-insect*) unknown insect, name based on etymology : 281
- centipede (*śatapadi*) see centipede (*śatapādaka*) : 225
- centipede (*śatapāda*) see centipede (*śatapādaka*) : 284
- centipede (*śatapādaka*) the name’s meaning is, “hundred-foot” MW: 1049, CDIAL: 1, #12281 : 281, 468
- chital deer (*prṣata*) *Axis axis*, Erxleben. BIA: 295–296. In *Suśrutasaṃhitā* 5.5.71

- (Su 1938: 579) it seems to be specifically the musk that is meant. so the reference may be to the Musk Deer (*Moschus moschiferus* L.). But all species produce musk, so *pr̥ṣata* may also be simply Chital or Spotted Deer. See also *IW*: 93 : 199, 205, 256
- chukar partridge (*cakora*) *Alectoris chukar*, J. E. Gray, Woodcock 1980: 45, distributed from NW India to Nepal and Assam : 199
- civet (*mārjāra*) *BIA*: ch. 4 *et passim*, McHugh 2012 : 256
- colourless (*vivarṇā*) unknown; meaning from etymology : 286
- common crane (*kroñca*) *Grus grus*, Linn., Woodcock 1980: 47, Dave 1985: ch. 62 : 199
- common myna (*sārikā*) see common myna (*śārikā*) : 199
- common myna (*śārikā*) *Acridotheres tristis* *tristis*, L., etc. See Salim Ali and Ripley 1983: #1006, Dave (1985: 28 ff.), Woodcock (1980: 119) : 225, 469
- cone snail (*śambūka*) a bivalve or snail (*MW*: 1055), but presumably a poisonous one such as the cone-snail : 224
- cook-fish insect (*pākamatsya*) unknown insect, name based on etymology. A kind of fiery insect according to Ḍalhaṇa on 5.3.5 (Su 1938: 567) : 224, 281
- cough-spider (*kasanā-spider*) an unidentified spider : 294, 296
- cricket (*uccīṭiṅga*) The suggestion “cricket” is from Assamese *usaṅgā* and Bengali *cuiṅgā*, *ucuṅgā*, *CDIAL*: 1, #1645, although they are not venomous. Unlikely: a crab, *MW*: 173. The cricket may appear to have a sting, although it does not Maxwell-Lefroy 1909: 102 : 224, 225, 280
- crow-egg (*kākāṇḍā*) an unidentified spider : 294, 297
- dark blue scorpion (*mecaka*) unknown; name from etymology : 288
- deer (*mṛga*) on the various Indian deer, see *BIA*: ch. 20. Sometimes any wild forest animal (*MW*: 828) : 164
- deer-foot (*eṇīpadī*) an unidentified spider : 294, 297
- devout (*brahmaṇīkā*) unknown insect, name based on etymology : 281
- dish-creeper (*śarāvākurdi*) unknown insect, name based on etymology. See *śarāvākurda* “creeping among dishes” (*MW*: 1057), (apparently also the name of a snake) : 225
- district (*maṇḍala*) unknown; name based on etymology : 286
- droplet (*bindula*) unknown insect, name based on etymology. Ḍalhaṇa on 5.8.9 (Su 1938: 586) noted that some people read *viluṭa* instead of *bindula* : 281
- drummer (*duṇḍubhaka*) unknown insect, name based on etymology. But may be connected with a variant of *tunda/tund* “belly” *CDIAL*: 1, #5858. \**tunda-bhaka* might then mean “belly-croaker/puffer” : 281
- elephant (*hastin*) unknown; name based on etymology : 286
- enemy-liquor (*arimedaka*) unknown insect, name based on etymology. Perhaps a variant of *ali*- “bee”, *CDIAL*: 1, #716 or *āla* “poison” *CDIAL*: 1, #1352 : 225, 281
- fidgety rat (*capala*) from the etymology of the word. Unidentifiable mouse or rat. It is probably too much of a stretch to connect it with Dravidian forms like Kui *superi* “shrew-mouse”, *DED*<sub>2</sub>: #2675 : 262, 265
- fierce-purple scorpion (*ugradhūmra*) unknown; name from etymology : 288
- fiery insect (*agnikīṭa*) see fire centipede (*agni-centipede*) : 281, 470
- finger-ant (*aṅgulikā*) unknown; meaning from etymology : 285
- fire centipede (*agni-centipede*) unknown

- insect, name based on etymology. Cf. Marāṭhī *āghī* “a kind of stinging fly”  
CDIAL: 1, #57: 280, 469, 470
- fire-centipede (*agniprabhā*) uncertain; same as the **fire centipede** (*agni-centipede*) and cf. **fiery insect** (*agnikīṭa*): 286
- fire-face (*agnimukhā*) an unidentified spider: 294, 296, 297
- fish-bone (*kaṇṭaka*) MW: 245; cf. *Manu* 8.95 (Olivelle 2005: 172, 677): 225
- five-black (*pañcakṛṣṇa*) unknown, etymologically “five-black”: 281
- five-venom (*pañcālaka*) unknown insect, name based on etymology: 281
- five-white (*pañcaśukla*) unknown, etymologically “five-white”: 281
- fondling rat (*lālana*) based on etymology. An unknown rat or mouse: 262, 264
- frog (*dardura*) frog. CDIAL: 6198 also gives “lizard, chameleon” for Khotanese *dodór*, though this may be < *dardru-*: 284
- frown (*bhṛkuṭī*) unknown frog, name from etymology: 284, 286
- gajpipul rat (*vasira-animal*) unknown type of rat or mouse. “*Vasira*,” equated with *gajapippalī* is usually the name of the liana *Scindapsus officinalis* (Roxb.) Schott (GVDB: 132, 362) (see **gajpipul** (*gajapippalī*)). Lianas are known for providing a habitat for many arboreal animals, including rodents. The vulgate *Suśrutasaṃhitā* reads *haṃsira* as the name of this rat: 262, 264
- garland-virtue (*mālāguṇī*) an unidentified spider: 294, 297
- goldie (*sauvarṇikā*) an unidentified spider: 294, 296, 297
- grain-coloured (*lājavarṇā*) an unidentified spider: 294, 297
- greenish (*harita-frog*) unknown frog, name from etymology: 284
- grey peacock-pheasant (*jīvajīvaka*)  
Polyplectron bicalcaratum, Linn., Dave 1985: 270, 273, 274, 281: 199
- hairy scorpion (*romaśa*) unknown; name from etymology: 287
- hairy-head scorpion (*romaśīrṣa*) unknown; name from etymology: 288
- horn (*śṛṅga*) see **horned** (*śṛṅgī*). Unknown insect: 225
- horned (*śṛṅgī*) unknown, based on etymology: 280, 470
- hornet (*kaṇabha*) Possibly connected with *kaṇa* “grain of corn or rice” (MW: 245), but more likely a loan word from Dravidian *kaṭampai* etc., “a kind of hornet, wasp” DED<sub>2</sub>: #1117: 225, 281
- house gecko (*grhagolikā*) see **house gecko** (*grhagoḍikā*): 283
- house gecko (*grhagoḍikā*) MW: 362, CDIAL: 1, #4324. Hemacandra’s *Abhidhānacintāmaṇi* (4.364) mentions that *grhagodhikā* and *grhagolikā* are synonyms (Rādhākānta Deva 1876: 691a, *sub māṇikyā*): 224, 470
- house shrew (*chuchundara*) *Suncus murinus* (Linnaeus, 1766), Wikipedia, BIA: 168–169 and plate 38. Probably a Dravidian loan word related to Tamil *cunṭaṇ*, “grey musk shrew,” see DED<sub>2</sub>: #2661 and CDIAL: 1, #5053: 262, 265
- hundred-creeper (*śatakurda*) unknown insect, name based on etymology. Cf. *śarāvākurda* “creeping among dishes” (MW: 1057), apparently also the name of a snake.: 280
- hundred-kulimbhaka (*śatakulimbhaka*) unknown insect class. Perhaps centipedes: 280
- hundred-woody (*śatadārukā*) see **woody** (*dāruka*). MW: 1049: 225, 475
- iguana (*godheraka*) The गौधेरक is described in the *Carakasamhitā* as a four-legged snake born of a **Indian monitor lizard** that is similar to a black snake and has several species (6.23.134 (Ca 1941: 577)). CDIAL: 1, #4286 identifies this as an iguana: 283,



- 286, 471  
 Indian monitor lizard (*godhā*) *Varanus bengalensis* (Daudin, 1802),  
 Reptiles: 58–60, ill.: 61, 125, 205, 470  
 Indian peafowl (*mayūra*) *Pavo cristatus*,  
 Linn., Woodcock 1980: 39: 199  
 Indian red scorpion (*rakta-vṛścika*) name  
 from etymology. Likely to be the  
 Hottentotta tamulus (Fabricius, 1798);  
 see Wikipedia contributors 2025a: 288  
 invincible rat (*ajita*) etymological meaning;  
 unidentifiable: 262, 265  
 kiṭibha (*kiṭibha*) unknown: 281  
 koel (*kokila*) *Eudynamys scolopaceus*,  
 Linn., Wikipedia contributors 2025b,  
 Woodcock 1980: 66: 199  
 kokila-insect (*kokila-insect*) unknown: 281  
 koṇṭāgīrī (*koṇṭāgīrī*) unknown: 281  
 krimikara (*krimikara*) unknown: 281  
 kuṣṭa-insect (*kuṣṭa-insect*) unknown: 281  
 lac (*lākṣā*) *Kerria lacca* (Kerr.). See  
 GJM1: 445, NK: 2, #32, Varshney 2000.  
 Watt (*Watt<sub>Comm</sub>*: 1053–1066) is  
 characteristically informative, and is  
 definite about the antiquity of lac in  
 India. See also Bellini 2025: 135–138:  
 227, 256, 274  
 large Brown rat (*mahākapila*) from the  
 etymology of the name, “large brown,”  
 perhaps a bandicoot: 266  
 large gecko (*galagoḍikā*) A poisonous  
 insect, amphibian or reptile described  
 in *Suśrutasaṃhitā* 5.8.29 (Su 1938: 588)  
 as a biting creature that may be white,  
 black, with red stripes or rings or  
 spotted. It is described just after the  
*iguanas* (*godheraka*) and before  
 centipedes. The name is unstable, e.g.,  
 गलगोलिका, गलदोडी, गलगोली. Cf. the  
 remarks on geckos in note 672, p. 224.  
 The similarity of names suggests that a  
 गलगोडिका may be a non-domestic  
 creature that looks similar to a  
 domestic gecko. Cf. other IA parallels  
 at CDIAL: 1, #4324, 4431, which point  
 to a Dravidian origin for the lexeme  
 (DED<sub>2</sub>: #1125) and suggests “iguana.”  
 The tokay gecko (*Gekko gecko*  
 (Linnaeus, 1758)) is a large gecko  
 endemic to South Asia having a  
 blue-gray skin with red or orange spots  
 and speckles that may change  
 according to its environment like a  
 chameleon. Tokay geckos, especially  
 males, are aggressive and territorial  
 and can inflict a strong bite. However,  
 many agamids and skinks are also  
 endemic to South Asia, and have  
 markings that could match the  
 description of the *Suśrutasaṃhitā*. See  
 further IW: 40, 135–136; Deuti 2020: 112  
 legume-insect (*vaidala*) unknown insect,  
 name based on etymology: 280  
 lentil insect (*masūrika-insect*) usually the  
 name of a lentil or the “lentil disease,”  
 namely smallpox. But here, an insect:  
 280  
 little point (*koṭika*) unknown frog, name  
 from etymology: 284, 286  
 little rat (*cikkira*) likely related to the Tuḷu  
 “cikkeli, a small variety of mouse,” and  
 other Dravidian works related to Tamil  
*cikka* “small,” DED<sub>2</sub>: #2495. See also  
 CDIAL: 1, #4779 on *cikka* “mouse or  
 muskrat,” from lexical sources, and  
 #4781 *cikkā* “small” from Drav., Burrow  
 1948: #141: 262, 264, 265  
 little-voice (*alpavāca*) unidentified insect;  
 possibly a wrong reading: 280  
 lotus-insect (*padmakīṭa*) unknown insect,  
 name based on etymology: 281  
 maggot (*kīra-insect*) unknown insect. See  
 Lahndā, Panjābī, Bengali, Oriya *kīṛā*,  
 etc., CDIAL: 1, #3193 and similar forms  
 in Bihārī, Maithilī Bhojpurī, etc.  
 Obviously a variant of *kīṭa*: 281  
 maṇḍalapuṣpaka (*maṇḍalapuṣpaka*)  
 unknown: 281  
 massage-ant (*saṃvāhikā*) unknown;  
 translation based on etymology: 285

- matt (*aprabha*) unknown frog, name from etymology : 284
- mole-rat (*kokila-animal*) *Bandicota bengalensis* (Gray & Hardwicke). Etymologically, “brown as a Kokila”. CDIAL: 1, #4324 relates *kokila* to *golaka* but it may more likely be a Dravidian loanword from *koko*, *kogi*, *koki*, meaning “small, little, young” DED<sub>2</sub>: 2030. This is possibly supported by Kannada *kok* and Telugu *golatta*, *koku* for the mole-rat, reported by Prater (BIA: 205) : 262, 266
- mongoose (*nakula*) *Urva edwardsii* or the often sympatric *U. auropunctatus* (small Indian mongoose, usually an eater of smaller creatures than snakes) (BIA: ch. 5), On mongooses and snakes, see IW: 112; BIA: 98–99 : 164, 205, 256
- mosquito (*maśaka*) a mosquito, gnat, gadfly or any stinging fly, MW: 793, CDIAL: 1, #9917 : 281, 286
- mountainous (*pārvaṭa*) unknown; name based on etymology : 286
- mudfish (*śakalimatsya*) part of a group of similar fish names, including *śākali*, *śakulī*, *śakula*, etc. CDIAL: #133 “śakula” says that the cognate Assamese *xāl* is the fish *Ophiocephalus striatus* (now *Channa striata* (Bloch)), which is native to India and SE Asia, and we have followed that suggestion for want of better clues : 225
- myna-face (*śārikāmukha*) unknown insect, name based on etymology, cf. *śāra* etc., MW: 1066; perhaps also cf. *bee* (*śīlīmukha*) : 280
- nāhana (*nāhana*) unknown : 281
- needle-beak (*sūcītunḍa*) unknown insect or gnat, MW: 1240 : 474
- needle-mouth (*sucīmukha*) unknown, etymologically “needle-mouth’ : 281
- noseless (*vināsikā*) unknown insect, name based on etymology : 281
- oceanic (*sāmudra*) unknown; name based on etymology : 286
- otter (*udra*) sometimes *undra*, which Ḍalhaṇa glossed as “aquatic cat” (Su 1938: 421). The Sanskrit term is cognate with the English “otter” (Burrow 1977: 121 et passim); cf. CDIAL: 96. On Indian otters, see BIA: 131, 151–154 : 164
- outsider (*bāhyaka*) unknown insect, name based on etymology : 281
- parakeet (*śuka*) *Psittacula krameri*, Scopoli (or *P. eupatria* or *cyanoccephala*), See Woodcock 1980: 64 : 199, 267
- picciṭā (*picciṭā*) unknown insect; etymologically perhaps similar to *piccaṭa* “squashed flat” (MW: 624) : 281
- pigeon rat (*kapota-animal*) a rat “like a pigeon;” presumably of grey colour : 262, 266
- pitcher-like (*kaunḍinya-insect*) unknown insect, name based on etymology : 281
- pot-nose wasp (?) (*kumbhīnāsa*) unknown insect, name based on etymology. Cf. the forms related to *kumbhakārī* “potters’ wife” at CDIAL: 1, #3312, including Assamese *kumārni* “mason-wasp,” Hindī “wasp-like insect which makes a clay nest” : 474
- pot-turd (*kumbhīvarcas*) unknown insect, name based on etymology (on *-varcas*, see *Mahākośa*: 1, 725 : 281
- pravalāka (*pravalāka*) unknown : 281
- racket-tailed drongo (*bhṛṅgarāja*) *Dicrurus paradiseus*, Linn., Woodcock 1980: 123 : 199
- rat (*unduru*) Also *undura* or *indūra* in some sources, including the vulgate. A common name for a rat or mouse in many S. Asian languages from Prakrit to contemporary, CDIAL: 1, #2095, Menon 2014, where it is called “house mouse” : 262, 266
- red spider (*raktā-spider*) an unidentified spider : 294, 296
- red-dweller (*kaṣāyavāsika*) unknown, name

- from etymology : 281
- red-stripe (*raktarājī*) an unknown venomous insect, MW: 862 : 225
- red-toothed shrew (*kaṣāyadanta*) see red-toothed shrew (*kaṣāyadaśana*) : 265
- red-toothed shrew (*kaṣāyadaśana*) from the etymology of the word. Shrews in the genus *Sorex* (as well as others in the subfamily *Soricinae*) have red-pigmented teeth. Species in South Asia include Hodgson's brown-toothed shrew (*Episoriculus caudatus*), the Himalayan water shrew (*Chimarrogale himalayica*), the Assam mole shrew (*Anourosoricini assamensis*) and the Giant mole shrew (*A. schmidi*) : 262, 473
- revolver (*āvartaka*) unidentified insect : 280
- river dolphin (*śiśumāra*) *Platanista gangetica* (Lebeck), BIA: 313–314, plate on p. 289, MW: 1076 : 275
- rock dove (*pārāvata*) *Columba livia* Gmelin, JF, Dave 1985: 255–256 : 299
- Rohu carp (*rohita*) *Labeo rohita* (Hamilton, 1822), Froese and Pauly 2022; Wikipedia contributors 2025g : 468
- round-bristle (*ṛtṭaśūka*) unknown; name based on etymology : 285
- śairyaka-insect (*śairyaka-insect*) unknown : 281
- śambuka (*śambuka*) unknown : 281
- sarṣapaka (*sarṣapaka*) unknown : 212, 281
- scorpion (*ṛścika*) MW: 1011, etc. : 224, 287
- scorpion the colour of cow's urine (*gomūtrābha*) unknown; name from etymology : 287
- scorpion-fish (*varakimatsya*) *varaki* in the Nepalese MSS may possibly be an alternant of *wasp* (*varaṭī*). Dalhaṇa on 5.3.5 (Su 1938: 568) remarked that some interpreted *varakimatsya* as two items, "wasp and fish," others as a single one, "wasp-fish"; I have here taken the latter option because the terms always seem to appear together. See also HIML: 1B, 396, note 62 : 224, 225, 474
- she-ass insect (*gardabhī-insect*) unknown insect, name based on etymology : 281
- sheep-insect (*urabhra-insect*) unidentified insect : 280
- slimy (*śleṣmaka-insect*) unknown insect, name based on etymology : 281
- snake-sore (*ahikuttha*) unknown; name based on etymology : 285
- sonny rat (*putraka*) unidentified mouse or rat. Perhaps related to Dravidian forms like Pengo *puṭki*, DED<sub>2</sub>: #4257 (itself perhaps just a form related to Tamil *poṭi* "little") : 262, 264
- sore-maker (*kutthuka*) unknown; name based on etymology : 285
- speckle-head (*citraśīrṣa*) see speckle-head (*citraśīrṣaka*) : 221, 225
- speckle-head (*citraśīrṣaka*) unknown insect, name based on etymology : 280, 473
- spotaka (*spotaka*) unknown : 281
- spotted (*paruṣa*) unknown insect, name based on etymology, which could be anything from dirty-coloured, stiff, or rough to shaggy : 280
- spotted scorpion (*paruṣa-ṛścika*) unknown; name from etymology : 287
- stench (*sthālakā*) unknown; translation based on *sthālika*, MW: 1262 : 286
- sting-poison (*alaviṣa*) an unidentified spider : 294, 295
- stripy (*abhirājī*) unknown insect, name based on etymology : 280
- swan (*haṃsa*) *Cygnus olor*, Gmelin, Dave 1985: ch. 84. As Dave says, "a generic term for a large part of the Anatidae family" including Swans, Geese, Ducks and Teals. The term needs to be translated variously according to the geographical context of the usage. In the Himalayan region, "swan" is appropriate, but in more southerly peninsular India, "goose" is more

- likely. The dogmatism of J. Vogel 1962 is based on mainly southern observations and temple carvings. The discussion by Dave 1985 is nuanced and accurate : 199
- sweet hoof (*nakha*) *Unguis odoratus* or *Onycha*, McHugh 2013, from which I adopt the name “sweet hoof.” See especially McHugh’s very interesting discussion about translating this term, pp. 56 ff. See also MW: 524 (on no authority) : 274
- tawny rat (*aruṇa*) from the etymology of the word, perhaps *Rattus norvegicus* (Berkenhout, 1769), which is large, brown and common (it originated in central Asia and (likely) China, not Norway), and perhaps distinguishing it from the “large” brown rat : 262, 266, 267, 468
- thick-head (*sthūlaśīrṣā*) unknown; meaning from etymology : 285
- thin-beak (*sūkṣmatuṇḍa*) an unknown insect; c.f., beaked (*tuṇḍikerī*), needle-beak (*sūcītuṇḍa*). MW: 1240 : 225
- three-ring (*trimaṇḍalā*) an unidentified spider : 294
- tick-navel (*uṇḍunābha*) unknown insect; name based on etymology. Etymologically, an insect with an *uṇḍu* for a navel. Conjecturally, perhaps *uṇḍu* is a loan from Tamil *antu* “small grey-winged insect found in stored paddy” (DED<sub>2</sub>: #150). Possibly remotely related to Dravidian lexemes for “tick,” *uḷuṅgu*, *uḍum*, *urūm*, *uṇṇi*, etc. DED<sub>2</sub>: #591, #604. The vulgate of the *Suśrutasamhitā* reads pot-nose wasp (?) (*kumbhīnāsa*) “pot-nose” in place of this lexeme, q.v. : 280
- tolaka (*tolaka*) unknown : 281
- tortoise (*kūrma*) Perhaps *Geochelone elegans* (Schoepff), Reptiles: 30 and plate, MW: 1076 : 275
- tuṇḍavakra (*tuṇḍavakra*) unknown : 281
- tuṅgīnāsa (*tuṅgīnāsa*) unknown : 281
- urine-poison (*mūtraviṣa*) an unidentified spider : 294, 296
- vaki fish (*vakimatsya*) an unknown fish. Possibly a lexical variant of scorpion-fish (*varakimatsya*), q.v. : 225
- valabhika (*valabhika*) unknown poisonous insect. Some similar lexemes mean “ridge of a roof, veranda”, CDIAL: #11220, which is probably irrelevant : 225, 281
- variegated scorpion (*karbura*) unknown; name from etymology. Possibly *Isometrus maculatus* (De Geer, 1778), which is brown and spotty : 287
- vicitiṅga (*vicitiṅga*) unidentified insect (not in MW) : 280
- warding off (*vāraṇī*) unknown insect, name based on etymology. Cf. *Oriyā bāraṇī* “charm against wild animals or noxious insects” CDIAL: 1, #11553 : 281
- wasp (*vaiśvambhara*) A variant of wasp (*viśvambhara*), q.v. : 281
- wasp (*varaṭi*) see wasp (*varaṭī*) : 474
- wasp (*varaṭī*) MW: 923, CDIAL: #11313, 11330, etc. : 473, 474
- wasp (*viśvambhara*) said to be a synonym of *gandholī*, q.v. (HIML: 1B, 395, note 59) : 224, 285, 474
- wasp (*vāraṭi*) see wasp (*varaṭi*) : 225
- webby spider (*jālinī-spider*) an unidentified spider : 294, 297
- white frog (*śveta-dardura*) uncertain; name based on etymology : 284
- white gecko (*śvetā-grhagolikā*) unknown; name based on etymology : 286
- white rat (*śveta-animal*) from the etymology, perhaps the *Mus musculus*, L., although strictly, they are agouti not white. The whitetailed wood rat (*Madromys blanfordi*, Thomas) is brown but has a distinctive white end to its tail : 262, 266
- white scorpion (*śveta-vṛścika*) unknown;

name from etymology : 288  
 white spider (*śvetā-spider*) an unidentified spider : 294, 295  
 wing-scorpion (*patravṛścika*) unknown insect, name based on etymology : 224, 281  
 woody (*dāruka*) an unknown insect; translation based on etymology. See

hundred-woody (*śatadārukā*), MW: 1049 : 470  
 worm-dish (*krimisarāvī*) unknown insect, name based on etymology. *śarāva* “dish, plate, etc.” (MW: 1057) : 281  
 yellow spider (*pīṭikā-spider*) an unidentified spider : 294, 295

## Minerals

ashes (*bhasma*) ashes, corrosive when wet : 212

cuttle-fish bone (*phenāśma*) Hapax legomenon. Etymologically “foam-stone”. Perhaps cuttlefish bone, or pumice (see Byrski 1981)? Dutt (Dutt: 38–42) conjectured that ‘foam-stone’ may be impure white arsenic obtained by roasting orpiment. : 212

gypsum (*godanta*) NK: 2, 46, #20 : 299  
 orpiment (*haritāla*) Arsenii trisulphidum. See NK v. 2, p. 20 ff : 212

realgar (*manaḥśilā*) Arsenii disulphidium NK: 2, #11 : 296, 312

red ochre (*gairika*) Hellwig 2009: 140–141. NK: 2, #40; the same source, at #6, gives kaoolinum or china clay : 219, 255, 257, 274, 312, 313

rock salt (*saindhava*) See NK: 2, M#48, Watt<sub>Comm</sub>: 963–971 : 44, 107, 181, 255, 290, 298, 312, 441

vermilion (*rakta*) speculative, based on *Mahākośa*: 1, 667, under *raktadhātu*, citing the *Dhanvantarīyanighaṇṭu* : 212

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## Glossary

'angry beetles' - *toṭaka*: 226  
 'flat insects' - *piccitā*: 226  
 'mustard snakes' - *sarṣapaka*: 226  
 'orange-dwellers' - *kaṣāyavāsika*: 226  
 'pot insects' - *kaunḍinya*: 226  
 √ *jṛ* - decomposes: 139  
 √ *pac* - cooks: 139  
 √ *pīḍ* - pain: 247  
 √ *rakṣ* - protect: 112  
 √ *śodh* - purge: 253  
 √ *ūh* - propelled: 247  
  
*a* - hives: 287  
*a* man with no semen - *śaṇḍa*: 126  
     - *śaṇḍha*: 117  
 abdomen - *jaṭhara*: 88 - *pakvāśa*: 164  
     - *udara*: 139  
 abdominal cavity - *koṣṭha*: 138 - *koṣṭha*: 138  
 abdominal gripes - *śūla*: 275  
 abdominal lump - *gulma*: 336  
 abdominal swelling - *gulma*: 78  
*abhayā* - chebulic myrobalan: 316  
*abhighāta* - trauma: 84  
*abhiprāya* - intentionality: 126  
*abhiṣyakta* - manifest: 125  
*abhramukta* - free from clouds: 322  
*abhyaṅga* - massage oil: 200, 206 - oil  
     massage: 204 - oil rub: 164, 373  
*abhyañjana* - oil rubs: 257  
*abhyantarāyāma* - internal tension: 84  
*abīja* - seedless: 108  
*ācamana* - lavages: 111  
*ācāra* - regimen: 27  
*ācārika* - medical advice: 60  
 accents - *svara*: 252  
 accumulation - *samudāya*: 57 - *sañcaya*: 28  
*acetana* - without feeling: 84  
 acidic - *amla*: 110  
 action - *karma*: 98, 103  
*ādarśamaṇḍala* - the mirror ring: 241

additive - *prativāpa*: 168  
*adhibhūta* - physical entity: 98  
*adhibhūta* - primary element: 157  
*adhideva* - divine aspect: 99  
*adhikaraṇa* - topic: 387f  
*adhimantha* - irritation: 324  
*adhiṣṭhāna* - base, foundation: 225  
     - carriers: 225 - foundation: 135  
     - located: 27  
*ādhmāna* - distension: 215 - swelling: 87  
*ādhmāta* - swollen: 244  
*adhodṛṣṭitva* - downward vision: 324  
*adhva* - roads: 81  
*adhyātma* - personal aspect: 98  
*adhyāya* - sections: 30  
 admixture - *prativāpa*: 167 - *prativāpa*: 167, 173  
 afflicted - *upasṛṣṭa*: 108  
 affliction - *upasarga*: 206  
 affuse - *pariṣecana*: 173  
 afterbirth - *aparā*: 187  
*agada* - anti-toxin: 293 - antidote: 219, 252f, 258, 271 - antitoxic: 252  
     - antitoxin: 292  
*āgantva* - external factors: 29  
*āgārādhūma* - soot from the chimney: 52, 165  
 aggregation - *samuccaya*: 387, 391  
*āgneya* - of the nature of agni: 122  
*agni* - digestive fire: 78 - heat: 77  
*agnika* - the flame: 241  
*agnikarma* - cauterization: 164  
*agnisaṅga* - diminished digestive fire: 78  
     - sluggish digestive fire: 169  
*agnivarṇā* - fire coloured: 286  
*agra* - supernatant layer: 319  
*agramukta* - free from the point: 322  
*ahaṁkāra* - sense of self: 99 - sense of the self: 99  
*ahaṁkāra* - i-principle: 98 - identity: 102  
*āhāra* - diet: 27  
*āhārya* - take away: 58  
*ahipatāka* - thei snake flag: 242



- ahorātra* - day and night: 28  
*aids* - *aṅga*: 317  
*air* - *saṁīraṇa*: 247  
*ajagara* - constrictor: 245 - the goat  
 swallower: 242  
*ajākṣīrārdita* - stirred with goat's milk:  
 324  
*ajeya* - invincible: 221 - invincible: 207  
*ajīrṇa* - indigestion: 169  
*ajñā* - incognizant: 100 - unconscious:  
 100  
*ākāśa* - ether: 98  
*akhiladehavyāptirūpam* - takes the form of  
 pervading the whole body: 217  
*akriyaka* - inactive: 87  
*akṣa* - twelve grams: 173  
*ākṣepaka* - convulsion: 84 - the convulsor:  
 83  
*ākṣip* - convulse: 83  
*ākṣipāṇa* - convulsing: 83  
*ākula* - overflowing: 284  
*alagardā* - sting-gush: 41  
*alagarda* - the hungry sting: 241  
*alanīkṛtvā* - made accessible: 25  
*ālepa* - liniment: 314  
*ālepana* - liniments: 41, 207 - ointments:  
 164  
*all bent* - *viśvañcī*: 86  
*all-white* - *sarvaśvetā*: 286  
*alleviated* - *yāpya*: 317  
*alleviation* - *pratīkāra*: 28  
*along these lines* - *evam*: 29  
*āmāśaya* - stomach: 159, 218f  
*amla* - acidic: 110 - sours: 173  
*amnion* - *jarāyu*: 137  
*amṛta* - immortal: 207  
*anāgatāpekṣaṇa* - future reference: 387,  
 391  
*ānāha* - constipation: 215, 218, 221  
*anāyusya* - not conducive to long life: 123  
*aṇḍaja* - born from eggs: 28  
*aṇḍīnī* - with testicles: 337  
*anekānta* - variable statement: 387, 390  
*aṅga* - aids: 317 - component: 26 - parts:  
 29  
*aṅgamarda* - bruising of the limbs: 218  
 - crushing pain in the limbs: 142  
*anger* - *krodha*: 27  
*anguish* - *santāpa*: 82  
*aṅgula* - finger's breadth: 136, 139  
*aṅgulirāji* - the finger stripe: 242  
*animals* - *paśu*: 28  
*añjana* - application of collyrium: 314,  
 319 - collyrium: 253f, 257f, 313-316,  
 318-321, 325 - eye make-up: 201, 206  
 - eye ointment: 206f - eye salve: 220  
 - stibnite: 319  
*ankle* - *khaluka*: 86  
*annamada* - intoxication from food: 218  
*āntarīkṣa* - ethereal: 104  
*anti-toxin* - *agada*: 293  
*antidote* - *agada*: 219, 252f, 258, 271  
*antitoxic* - *agada*: 252  
*antitoxin* - *agada*: 292  
*antra* - entrails: 316 - gut: 219  
*ants* - *pīpīlika*: 28  
*aṇu* - fine: 167 - minute: 122  
*anubandha* - indicatory sounds: 382  
*anulepana* - massage ointment: 200, 204  
 - ointment: 204  
*ānulomya* - rightness: 77  
*anumata* - consent: 387, 390  
*anus* - *guda*: 225  
*aṇutaila* - fine oil: 167  
*anuvāsana* - oily enema: 109  
*anya* - other: 377  
*apadeśa* - statement of reason: 387, 389  
*apāna* - apāna: 77  
*apāna* - *apāna*: 77  
*apāṅga* - outer corner of the eye: 321  
*aparā* - afterbirth: 187  
*aparājita* - undefeated: 285  
*apatānaka* - seizure: 83f  
*apatānakina* - seizure: 179  
*apavarga* - exception: 387, 390  
*apertures of the head* - *kha*: 205  
*aphorism* - *sūtra*: 388  
*apparent* - *pravyakta*: 125  
*applicability* - *upayoga*: 102



application of collyrium - *añjana*: 314, 319  
 application of oil to the head - *śirobasti*: 166  
*apradāna* - being ungenerous: 104  
*apuṣpa* - the grass flower: 241  
*araga timira* - non-bloodshot blindness: 321  
*ardhakaṭapāṭasandhika* - half door-hinge: 58  
*ardita* - facial paralysis: 85 - paralysis: 85, 181  
 arid-land animals - *jāṅgala*: 320  
*ariṣṭā* - bandage: 250f, 256  
*ariṣṭa* - omens: 65, 67  
*arṇavamala* - cuttle fish: 316  
*arocaka* - loss of appetite: 142, 169, 218  
 - loss of interest in food: 172  
*arśas* - haemorrhoids: 169 - prolapses: 336  
*ārtava* - menses: 124 - menstrual blood: 111, 122, 336 - seasonal blood: 108  
*artha* - purpose: 376  
*arthāpatti* - implication: 387, 390  
*aruci* - disinterest in food: 255  
*aruṇa* - yellowish brown: 151  
*asādhya* - incurable: 108, 314  
 - untreatable: 321  
*āsaṅgima* - fastening: 58  
*asātmya* - uncongenial: 82  
*āśaya* - receptacle: 136  
*āsekya* - having diminished seed: 116  
*asi* - stings: 227  
*aśmarī* - urinary stones: 275  
*āśoka* - grief: 27  
*āśraya* - substrata: 211  
*āśrayin* - substrate: 27  
*aśrupāta* - weeping tears: 112  
*āsthāpana* - enema: 109  
*asthi* - bones: 29  
*aṣṭhīlā* - pebble: 202  
 asthma - *śvāsa*: 275  
*āstikya* - being a believer: 104  
*asūyā* - jealousy: 27  
*atibalā* - strong mallow: 317  
*atideśa* - prediction: 387, 389

*atīkrāntāpekṣaṇa* - past reference: 387, 391  
*ātmaka* - nature: 26  
*āṭopa* - flatulence: 203  
 attribute - *guṇa*: 103, 374  
*atyānandā* - extremely excited: 337  
*ava* √ *śṛ* - worn down: 172  
*avabāhuka* - dangling arm: 87  
*avabhāsinī* - shining: 135  
*avadāraṇa* - fissuring: 206  
*avagāḍha* - deep: 171  
*avakāśa* - place: 44  
*avakrānti* - descent: 122  
*avalekhana* - combs: 200  
*avapīḍa* - sternutatory: 254  
*āvarta* - spiral: 321  
*avaśardhita* - fart: 225  
 aversion to food - *bhaktadveṣa*: 275  
*avirodhin* - compatible: 165  
*avyakta* - unmanifest: 98  
 axelwood - *dhava*: 325  
*ayana* - half-year: 28  
*āyatta* - depends on: 27  
*āyu* - life: 40  
*āyur* - life, longevity: 23  
*āyurveda* - the science of life: 24 - the science of medicine: 102  
*babhru* - the brown: 241  
*babhrūkuṭīmukha* - the brown hut mouth: 241  
*baddham* - bound, connected: 62  
*bahuvārṇa* - multicolour: 285  
*bāhyāyāma* - external tension: 84  
*balā* - country mallow: 317  
*bala* - strength: 27  
*balāsa* - phlegm: 165  
*bali* - morsel: 201 - ritual offering: 127  
 - sacrificial offerings: 251  
 bandage - *ariṣṭā*: 250f, 256 - *bandha*: 250  
*bandha* - bandage: 250  
 bare entities - *tanmātra*: 98  
 base, foundation - *adhiṣṭhāna*: 225  
*bāṣpa* - vapour: 201f, 205  
*basti* - bladder: 160 - enema: 166  
 - instillation: 109

- be exhausted - *sāda*: 219  
 bearers - *voḍhāra*: 200  
 beauty berry - *priyaṅgu*: 319  
 being a believer - *āstikya*: 104  
 being ungenerous - *apradāna*: 104  
 belly - *kukṣi*: 115  
 bellyache - *jaṭhara*: 221  
 bent brow and eye - *vakrabhrūnetra*: 323  
 benumbed - *jāḍya*: 246  
 beryl - *vaidūrya*: 325  
 between the shoulder-blades - *trika*: 166  
 bewilderment - *moha*: 80  
*bhāgadheya* - tribute: 127  
*bhadrādāru* - deodar: 325  
*bhakṣya* - masticable: 392  
*bhaktadveṣa* - aversion to food: 275  
*bhaṅga* - leaves: 322  
*bhāṣā* - speech: 152  
*bhavet* - it may be: 321  
*bhāvita* - cooked: 319 - infused: 315  
*bherī* - drum: 258  
*bheṣaja* - treatment: 337  
*bhojya* - edible: 392  
*bhrama* - dizziness: 80  
*bhramaraka* - drongo: 201  
*bhūmī* - black earth: 259  
*bhūta* - element: 101f, 122 - elements: 98  
*bhūtādi* - elemental: 98 - starting point  
 for the elements: 98  
*bhūtagrāma* - group of living being: 101  
*bhūtātman* - elemental self: 123, 135  
 big-leaf scalpel - *vrddhipatra*: 300  
 bighead - *mahāsiras*: 285  
*bīja* - seed: 115 - semen: 336  
 bile - *pitta*: 150, 317  
 bile-fever - *pittajvara*: 256  
 bile-support - *pittadharā*: 139  
 bilious / choleric - *pittalā*: 337  
*bindurāji* - the drop stripe: 242  
 black earth - *bhūmī*: 259  
 black - *kṛṣṇā*: 41, 286  
 black part - *kṛṣṇa*: 321  
 black soot - *maṣī*: 314  
 black-pattern - *kṛṣṇacitra*: 286  
 black-striped - *kṛṣṇarājī*: 286  
 bladder - *basti*: 160  
 blanket sweating - *prastara*: 164  
 blindness - *timira*: 321  
 blink of the eye - *nimeṣa*: 28  
 blister - *sphoṭa*: 294  
 blisters - *piṭaka*: 265, 268  
 blockage of the vision - *dṛṣṭyavarodha*:  
 245  
 blood - *rakta*: 108, 150, 159 - *rudhira*: 28  
 - *śonita*: 317 - *śoṇita*: 107f  
 blood-bile - *raktapitta*: 313  
 blood-bile - *śonita-pitta*, *rakta-pitta*: 317  
 blood-letting - *sirāvedha*: 314  
 blood-support - *raktadharā*: 137  
 bloodshot blindness - *rāgin timira*: 318  
 - *rāgiṇi timire*: 321  
 blossom - *prasūna*: 258  
 blue dot cataract - *mlāyin*: 320  
 blue vitriol - *tuttha*: 319  
 bodily constituents - *dhātu*: 217  
 bodily element - *dhātu*: 79  
 bodily tissues - *dhātu*: 77 - *dhātu*: 246  
 body element - *dhatu*: 153  
 body language - *iṅgita*: 200  
 body tissue - *dhatu*: 140 - *dhātu*: 219, 292  
 body tissues - *dhātu*: 302  
 bones - *asthi*: 29  
 born from eggs - *aṇḍaja*: 28  
 born in in a caul - *jarāyujja*: 28  
 born of sweat - *svedaja*: 28  
 bound, connected - *baddham*: 62  
 bow paralysis - *dhanuḥstambha*: 83  
 box myrtle - *kaṭphala*: 316  
*brahma* - holiness: 251  
*brahmacāriṇī* - chaste woman: 112  
*brahmarṣi* - holy sages: 251  
 breath - *prāṇa*: 77, 150, 153  
 brilliance - *tejas*: 114  
 bristle - *śūka*: 225  
*br̥mhaṇa* - nourishment: 27  
 brown - *kapilā*: 286  
 bruising of the limbs - *aṅgamarda*: 218  
 bubbling - *budbuda*: 324  
*budbuda* - bubbling: 324  
*buddhi* - cognition: 98 - intellect: 99

*buddhinirodha* - unreasonableness: 104  
 bulbs - *kanda*: 28  
 bulges - *piṭaka*: 125  
 burning sensation - *dāha*: 81  
 bursts out - *sphuṭita*: 83  
 buttock - *kaṭi*: 160  
  
*cakradhārā* - rim of a wheel: 59  
*cakraka* - the ringed: 242  
*cala* - liquid: 322  
 can be mitigated - *yāpya*: 83, 321  
*caraṇī* - *caraṇī*: 337  
*caraṇī* - *caraṇī*: 337  
 cardamom - *elā*: 316  
*carman* - pelt: 28  
*carmānta* - leather: 250  
 carnivore - *kravyabhuj*: 318  
 carriers - *adhiṣṭhāna*: 225  
 cassia cinnamon - *patra*: 324  
 castor oil - *pañcāṅgulatāila*: 317  
 cataract - *liṅganāśa*: 321  
*caturvarga* - fourfold grouping: 29  
*catuṣṭaya* - four factors: 29  
 cause - *kāraṇa*: 99f  
 caused by wind - *pavanodbhava*: 317  
 causes - *hetu*: 337  
 causing a fall - *sraṃsanī*: 337  
 causing the destruction of actions such  
 as moving - *gamanādikriyāvināśakarī*:  
 323  
 caustic - *kṣāra*: 109, 111, 273  
 cauterization - *agnikarma*: 164  
 cauterized - *paridāhita*: 271  
*ceṣṭā* - gesture: 104  
*cetanādhātu* - element of consciousness:  
 125  
 chance - *yadṛcchā*: 101  
 channel - *mārga*: 173  
 character - *prakṛti*: 282  
 characteristic - *lakṣaṇa*: 101 - *liṅga*: 100  
 chaste woman - *brahmacārīṇī*: 112  
*chāyā* - complexion: 135  
 chebulic myrobalan - *abhayā*: 316  
*chedya* - excision: 30  
 cheek-ear - *gaṇḍakārṇa*: 58  
 chest - *hṛd*: 219

*chidra* - intervals: 104 - opening: 321  
 child bearing - *kaumārabhṛtya*: 332  
 child-murderess - *putraghnī*: 337  
*chinna* - segmented: 41  
 choler - *pitta*: 337  
 chyle - *rasa*: 78, 128, 158f - *rasa*: 158 - *rasa*:  
 157, 218  
 chyle - *rasa*: 47  
*cihna* - signs: 337  
 circuit of the pupil - *drṣṭimaṇḍala*: 322  
*citraka* - the mark: 241  
 citron - *mātuluṅga*: 324  
*citta* - mind: 100  
 clean - *pra* ✓ *sādh*: 206  
 cloth - *plota*: 250  
 clumps - *granthi*: 107, 111  
 clusters - *samplava*: 28  
 cock - *tāmracūḍa*: 318  
 cognition - *buddhi*: 98  
 cohesion - *yoga*: 387  
 cohesion - *yoga*: 388  
 collection - *varga*: 29  
 colligation - *sannipāta*: 122  
 collyrium - *añjana*: 253f, 257f, 313–316,  
 318–321, 325  
 colon - *pakvāśaya*: 138  
 combined - *upahita*: 317  
 combs - *avalekhana*: 200  
 comes forth - *pravartate*: 100  
 comfort - *sukha*: 29  
 compatible - *avirodhin*: 165  
 compendium of diseases - *rogasamgraha*:  
 334  
 complexion - *chāyā*: 135 - *varṇa*: 27, 65,  
 114, 130  
 component - *aṅga*: 26  
 compounds - *yoga*: 314  
 compressed - *saṃkṣipta*: 59  
 compressed - *saṃkṣipta*: 58  
 compulsion - *niyoga*: 387, 391  
 conch - *salilotthita*: 320  
 congenital blindness - *jātyandha*: 114  
 congested humours - *sannipāta*: 29  
 consent - *anumata*: 387, 390  
 constipation - *ānāha*: 215, 218, 221

- constitution - *prakṛti*: 255  
 constrictor - *ajagara*: 245  
 contamination dropsy - *duṣyodara*: 218  
 contraposition - *viparyaya*: 387, 390  
 convulse - *ākṣip*: 83  
 convulsing - *ākṣipāṇa*: 83  
 convulsion - *ākṣepaka*: 84  
 cooked barley - *yavaudana*: 321  
 cooked - *bhāvita*: 319 - *siddham*: 370  
 cooks - *pac*: 139  
 copper - *tāmra*: 323  
 coppery - *tāmra*: 136  
 coral - *vidruma*: 325  
 core - *majjan*: 129 - *sāra*: 137  
 coṣa - driness: 324 - dry: 298f - dryness: 294  
 cottony jujube - *kākolī*: 325  
 counter-quiver - *pratitūnī*: 87  
 counter-stone - *pratyasthīlā*: 88  
 counter-sun - *pratisūrya*: 285  
 counter-swelling - *pratyādhmāna*: 87  
 counteraction - *pratiśedha*: 313  
 country mallow - *balā*: 317  
 cow snout - *gonasa*: 242f  
 cow-dung - *gośakṛt*: 315  
 cow-praising - *govandanā*: 41  
 cow's flesh - *gomāṃsa*: 314  
 cow's urine - *gomūtra*: 316  
 cramp - *saṅkoca*: 172  
 creeper-ear - *vallīkarṇa*: 58  
 creepy-crawlies - *sarīsrpa*: 25, 28  
 crimson and crimson-ringed - *raktā*: 286  
 crimson - *raktā*: 286  
 crow's foot - *kākapada*: 220  
 crow's lip - *kākauṣṭha*: 58  
 crushing pain in the limbs - *aṅgamarda*: 142  
 cumucumāyana - itching: 79  
 cuñcumālaka - little ring of spots: 238  
 curable - *sādhya*: 108, 314  
 curds - *dadhi*: 203, 207  
 cure - *siddhi*: 220  
 cured - *sādhya*: 222  
 cuscus grass - *uśīra*: 319  
 cut - *pra* *chā*: 269  
 cutting with a blade - *śastrakṣata*: 314  
 cuttle fish - *aṇṇamala*: 316  
 cuttlefish bone - *phena*: 325  
 - *samudraphena*: 316  
 dadhi - curds: 203, 207  
 dadhimukha - the curd mouth: 241  
 dadru - ringworm: 284, 292  
 dāha - burning sensation: 81 - feeling of heat: 268 - overheating: 313  
 - temperature: 296  
 dainya - misery: 27  
 dais - *pīṭha*: 58  
 daivakṛte - naturally-occurring: 321  
 daṇḍāpatānaka - stick seizure: 83  
 dangling arm - *avabāhuka*: 87  
 dantamāṃsa - gum: 203  
 dantaveṣṭa - tooth socket: 203  
 darbhapuṣpa - the grass flower: 242  
 dardru - ringworm: 284  
 darita - torn: 238f  
 dark brown - *śyāma*: 114  
 dark colour - *dhyāma*: 216  
 dark - *kṛṣṇa*: 114  
 dark, rough patches of skin - *kiṭibha*: 265, 284  
 dart-mouth - *śaṅkumukhī* : 42  
 daṣṭa - stung: 285f  
 datta - given: 201  
 dauhrda - pregnant craving: 127  
 - pregnant longing: 126 - sharing her heart with the fetus: 126  
 dauhrdā - sharing her heart with the fetus: 126  
 day and night - *ahorātra*: 28  
 deadly substance - *kālakalpa*: 247  
 decoction - *kaṣāya*: 109, 300 - *kvātha*: 111, 220, 267ff - *niḥkvātha*: 111  
 decoctions - *kaṣāya*: 200, 323  
 decomposes - *jī*: 139  
 decomposition - *kuṇapa*: 107f  
 deducible - *ūhya*: 387, 392  
 deep - *avagāḍha*: 171  
 deer - *eṇa*: 318

- defect - *doṣa*: 111  
 defects - *doṣa*: 336  
 deity - *devatā*: 251  
 delirium - *moha*: 214  
 demons - *graha*: 332  
 demons - *graha*: 332  
 deodar - *bhadradāru*: 325  
 depends on - *āyatta*: 27  
 depression - *viṣāda*: 27  
 descent - *avakrānti*: 122  
 desert date - *iṅgudī*: 319  
 desire - *icchā*: 27  
 determination - *nirṇaya*: 387  
 determining factors - *nimitta*: 103  
 devadinna - the gift of god: 241  
 devatā - deity: 251  
 dhamanī - duct: 128  
 dhamani - pipe: 84, 87  
 dhamanī - pipe: 83, 137, 140, 149f, 152ff,  
 156, 159f - pipes: 124  
 dhanuḥstambha - bow paralysis: 83  
 dharma - essential property: 100 - merits:  
 131 - righteousness: 104 - virtue: 115  
 dhātrī - emblic: 316  
 dhātu - bodily constituents: 217 - bodily  
 element: 79  
 dhātu - bodily tissues: 246  
 dhātu - bodily tissues: 77  
 dhatu - body element: 153  
 dhatu - body tissue: 140  
 dhātu - body tissue: 219, 292 - body  
 tissues: 302 - element: 215 - mineral:  
 212, 214  
 dhātu - tissue: 137  
 dhātu - tissue: 136 - tissues: 277  
 dhava - axelwood: 325  
 dhṛti - willpower: 104  
 dhūma - inhaled smoke: 201  
 dhūmadarśin - seeing smoke: 314  
 dhūpa - fumigation: 292  
 dhyāma - dark colour: 216 - grimy: 200  
 diet - *āhāra*: 27  
 differentiated - pravyakta: 127  
 digdha - poisoned: 256f  
 digestive fire - *agni*: 78  
 dilator - *pravardhanaka*: 58  
 diminished digestive fire - *agnisaṅga*: 78  
 dīpyaka - the stimulator: 242  
 discharge - *praseka*: 215 - *srāva*: 204, 206  
 discolouration - *vaivarṇya*: 79  
 disease - *vyadhi*: 29  
 diseases - *roga*: 336  
 disinterest in food - *aruci*: 255  
 disjunction - *viśleṣa*: 218  
 disorders of the female reproductive  
 system - *yonivyāpat*: 336  
 disorientation - *moha*: 78  
 distension - *ādhmāna*: 215  
 divine aspect - *adhideva*: 99  
 divine illusion - *māyā*: 141  
 dizziness - *bhrama*: 80  
 door-hinge - *kapāṭasandhika*: 58  
 doṣa - defect: 111 - defects: 336 - humour:  
 217, 307, 321, 388 - humours: 28, 76  
 - humours: 336 - pathology: 109  
 - problem: 142  
 doṣapariplava - unsteadiness of the  
 humours: 323  
 double - *yamalā*: 203  
 doubt - *saṁśaya*: 387, 391  
 downward vision - *adhodṛṣṭitva*: 324  
 drākṣā - grapes: 324  
 dravāñjana - liquid collyrium: 319  
 dravya - liquid: 257 - substance: 65, 374  
 dried flesh - *vallūraka*: 58  
 dried ginger - *nāgara*: 315  
 driness - *coṣa*: 324  
 drinkable - *peya*: 392  
 drongo - *bhramaraka*: 201  
 drowsiness - *supti*: 165  
 drṣṭi - eye: 114 - pupil: 313, 322f  
 drṣṭimaṇḍala - circuit of the pupil: 322  
 drṣṭivibhrama - faulty vision: 206  
 drṣṭyavarodha - blockage of the vision:  
 245  
 drum - *bherī*: 258  
 dry - *coṣa*: 298f  
 dry rub - *utsādana*: 204  
 dry rubs - *utsādana*: 200  
 dryness - *coṣa*: 294

- duct - *dhamanī*: 128 - *sirā*: 87, 137, 149ff, 156, 160, 252, 269, 302  
ducts - *sirā*: 29, 164  
duḥkha - suffering: 27  
duṇḍubhi - kettle drum: 273  
dung beetles - *varcaḥkṛtā*: 226  
dūrṇā - panic grass: 324  
dūṣī-viṣa - slow-acting poison: 219  
dūṣīviṣa - slow poisoning: 253  
- slow-acting poison: 221, 269  
dūṣīviṣāri - enemy of slow-acting poison: 221 - slow-acting poison antidote: 203  
dust - *rajas*: 76  
duṣṭa - injured: 293  
duṣyodara - contamination dropsy: 218  
dveṣa - hatred: 27  
dvyāhika - the two-day: 242  
dvyāṅgulirāji - the two finger stripe: 242  
dwindling away - *kṣaya*: 218  
dysfunctional eyes - *vikṛtākṣa*: 114, 126
- earache - *karnaśūla*: 87  
early stage - *taruṇa*: 129  
earth - *pāṃśu*: 250  
earthen products - *pārthiva*: 29 - *pārthiva*: 28  
edible - *bhojya*: 392  
effects - *kārya*: 99  
ekāṅgaroga - illness of one limb: 84  
ekānta - invariable statement: 387  
- invariable statement: 390  
ekarasa - one essence: 259  
elā - cardamom: 316  
element - *bhūta*: 101f, 122 - *dhātu*: 215  
element of consciousness - *cetanādhātu*: 125  
elemental - *bhūtādi*: 98  
elemental self - *bhūtātman*: 123, 135  
elements - *bhūta*: 98  
elephant/snake - *nāga*: 227  
elixir salve - *rasāñjana*: 315, 319f  
elixir-salve - *rasāñjana*: 315  
elixir-salve - *śīta*: 315  
ellipsis - *vākyaśeṣa*: 387  
ellipsis - *vākyaśeṣa*: 390
- embelia - *vidāṅga*: 319  
emblic - *dhātrī*: 316  
eṇa - deer: 318  
enclosed roasting - *puṭākhyā*: 318  
- *puṭapāka*: 319  
ends - *vaktra*: 323  
enema - *āsthāpana*: 109 - *basti*: 166  
enemy of slow-acting poison - *dūṣīviṣāri*: 221  
energy - *ojas*: 65  
eṇīpada - the deer foot: 241  
enlarged spleen - *plīhan*: 169  
entrails - *antra*: 316  
envy - *īrṣyā*: 27  
errhine - *nasya*: 318  
errhines - *nasya*: 207  
essence - *rasa*: 128 - *sāra*: 28 - *sattva*: 130  
essential being - *svabhāva*: 101  
essential property - *dharma*: 100  
ether - *ākāśa*: 98  
ethereal - *āntarīkṣa*: 104  
evacuation - *saṃśodhana*: 271  
evam - along these lines: 29  
even more apparent - *pravyaktatara*: 125  
exception - *apavarga*: 387, 390  
excision - *chedya*: 30  
expert - *vicakṣaṇa*: 113  
explication - *vyākhyāna*: 387, 391  
exposition - *nirdeśa*: 387, 389  
expressed juice - *svarasa*: 315  
extensive meaning of the collection of statements - *vāksamūhārthavistāra*: 243  
external factors - *āgantū*: 29  
external tension - *bāhyāyāma*: 84  
extract - *niryāsa*: 206  
extract of rohu carp - *rauḥita*: 315  
extracted juice - *surasa*: 111  
extracted juice - *svarasa*: 206  
extracts - *rasa*: 319  
extremely excited - *atyānandā*: 337  
eye - *drṣṭi*: 114  
eye make-up - *añjana*: 201, 206  
eye ointment - *añjana*: 206f  
eye salve - *añjana*: 220

- eyewash - *tarpaṇa*: 206, 314, 319  
 facial paralysis - *ardita*: 85  
 faculties - *indriya*: 98  
 fainting - *mūrcchā*: 256 - *mūrchā*: 80f  
 fart - *avaśardhita*: 225  
 fastening - *āsaṅgima*: 58  
 fat - *vasā*: 138 - *medas*: 160  
 fat - *vasā*: 318  
 fat-salt - *sneha-lavaṇa*: 168  
 fat-support - *medodharā*: 137  
 faulty medical treatment - *mithyopacāra*: 336  
 faulty vision - *dr̥ṣṭivibhrama*: 206  
 feces-support - *purīṣadharā*: 138  
 feeling of heat all over - *paridāha*: 246  
 feeling of heat - *dāha*: 268  
 feeling - *vedanī*: 136  
 female reproductive organ - *yoni*: 336f  
 female reproductive system - *yoni*: 336  
 fetal conduit - *garbhanāḍī*: 127  
 fetus - *garbha*: 118, 139  
 fever - *jvara*: 75  
 field-specific term - *svasaṃjñā*: 387, 391  
 fiery - *taijasa*: 98  
 filaments - *kiñjalka*: 315  
 fine - *aṇu*: 167  
 fine elements - *tanmātra*: 98  
 fine oil - *aṇutaila*: 167  
 finger's breadth - *aṅgula*: 136, 139  
 fire coloured - *agnivarṇā*: 286  
 first point of view - *pūrvapakṣa*: 390  
 fissuring - *avadāraṇa*: 206  
 flag - *patāka*: 258  
 flame of the forest - *palāśa*: 319  
 flatulence - *āṭopa*: 203  
 flavour - *rasa*: 388  
 flavours - *rasa*: 27, 65  
 flesh - *māṃsa*: 29, 159  
 flesh-support - *māṃsadharā*: 137  
 flooded - *pariplutā*: 337  
 flowering trees - *vr̥kṣa*: 27  
 flowers - *puṣpa*: 28  
 follicles - *kha*: 204  
 foot-burn - *pādādāha*: 87  
 force - *vega*: 166  
 foreign bodies - *śalya*: 302  
 foreign body - *śalya*: 302  
 foreign object - *śalya*: 160  
 formal procedure - *kalpa*: 225, 250  
 formulation - *yoga*: 163  
 fortnight - *pakṣa*: 28  
 foul-smelling pus - *pūtipūya*: 108  
 foundation - *adhiṣṭhāna*: 135  
 four factors - *catuṣṭaya*: 29  
 fourfold grouping - *caturvarga*: 29  
 free from clouds - *abhramukta*: 322  
 free from the point - *agramukta*: 322  
 freedom - *kaivalya*: 100  
 frogs - *maṇḍūka*: 28  
 fruit trees - *vanaspati*: 27  
 fruits - *phala*: 28  
 fumigation - *dhūpa*: 292  
 future reference - *anāgatāpekṣaṇa*: 387, 391  
*gada* - toxin: 293  
*gadgada* - stammering: 87  
*gāḍha* - pinched: 60  
*gairikaḥ* - red chalk: 324  
 gall bladder - *pittāśaya*: 157  
*gamana* - intercourse: 110  
*gamanādikriyāvināśakarī* - causing the destruction of actions such as moving: 323  
*gaṇḍakarna* - cheek-ear: 58  
*gara* - toxic potion: 275  
*garbha* - fetus: 118, 139 - offspring: 118  
*garbhanāḍī* - fetal conduit: 127  
*garbhāśaya* - uterus: 123  
 garlands - *sraja*: 200  
*garuḍa* - *tārṣya*: 258  
 gasping - *vijṛmbhikā*: 267  
 gauze - *plota*: 60  
*gavākṣita* - lattice-like: 158  
*gavedhuka* - the gavedhuka: 241  
 general rule - *paribhāṣā*: 319  
 gently - *mṛdu*: 324  
 gesture - *ceṣṭā*: 104  
 ghee - *sarpis*: 314 - *sarpis*: 207  
*ghoṣa* - sound: 152  
*girisarpa* - the mountain snake: 241

- given - *datta*: 201  
 giving of fumes - *paridhūpāyana*: 244  
 giving off fumes - *paridhūpana*: 244  
 glassy opacity - *kāca*: 319  
 gloominess - *tamas*: 299  
*godhā* - monitor lizard: 316  
 gold - *śātakumbhī*: 323  
*gomāṃsa* - cow's flesh: 314  
*gomūtra* - cow's urine: 316  
*gonasa* - cow snout: 242f  
*gośakṛt* - cow-dung: 315 - juice of cow-dung: 315  
*govandanā* - cow-praising: 41  
*graha* - demons: 332 - demons: 332  
*grahaṇī* - seat of fire in the gut: 245  
*grahaṇī* - seat of fire in the gut: 245  
*grahaṇīdoṣa* - humours of the abdomen: 275  
*granthi* - clumps: 107, 111  
*granthi* - knot: 125  
*granthi* - knots: 216 - lumps: 204, 215, 265, 268  
 granulations - *pulāyikā*: 294  
 grapes - *drākṣā*: 324  
*gṛdhrasī* - sciatica: 86  
 great antidote - *mahāgada*: 41  
 great element - *mahābhūta*: 102  
 great fragrance - *mahāsugandha*: 206  
 greed - *lobha*: 27  
 green vitriol - *kāsīsa*: 320  
*gṛhadhūma* - soot: 231, 274  
 grief - *āśoka*: 27  
 grimy - *dhyāma*: 200  
 gripes - *śūla*: 79  
*griṣma* - summer: 142  
 grooming - *vilekhana*: 112  
 group of living being - *bhūtagrāma*: 101  
 growth - *karnīkā*: 301  
 gruel - *yavāgū*: 220, 253  
*guda* - anus: 225  
*guḍīkā* - pill: 315  
*gulma* - abdominal lump: 336  
 - abdominal swelling: 78  
 gum - *dantamāṃsa*: 203  
*guṇa* - attribute: 103, 374 - qualities: 105  
 gut - *antra*: 219  
 haemorrhaging - *śonitāgamana*: 244  
 haemorrhoids - *arśas*: 169  
*haimavata* - himalayan herbs: 168  
 half door-hinge - *ardhakaṇṭhasandhika*: 58  
 half litre - *prastha*: 268  
 half-year - *ayana*: 28  
 hare foot uraria - *prthakparṇī*: 325  
*hareṇu* - *hareṇu*: 315  
*hareṇu* - *hareṇu*: 315f  
*hareṇu* - *hareṇu*: 316  
*hari* - sun: 322  
*haridrā* - turmeric: 319  
*harṣa* - horripilation: 218 - lust: 104  
 - overexcitement: 27  
 harsh - *paruṣā*: 286  
*hastābharanaka* - the hand decoration: 241  
*hastikakṣya* - lion: 285  
 hatred - *doṣa*: 27  
 having diminished seed - *āsekyā*: 116  
 having made small cuts - *pracchita*: 269  
 heart-seizure - *hṛdgraha*: 78, 267  
 heat - *agni*: 77 - *tejas*: 114, 122  
 herbs - *oṣadhi*: 27  
 hermeneutic rule - *tantrayukti*: 310  
*hetu* - causes: 337 - reason: 376  
*hetvārtha* - purpose of a reason: 387, 389  
 himalayan cherry - *padmaka*: 324f  
 himalayan herbs - *haimavata*: 168  
*hīnakarṇa* - reduced-ear: 58  
 hives - *a*: 287 - *koṭha*: 268, 293f  
 hoarseness - *pāruṣya*: 215  
 holiness - *brahma*: 251  
 holostemma - *payasyā*: 324  
 holy sages - *brahmarṣi*: 251  
 honey collyrium - *kṣaudrāñjana*: 316  
 honey - *madhu*: 314 - *madhus*: 202  
 hopper - *kunī*: 285  
 hornets - *kaṇabha*: 284  
 horripilation - *harṣa*: 218  
 horseradish tree - *śigru*: 320  
 hot all over - *samantatastāpaḥ*: 244  
 hot over the whole body  
 - *sarvāṅgasantāpaḥ*: 244  
*hṛd* - chest: 219



*hṛdgraha* - heart-seizure: 78, 267  
 huge - *mahatī*: 337  
 human being - *puruṣa*: 26f, 29, 102  
 humoral colligation - *sannipāta*: 108  
 humour - *doṣa*: 217, 307, 321, 388  
 humours - *doṣa*: 28, 76  
 humours - *doṣa*: 336  
 humours of the abdomen - *grahaṇīdoṣa*: 275  
 hundred-cook - *śatapāka*: 168, 173  
 hydrophobia - *jalatrāsa*: 271  
 i-principle - *ahaṅkāra*: 98  
*icchā* - desire: 27  
 identity - *ahaṅkāra*: 102  
 if, then not - *na ced*: 321  
*ilikinī* - the ilikinī: 242  
 illness of one limb - *ekāṅgaroga*: 84  
 illness - *ruj*: 316  
 illustration - *nidarśana*: 387, 391  
 immortal - *amṛta*: 207  
 implication - *arthāpatti*: 387, 390  
 impotent - *klaibya*: 160  
 impotent - *śaṇḍhī*: 337  
 impurity-support - *maladharā*: 138  
 in those cases - *tatra*: 317  
 in yama's direction - *yāmya*: 232  
 in-breath - *ucchvāsa*: 152  
 inactive - *akriyaka*: 87  
 incised - *pracchāna*: 256 - *pracchita*: 256  
 incising - *pracchāna*: 252  
 incognizant - *ajñā*: 100  
 incurable - *asādhya*: 108, 314  
 indian madder - *mañjiṣṭhā*: 324  
 indian sarsaparilla - *kālānusāriva*: 315  
     - *sāriva*: 316 - *śārīvā*: 324  
 indication - *pradeśa*: 387, 389  
 indicatory sounds - *anubandha*: 382  
 indigestion - *ajīrṇa*: 169  
 indigo - *nīlī*: 203  
 individuality - *viśeṣa*: 374  
*indragopa* - red velvet mites: 28  
*indrāyudhā* - rainbow: 41  
*indriya* - faculties: 98  
 infertile - *vandhyā*: 337  
 inflamed - *saṃrambha*: 61 - *vidagdha*: 314

infused - *bhāvita*: 315  
 infusion - *upasneha*: 128  
*inḡita* - body language: 200  
*inḡudī* - desert date: 319  
 inhaled smoke - *dhūma*: 201  
 inherence - *samavāya*: 375  
 inherent factors - *svabhāva*: 29  
 inherent - *svābhāvika*: 27  
 injured - *duṣṭa*: 293 - *utpīḍita*: 321  
 injurious - *pāpman*: 141  
 innards - *koṣṭha*: 139  
 insanity - *unmāda*: 141  
 insect - *kīṭa*: 282, 292  
 insects - *kīṭa*: 286, 289  
 inspissation - *rasakriyā*: 320  
 instillation - *basti*: 109  
 instrument - *karaṇa*: 99f  
 intellect - *buddhi*: 99  
 intelligence - *medhā*: 104  
 intended - *vyākhyāta*: 29  
 intentionality - *abhiprāya*: 126  
 intercourse - *gamana*: 110  
 internal tension - *abhyantarāyāma*: 84  
 interpretation - *nirvacana*: 387, 391  
 intervals - *chidra*: 104  
 intestines - *uṇḍuka*: 138 - *pakvādhāna*: 219  
     - *pakvāśaya*: 203, 218  
 intoxication from food - *annamada*: 218  
 invariable statement - *ekānta*: 387  
 invariable statement - *ekānta*: 390  
 investigation - *parīkṣā*: 380  
 invincible - *ajeya*: 221  
 invincible - *ajeya*: 207  
 irregularities - *vaiśamya*: 27  
 irrigated - *pratipūraṇa*: 206  
 irrigation - *seka*: 314 - *tarpaṇa*: 336  
 irritation - *adhimantha*: 324 - *prakopa*: 28  
*īrṣyā* - envy: 27  
 it may be - *bhavet*: 321  
 itching - *cumucumāyana*: 79  
 itemization - *vidhāna*: 387, 390  
 items created by time - *kālakṛta*: 28  
     - *kālakṛta*: 29  
 jackal-head - *kroṣṭukaśīrṣa*: 86  
*jāḍya* - benumbed: 246

- jāḍyatā* - rigidity: 255  
*jala* - water: 40  
*jalatrāsa* - hydrophobia: 271  
*jalaukas* - water-dwellers: 40  
*jamboṣṭha* - jambu-lip: 300  
*jambu-lip* - *jamboṣṭha*: 300  
*jāṅgala* - arid-land animals: 320  
*jaṅgama* - mobile: 212  
*jaṅgama* - moving: 29  
*jaṅgama* - moving: 27  
*japa* - mantra repetition: 251  
*jarāyu* - amnion: 137  
*jarāyuja* - born in in a caul: 28  
*jaṭhara* - abdomen: 88 - bellyache: 221  
*jātī* - royal jasmine: 325  
*jatru* - neck: 77  
*jātyandha* - congenital blindness: 114  
*jealousy* - *asūyā*: 27  
*jihvā* - tongue: 290  
*jīva* - life: 115  
*joints* - *sandhi*: 29  
*juice extract* - *svarasa*: 28  
*juice of cow-dung* - *gośakṛt*: 315  
*juice* - *rasa*: 165  
*juices* - *rasa*: 318  
*jvara* - fever: 75  
*jyotīratha* - the chariot of light: 242  
  
*kāca* - glassy opacity: 319  
*kaivalya* - freedom: 100  
*kākapada* - crow's foot: 220  
*kākauṣṭha* - crow's lip: 58  
*kākolī* - cottony jujube: 325  
*kalā* - layers of skin: 247 - membrane: 138  
*kalā* - membrane: 136  
*kalā* - membrane: 246  
*kalā* - membrane: 133  
*kalā* - membrane: 137  
*kalā* - membrane: 234 - minutes: 28  
*kālakaḥ* - deadly substance: 247  
*kālakṛta* - items created by time: 29  
*kālakṛta* - items created by time: 28  
*kālānusāriva* - indian sarsaparilla: 315  
*kalāyakhañja* - one with lathyrism: 86  
*kalka* - mash: 221 - oily paste: 166 - paste: 109, 111, 173 - pastes: 166  
  
*kalpa* - formal procedure: 225, 250  
     - procedure: 199, 236, 264, 273, 282  
*kalyāṇaka* - the efficacious: 169 - the salutary: 275  
*kāma* - lust: 27  
*kaṇabha* - hornets: 284  
*kanda* - bulbs: 28  
*kaṇḍarā* - tendon: 86, 149  
*kaṇṭaka* - spots: 205  
*kapālacūrṇa* - powdered earthenware crockery: 60  
*kapāṭasandhika* - door-hinge: 58  
*kapha* - mucus: 205 - phlegm: 150, 215, 218f, 245, 337  
*kapilā* - brown: 286 - tawny: 42  
*kapittha* - wood apple: 314  
*kāraṇa* - cause: 99f  
*karaṇa* - instrument: 99f  
*karburā* - mottled: 41  
*kardama* - the mud: 242  
*karma* - action: 98, 103 - regimen: 323  
*karman* - movement: 374 - therapies: 30  
*karmapuruṣa* - patient: 103  
*karṇaśūla* - earache: 87  
*karṇavyadha* - piercing the ear: 55  
*karṇikā* - growth: 301  
*karṇika* - small ear-like growths: 265, 268, 270  
*karṇikā* - small ear-like growths: 284  
*karṇinī* - protuberant: 337  
*karṣū* - trench sweating: 164  
*kārya* - effects: 99  
*kaṣāya* - decoction: 109, 300 - decoctions: 200, 323 - the ochre: 241  
*kaṣāyavāsika* - 'orange-dwellers': 226  
*kāśīpati* - lord of kāśī: 199  
*kāśisa* - green vitriol: 320  
*kāṣṭhā* - trice: 28  
*kaṭi* - buttock: 160 - waist: 153, 157  
*kaṭphala* - box myrtle: 316  
*kaumārabhṛtya* - child bearing: 332  
*kaumārī* - young girl: 117  
*kaunḍinya* - 'pot insects': 226  
*kavala* - mouthwash: 204  
*kettle drum* - *duṇḍubhi*: 273

- kevala* - simply: 254  
*kha* - apertures of the head: 205  
     - follicles: 204  
*khaluka* - ankle: 86  
*khaluṣa* - the khaluṣa: 241  
*khaṇḍaphaṇa* - the break hood: 241  
*khañja* - limp: 86  
*khara* - rough: 323  
*kikkisāda* - the worm eater: 242  
*kinihī* - white siris: 319  
*kiñjalka* - filaments: 315  
*kīṭa* - insect: 282, 292 - insects: 286, 289  
*kitchen* - *mahānasa*: 200  
*kiṭibha* - dark, rough patches of skin: 265, 284  
*kiṭipa* - lice: 226  
*kiṭṭa* - secretion: 140  
*klaibya* - impotent: 160  
*kleda* - weeping: 298  
*kloman* - lung: 153  
*knot* - *granthi*: 125  
*knots* - *granthi*: 216  
*knowledge* - *veda*: 23, 374  
*kohl* - *srotas*: 318 - *srotoja*: 315, 325  
*koṣṭha* - abdominal cavity: 138  
*koṣṭha* - abdominal cavity: 138 - innards: 139  
*koṣṭha* - trunk of the body: 245  
*koṭha* - hives: 268, 293f - skin disease: 218  
*kravyabhuj* - carnivore: 318  
*kṛcchra* - with difficulty: 321  
*kriyā* - procedures: 26, 30 - treatment: 320  
*kriyā* - treatment: 29  
*kriyā* - treatment: 109  
*kriyākāla* - the time for therapies: 29  
*kriyāsaṅga* - loss of function: 323  
*kṛmi* - worms: 28  
*krodha* - anger: 27  
*kroṣṭukaśīrṣa* - jackal-head: 86  
*kṛṣṇā* - black: 41, 286  
*kṛṣṇa* - black part: 321 - dark: 114  
*kṛṣṇacitra* - black-pattern: 286  
*kṛṣṇarājī* - black-striped: 286  
*kṛṣṇasarpa* - the black snake: 240  
*kṛṣṇodara* - the black belly: 240  
*kṣaṇadāndhya* - night blindness: 315  
*kṣāra* - caustic: 109, 111, 273  
*kṣārāgada* - the caustic antidote: 275  
*kṣāraka* - lye: 318  
*kṣatakṣīṇa* - with a chest injury: 142  
*kṣaudrāñjana* - honey collyrium: 316  
*kṣaya* - dwindling away: 218 - wasting: 85  
*kṣetrajña* - witness: 103 - witnesses: 97  
*kṣīṇa* - low volume: 107 - wasted: 60  
*kṣīra* - milky sap: 212f, 215 - sap: 28  
*kṣīrikāpuṣpa* - the milk flower: 242  
*kukṣi* - belly: 115  
*kūkuṭa* - the kūkuṭa: 241  
*kunakha* - ugly nails: 112  
*kuṇapa* - decomposition: 107f - smell of decomposition: 108  
*kunī* - hopper: 285  
*kūni* - shrivelled hand: 118  
*kunta* - small insects: 28  
*kupyaka* - metal: 314  
*kuśa* grass - *kuśa*: 318  
*kuśa* - kuśa grass: 318  
*kuṣṭha* - pallid skin disease: 112, 171, 219  
*kuṭī* - sauna: 164  
*kvātha* - decoction: 111, 220, 267ff  
*lac* - *lākṣā*: 324  
*lākṣā* - lac: 324  
*lakṣaṇa* - characteristic: 101  
*lālā* - saliva: 225  
*lameness* - *paṅgu*: 86  
*latter part* - *uttara*: 303  
*lattice-like* - *gavākṣita*: 158  
*lavages* - *ācamana*: 111  
*layer* - *paṭala*: 321  
*layers of skin* - *kalā*: 247  
*leaf-salt* - *patralavaṇa*: 168  
*leather* - *carmānta*: 250  
*leaves* - *bhaṅga*: 322 - *patra*: 28  
*lehya* - suckable: 392  
*lekhana* - scarification: 27  
*lice* - *kiṭipa*: 226  
*life* - *āyu* - 40 - *jīva*: 115  
*life principle* - *prāṇa*: 135  
*life, longevity* - *āyur*: 23

- limp - *khañja*: 86  
*liṅga* - characteristic: 100 - symptom: 205  
     - symptoms: 218  
*liṅganāśa* - cataract: 321  
 liniment - *ālepa*: 314  
 liniments - *ālepana*: 41, 207  
 lion - *hastikakṣya*: 285  
 liquid - *cala*: 322  
 liquid collyrium - *dravāñjana*: 319  
 liquid - *dravya*: 257 - *soma*: 135  
 liquorice - *madhukair*: 324  
 little ring of spots - *cuñcumālaka*: 238  
 liver extract - *yakṛdrasa*: 315f  
 liver - *yakṛt*: 316  
*lobha* - greed: 27  
 located - *adhiṣṭhāna*: 27  
 located on the limb - *śākhāśrayā*: 252  
 lodh tree - *lodhra*: 319  
*lodhra* - lodh tree: 319  
 logical methods of the system  
     - *tantrayukti*: 387  
*lohitā* - red: 136  
*lohitākṣa* - the red eye: 241f  
 long pepper - *māgadha*: 320 - *māgadhi*:  
     316 - *māgadhi*: 316, 318  
 loose stool - *viḍbheda*: 215, 228  
 lord of kāśī - *kāśipati*: 199  
 loss of appetite - *arocaka*: 142, 169, 218  
 loss of function - *kriyāsaṅga*: 323  
 loss of interest in food - *arocaka*: 172  
 lotus-mouth - *puṇḍarikamukhī*: 42  
 lotus-splittable - *utpalabhedyaka*: 58  
 lotus-spots - *padminikaṇṭaka*: 205  
 low volume - *kṣīṇa*: 107  
 lower intestine - *uṇḍuka*: 138 - *uṇḍuka*:  
     140  
 lumps - *granthi*: 204, 215, 265, 268  
 lung - *kloman*: 153 - *pupphusa*: 140  
 lust - *harṣa*: 104 - *kāma*: 27  
*lūtā* - spiders: 25  
 lye - *kṣāraka*: 318  
  
*madanaka* - the intoxicator: 241  
 made accessible - *alaṅkṛtvā*: 25  
*madhu* - honey: 314 - mead: 251  
*madhukair* - liquorice: 324  
  
*madhus* - honey: 202  
*madira* - spirits: 319  
*madirā* - spirits: 316  
 madness - *unmāda*: 275  
*māgadha* - long pepper: 320  
*māgadhi* - long pepper: 316  
*māgadhi* - long pepper: 316, 318  
*mahābhūta* - great element: 102  
*mahāgada* - great antidote: 41  
*mahāgada* - *The Great Antidote*: 257  
*mahāgada* - the great antidote: 267  
*mahākapota* - the big pigeon: 240  
*mahākṣṇa* - the big black: 240  
*mahān* - the great: 98  
*mahānasa* - kitchen: 200  
*mahāpadma* - the great lotus: 241  
*mahāpanasaka* - the big jackfruit: 241  
*mahāsarpa* - the great snake: 240  
*mahāśiras* - bighead: 285  
*mahāśirṣa* - the big head: 241  
*mahāsugandha* - great fragrance: 206  
*mahatī* - huge: 337  
*majjan* - core: 129  
*mākuli* - mākuli: 242  
*mākuli* - mākuli: 242  
*maladharā* - impurity-support: 138  
 malice - *mātsarya*: 27  
*māṃsa* - flesh: 29, 159  
*māṃsadharā* - flesh-support: 137  
*māṃsanirgama* - prolapse: 324  
*māṃsarasa* - meat broth: 165  
*manahśilā* - realgar: 315, 319f, 325 - red  
     arsenic: 316  
*manas* - mind: 135, 158  
*mānasa* - mental: 27  
*maṇḍala* - round blotches: 218 - round  
     patches: 172  
*maṇḍūka* - frogs: 28  
 manifest - *abhivyakta*: 125  
 manifestations - *vyañjana*: 302  
*mañjiṣṭhā* - indian madder: 324  
 mantra repetition - *japa*: 251  
 manual agitation - *pāṇimantha*: 164  
*manyāstambha* - stiffness of the neck: 246  
*manyāsthambha* - rigidity of neck: 85

*mardana* - rubbing: 164  
*mārga* - channel: 173  
 marks with a knife - *śastrapada*: 44  
*māruta* - wind: 108  
*māsa* - month: 28  
 mash - *kalka*: 221  
*maṣī* - black soot: 314  
 massage oil - *abhyāṅga*: 200, 206  
 massage ointment - *anulepana*: 200, 204  
 masticable - *bhakṣya*: 392  
*mātrā* - measures: 166  
*mātsarya* - malice: 27  
*mātuluṅga* - citron: 324  
 matured - *vipakva*: 315  
*māyā* - divine illusion: 141  
 mead - *madhu*: 251  
 meaning of one or more words  
   - *padārtha*: 388  
 measures - *mātrā*: 166  
 meat broth - *māṃsarasa*: 165  
*medas* - fat: 160  
*medhā* - intelligence: 104  
 medical advice - *ācārika*: 60  
 medicines cooked in a crucible  
   - *puṭapāka*: 314  
*medodharā* - fat-support: 137  
 membrane - *kalā*: 246 - *kalā*: 133, 234  
   - *kalā*: 137 - *kalā*: 133, 136 - *kalā*: 138  
 men - *nara*: 226  
 menses - *ārtava*: 124  
 menstrual blood - *ārtava*: 111, 122, 336  
 mental - *mānasa*: 27  
 mention - *samuddēśa*: 387, 389  
 merits - *dharma*: 131  
*meṣaśṛṅga* - periploca of the woods: 325  
*meṣaviṣāṇa* - periploca of the woods: 317  
 metal - *kupyaka*: 314  
 metamorphopsia - *viparītadarśana*: 244  
 milk - *payas*: 207  
 milky sap - *kṣīra*: 212f, 215  
 mind - *citta*: 100 - *manas*: 135, 158  
 mineral - *dhātu*: 212, 214  
*minmira* - mumbling: 87  
 minor body parts - *pratyaṅga*: 125  
 minute - *aṇu*: 122

minutes - *kalā*: 28  
 misery - *dainya*: 27  
*miśrakacikitsa* - various treatments: 62  
 misshapen eyeball - *vilocana*: 323  
*mithuna* - pair: 391 - triad: 391  
*mithyopacāra* - faulty medical treatment:  
   336  
 mitigatable - *yāpya*: 314  
*mlāyīn* - blue dot cataract: 320  
 mobile - *jaṅgama*: 212  
 modifications - *vikāra*: 98  
*moha* - bewilderment: 80 - delirium: 214  
   - disorientation: 78  
 monitor lizard - *godhā*: 316  
 monkey - *vānara*: 226  
 month - *māsa*: 28  
 morsel - *bali*: 201  
 mottled - *karburā*: 41  
 mouse - *mūṣikā*: 42  
 mouth ulcer - *sarvasara*: 275  
 mouthwash - *kavala*: 204  
 movement - *karman*: 374  
 moving - *jaṅgama*: 29 - *jaṅgama*: 27  
*mṛdu* - gently: 324  
 mucous - *śleṣman*: 245  
 mucus - *kapha*: 205 - *śleṣman*: 137  
*muhūrta* - three quarters of an hour: 142  
   - three-quarters of an hour: 28  
*mūka* - mute: 87  
*mukhasaṃdaṃśā* - nipping with the  
   mouth: 225  
*muktā* - pearl: 321  
*muktvā* - separate: 321  
*mūla* - root: 27 - roots: 28  
 multi-joins - *vyāyojima*: 58  
 multicolour - *bahuvārṇa*: 285  
 mumbling - *minmira*: 87  
*mūrcchā* - fainting: 256 - stupor: 203  
*mūrchā* - fainting: 80f  
*mūrti* - solid body: 105  
*mūṣikā* - mouse: 42  
*mūṣikā* - rats: 264  
*mūṣika* - rodents: 25  
*mustā* - nutgrass: 325  
 mustard - *sarṣapikā*: 286

- mutable - *vaikārika*: 98  
 mute - *mūka*: 87  
*mūtra* - urine: 160  
  
*na ced* - if, then not: 321  
*nāḍī* - tube: 164 - umbilicus: 130 - vessel: 149, 159  
*nadīja* - salt: 315  
*nāga* - elephant/snake: 227  
*nāgara* - dried ginger: 315  
*nalada* - spikenard: 319  
*napuṃsaka* - neither male nor female: 123  
   - third gender: 131  
*nara* - men: 226  
 nasal medicine - *nasya*: 220  
 nasal medicines - *nasya*: 314  
*nasya* - errhine: 318 - errhines: 207 - nasal medicine: 220 - nasal medicines: 314  
   - snuff: 201, 205  
 naturally-occurring - *daivakṛte*: 321  
 nature - *ātmaka*: 26 - *svabhāva*: 141  
 nausea - *praseka*: 124  
 neck - *jatru*: 77  
 needle - *sūcī*: 322  
 neither male nor female - *napuṃsaka*: 123  
*nemīsandhānaka* - rim-join: 59 - rim-join: 58  
 newborn - *prasava*: 114  
*nidarśana* - illustration: 387, 391  
 night blindness - *kṣaṇadāndhya*: 315  
*niḥkvātha* - decoction: 111 - stewed juice: 220  
*nīlī* - indigo: 203  
*nirṃeṣa* - blink of the eye: 28  
*nimitta* - determining factors: 103  
   - purposes: 126  
 nipping with the mouth  
   - *mukhasaṃdamśā*: 225  
*nirdeśa* - exposition: 387, 389  
*nirṇaya* - determination: 387  
*nirupama* - peerless: 285  
*nirvacana* - interpretation: 387, 391  
*nirvedhima* - ready-split: 58  
*nirviṣa* - without venom: 238  
*niryāsa* - extract: 206 - resin: 28, 212f, 215  
*niśācara* - nocturnal creature: 320  
  
*niṣevita* - prepared: 318 - used: 316  
*nivāta* - no wind: 28  
*niyoga* - compulsion: 387, 391  
 no wind - *nivāta*: 28  
 nocturnal creature - *niśācara*: 320  
 non-bloodshot blindness - *araga timira*: 321  
 non-flowering tree - *vanaspati*: 319  
 not conducive to long life - *anāyusya*: 123  
 nourishment - *bṛṃhaṇa*: 27  
 numb - *stabdha*: 165  
 numbness - *supti*: 79 - *svāpa*: 80, 206  
 nutgrass - *mustā*: 325  
 nutriment - *prasāda*: 140  
 nutritive juice - *rasa*: 154  
  
 objection - *pūrvapakṣa*: 387  
 oblations - *upahāra*: 251  
 obligation - *ṛṇa*: 114  
 oceanic - *sānudrikā*: 41  
 of *tamas* - *tāmasī*: 141  
 of the nature of *agni* - *āgneya*: 122  
 of the nature of *soma* - *saumya*: 122  
 off his hand - *sapāṇa*: 317  
 offspring - *garbha*: 118  
 oil massage - *abhyāṅga*: 204  
 oil rub - *abhyāṅga*: 164, 373  
 oil rubs - *abhyāṅjana*: 257  
 oil - *sneha*: 28  
 oil stripe - *snigdharājī*: 242  
 oil-cooking - *snehapāka*: 167  
 oily enema - *anuvāsana*: 109  
 oily paste - *kalka*: 166  
 oily stripe - *snigdharājī*: 243  
 ointment - *anulepana*: 204 - *pralepa*: 202, 205  
 ointments - *ālepana*: 164  
*ojas* - energy: 65 - vital energy: 27, 127  
 oleation - *sneha*: 164  
 omens - *ariṣṭa*: 65, 67  
 one essence - *ekarasa*: 259  
 one with lathyrism - *kalāyakhāṇja*: 86  
 opening - *chidra*: 321  
 ophidian - *sarpita*: 238  
 option - *vikalpa*: 387, 391  
 or not distorted - *vāvikṛtā*: 203

- oṣadhi* - herbs: 27 - remedies: 29  
*oṣadhī* - remedies: 27  
 other - *anya*: 377  
 out-breath - *praśvāsa*: 152  
 outer corner of the eye - *apāṅga*: 321  
 overexcitement - *harṣa*: 27  
 overflowing - *ākula*: 284  
 overheating - *dāha*: 313  
  
 pacification - *saṁśamana*: 27 - *upaśama*: 28  
*pada* - word: 373, 375  
*pādadaḥa* - foot-burn: 87  
*pādaharṣa* - tingling feet: 87  
*padārtha* - meaning of one or more words: 388 - relevant meaning: 384, 387f - word-meaning: 375  
*padma* - the lotus: 241  
*padmaka* - himalayan cherry: 324f  
*padminīkaṇṭaka* - lotus-spots: 205  
 pain - *pīḍ*: 247  
 pain and injury - *vedanābhighāta*: 24  
 pain - *śūla*: 219  
 pair - *mithuna*: 391  
*pāka* - sepsis: 206  
*pakṣa* - fortnight: 28  
*pakṣāghāta* - paralysis: 84  
*pakvādhāna* - intestines: 219  
*pakvāśa* - abdomen: 164  
*pakvāśaya* - colon: 138 - intestines: 203, 218  
*palāśa* - flame of the forest: 319  
*pāḷindaka* - the morning glory: 241  
*pallava* - shoots: 322  
 pallid skin disease - *kuṣṭha*: 112, 171, 219  
*pāṁśu* - earth: 250  
*panasaka* - the jackfruit: 241  
*pañcāṅgulataila* - castor oil: 317  
*paṅgu* - lameness: 86  
 panic grass - *dūrṇā*: 324  
*pāṇimantha* - manual agitation: 164  
*pāpman* - injurious: 141  
 paralysis - *ardita*: 85, 181 - *pakṣāghāta*: 84  
*pārāvata* - the pigeon: 241  
*paribhāṣā* - general rule: 319  
  
*paridāha* - feeling of heat all over: 246  
*paridāhita* - cauterized: 271  
*paridhūpana* - giving off fumes: 244  
*paridhūpāyana* - giving of fumes: 244  
*parīkṣā* - investigation: 380  
*pariṇāma* - transformation: 101  
*pariplutā* - flooded: 337  
*parisarpa* - the snake around: 241  
*pariṣecana* - affuse: 173  
*parīśeka* - shower: 204  
*parśvabheda* - ribs crack: 219  
*pārthiva* - earthen products: 29  
*pārthiva* - earthen products: 28  
 partial blindness - *timira*: 317  
 particular items - *viśeṣa*: 152  
 particular - *viśeṣa*: 101  
 particulars - *vikalpa*: 29  
 parts - *aṅga*: 29  
*paruṣā* - harsh: 286  
*pāruṣya* - hoarseness: 215  
*paryuṣita* - stale: 110  
 past reference - *atīkrāntāpekṣaṇa*: 387, 391  
 paste - *kalka*: 109, 111, 173  
 pastes - *kalka*: 166  
*paśu* - animals: 28  
*paṭaha* - tabors: 258  
*patāka* - flag: 258  
*paṭala* - layer: 321  
*pāthā* - velvet leaf: 319  
 pathology - *doṣa*: 109  
 patient - *karmapuruṣa*: 103  
*patra* - cassia cinnamon: 324 - leaves: 28  
*patralavaṇa* - leaf-salt: 168  
*paṭṭa* - strip of cloth: 165  
*pavanodbhava* - caused by wind: 317  
*payas* - milk: 207  
*payasyā* - holostemma: 324  
 pearl - *muktā*: 321  
 pebble - *aṣṭhīlā*: 202  
 peerless - *nirupama*: 285  
 pelt - *carman*: 28  
 people with a wide perspective  
     - *prṭhudarśin*: 101  
 periploca of the woods - *meṣaviṣāṇa*: 317  
 periploca of the woods - *meṣaśṛṅga*: 325

- person - *puruṣa*: 99, 391  
 personal aspect - *adhyātma*: 98  
*peya* - drinkable: 392  
*phala* - fruits: 28  
*phena* - cuttlefish bone: 325  
 phlegm - *balāsa*: 165 - *kapha*: 150, 215, 218f, 245, 337  
 phlegm-support - *śleṣmadharā*: 138  
 phlegmatic - *śleṣmalā*: 337  
 physical entity - *adhibhūta*: 98  
 physical - *śārīravat*: 29  
*picciṭā* - 'flat insects': 226  
*pīḍ-* - press: 321  
 piercing the ear - *kaṛṇavyadha*: 55  
 piercing - *vyadha*: 322  
 pigs' eye - *sūkarākṣitā*: 324  
*pilindaka* - the pilindaka: 241  
 pill - *guḍikā*: 315  
 pinched - *gāḍha*: 60  
*piṅgabhāsa* - yellow-shine: 285  
*piṅgalā* - ruddy: 42  
 pipe - *dhamanī*: 84, 87 - *dhamanī*: 83, 137, 140, 149f, 152ff, 156, 159f - *srotas*: 141  
 pipes - *dhamanī*: 124  
*pipīlika* - ants: 28  
*piṭaka* - blisters: 265, 268 - bulges: 125  
 pith - *sāra*: 212f, 215  
*pīṭha* - dais: 58  
*pīṭikā* - yellow: 286  
*pitta* - bile: 150, 317 - choler: 337  
*pittadharā* - bile-support: 139  
*pittajvara* - bile-fever: 256  
*pittalā* - bilious / choleric: 337  
*pittāśaya* - gall bladder: 157  
*pittaviṣa* - poison in the bile: 251  
 place - *avakāśa*: 44  
*plīhan* - enlarged spleen: 169 - spleen: 316  
*plota* - cloth: 250 - gauze: 60  
*plutā* - sprung: 337  
 poison in the bile - *pittaviṣa*: 251  
 poison-stink - *viṣapūti*: 256  
 poisoned - *digdha*: 256f  
 poṭa throat - *poṭagala*: 242  
*poṭagala* - poṭa throat: 242  
 potency - *vīrya*: 257, 267  
 poultice - *upanāha*: 164, 174  
 powdered earthenware crockery  
     - *kapālacūrṇa*: 60  
 power - *vīrya*: 158  
*pra* ✓ *sādh* - clean: 206  
*pra* ✓ *chā* - cut: 269  
*pra* ✓ *kuth* - rot: 203  
*prabha* - shine: 321  
*pracchāna* - incised: 256 - incising: 252  
*pracchita* - having made small cuts: 269  
     - incised: 256  
 practical purposes - *prayojanavat*: 28  
*pradeśa* - indication: 387, 389  
*pradhāna* - productive principle: 100  
*pragāḍha* - steeped: 317  
*prakopa* - irritation: 28  
*prakṛti* - character: 282 - constitution: 255  
     - productive principle: 98  
     - temperament: 27  
*pralāpa* - ranting: 214  
*pralepa* - ointment: 202, 205  
*prameha* - urinary diseases: 78  
*prāṇa* - breath: 77, 150, 153 - life  
     principle: 135 - *prāṇa*: 77  
*prāṇa* - *prāṇa*: 77  
*prāṇa* - vital wind: 77  
*prasāda* - nutriment: 140  
*prasaṅga* - recontextualization: 103, 387  
     - recontextualization: 390  
*prasava* - newborn: 114  
*praseka* - discharge: 215 - nausea: 124  
*prastara* - blanket sweating: 164  
*prastha* - half litre: 268  
*prasūna* - blossom: 258  
*praśvāsa* - out-breath: 152  
*pratāna* - ramification: 137  
*pratīkāra* - alleviation: 28 - remedy: 314  
*pratipūraṇa* - irrigated: 206  
*pratisāraṇa* - rub: 203 - rubbing: 204  
*pratiśedha* - counteraction: 313  
*pratisūrya* - counter-sun: 285  
*pratitūnī* - counter-quiver: 87  
*prativāpa* - additive: 168 - admixture: 167  
*pratīvāpa* - admixture: 167, 173



*pratyādhmāna* - counter-swelling: 87  
*pratyāṅga* - minor body parts: 125  
*pratyāṣṭhīlā* - counter-stone: 88  
*pravardhanaka* - dilator: 58  
*pravartate* - comes forth: 100  
*pravyakta* - apparent: 125  
*pravyakta* - differentiated: 127  
*pravyaktatara* - even more apparent: 125  
*prayojanavat* - practical purposes: 28  
*prediction* - *atideśa*: 387, 389  
*pregnant craving* - *dauhṛda*: 127  
*pregnant longing* - *dauhṛda*: 126  
*premise* - *sādhana*: 376, 389  
*prepared* - *niṣevita*: 318  
*prepared with turpeth* - *traivṛta*: 314  
*prescription* - *upadeśa*: 387, 389  
*press* - *pīḍ-*: 321  
*priest* - *upādhyāya*: 113  
*primary element* - *adhibhūta*: 157  
*principle* - *tattva*: 98f, 101  
*priyaṅgu* - beauty berry: 319  
*probe* - *śālākā*: 321f  
*problem* - *doṣa*: 142  
*procedure* - *kalpa*: 199, 236, 264, 273, 282  
*procedures* - *kriyā*: 26, 30  
*productive principle* - *pradhāna*: 100  
     - *prakṛti*: 98  
*prolapse* - *māṃsanirgama*: 324  
*prolapses* - *arśas*: 336  
*propelled* - *ūh*: 247  
*protect* - *rakṣ*: 112  
*protuberant* - *karṇinī*: 337  
*pr̥ṣata* - the speckled: 241  
*pr̥thakparṇī* - hare foot uraria: 325  
*pr̥thudarśin* - people with a wide  
     perspective: 101  
*pulāyikā* - granulations: 294  
*pulse interval* - *vegāntara*: 247  
*pulse* - *vega*: 234, 291  
*pulses* - *vega*: 211  
*puṇḍarika* - the lotus: 242  
*puṇḍarikamukha* - the lotus mouth: 241  
*puṇḍarikamukhī* - lotus-mouth: 42  
*pupil* - *dṛṣṭi*: 313, 322f

*pupphusa* - lung: 140  
*purge* - *śodh*: 253  
*purification* - *saṃśodhana*: 27  
*purīṣadharā* - feces-support: 138  
*purity* - *sattva*: 104  
*purpose* - *artha*: 376  
*purpose of a reason* - *hetvartha*: 387, 389  
*purposes* - *nimitta*: 126  
*puruṣa* - human being: 26f, 29, 102  
     - person: 99, 391  
*pūrvapakṣa* - first point of view: 390  
     - objection: 387  
*puṣpa* - flowers: 28  
*puṣpābhikīrṇnābha* - the flower sprinkle  
     beauty: 241  
*puṣpapāṇḍu* - the pale as a flower: 241  
*puṣpasakalī* - the flower all: 242  
*puṭāhvaya* - taken hot: 319  
*puṭākhyā* - enclosed roasting: 318  
*puṭāpāka* - enclosed roasting: 319  
     - medicines cooked in a crucible: 314  
     - roasting: 336  
*pūtipūya* - foul-smelling pus: 108  
     - stinking pus: 107  
*putraghnī* - child-murderess: 337  
*putrid* - *śīrṇa*: 256  
  
*qualities* - *guṇa*: 105  
*quiver* - *tūnī*: 87  
  
*rāga* - red colour: 288  
*rāgin timira* - bloodshot blindness: 318  
*rāgiṇi timire* - bloodshot blindness: 321  
*rainbow* - *indrāyudhā*: 41  
*rainy seasons* - *varṣā*: 28  
*rajana* - turmeric: 315f  
*rajas* - dust: 76 - turbulence: 104  
*rājicitra* - the stripe speckle: 242  
*rājimat* - striped snake: 220  
*rakta* - blood: 108, 150, 159  
*raktā* - crimson: 286 - crimson and  
     crimson-ringed: 286  
*raktadharā* - blood-support: 137  
*raktakṣayā* - with bloodloss: 337  
*raktamaṇḍala* - the red ring: 241

- raktapitta* - blood-bile: 313  
*ramification* - *pratāna*: 137  
*ranting* - *pralāpa*: 214  
*raphe* - *sevanī*: 160  
*rasa* - chyle: 158  
*rasa* - chyle: 78, 128, 157ff, 218 - chyle: 47  
     - essence: 128 - extracts: 319 - flavour: 388 - flavours: 27, 65 - juice: 165  
     - juices: 318 - nutritive juice: 154  
     - taste: 128 - the blood of birds and animals: 315 - the juice of digested food: 150  
*rasakriyā* - inspissation: 320  
*rasana* - sense of taste: 290  
*rasāñjana* - elixir salve: 315, 319f  
     - elixir-salve: 315  
*rats* - *mūṣikā*: 264  
*rauhita* - extract of rohu carp: 315  
*ready-split* - *nirvedhima*: 58  
*realgar* - *manahśilā*: 315, 319f, 325  
*reason* - *hetu*: 376  
*receptacle* - *āśaya*: 136  
*recollection* - *smṛti*: 104  
*recontextualization* - *prasaṅga*: 103, 387  
*recontextualization* - *prasaṅga*: 390  
*red arsenic* - *manahśilā*: 316  
*red chalk* - *gairikaḥ*: 324  
*red colour* - *rāga*: 288  
*red* - *lohitā*: 136  
*red velvet mites* - *indragopa*: 28  
*reduced-ear* - *hīnakarṇa*: 58  
*regimen* - *ācāra*: 27 - *karma*: 323  
*regular* - *sama*: 277  
*related to viṣṇu* - *vaiṣṇavī*: 141  
*relevant meaning* - *padārtha*: 384, 387f  
*religious power* - *tapas*: 251  
*remedies* - *oṣadhi*: 29 - *oṣadhī*: 27  
*remedy* - *pratīkāra*: 314  
*required knowledge* - *vijñānīya*: 212, 236  
*resin* - *niryāsa*: 28, 212f, 215  
*restrictions* - *yantrañā*: 322f  
*resuscitator* - *sañjīvana*: 258  
*retas* - semen: 115 - semen: 107  
*rheum* - *upadeha*: 206  
*ribs crack* - *parśvabheda*: 219  
*rice-gruel* - *tuṣodaka*: 174  
*rice-tip instrument* - *vṛhimukha*: 136  
*righteousness* - *dharma*: 104  
*rightness* - *ānulomya*: 77  
*rigid* - *sthirā*: 323  
*rigidity* - *jādyatā*: 255  
*rigidity of neck* - *manyāsthambha*: 85  
*rim of a wheel* - *cakradhārā*: 59  
*rim-join* - *nemīsandhānaka*: 59  
*rim-join* - *nemīsandhānaka*: 58  
*ringworm* - *dadru*: 284, 292 - *dardru*: 284  
*ritual offering* - *bali*: 127  
*ṛjusarpa* - the straight snake: 241  
*ṛṇa* - obligation: 114  
*roads* - *adhva*: 81  
*roasting* - *puṭapāka*: 336  
*rodents* - *mūṣika*: 25  
*roga* - diseases: 336  
*rogasamgraha* - compendium of diseases: 334  
*rohinī* - scarlet: 136  
*rohita* - rohita tree: 319  
*rohita tree* - *rohita*: 319  
*root* - *mūla*: 27  
*roots* - *mūla*: 28  
*rot* - *prakuth*: 203  
*rough* - *khara*: 323  
*round blotches* - *maṇḍala*: 218  
*round patches* - *maṇḍala*: 172  
*royal jasmine* - *jātī*: 325  
*ṛtu* - season: 28, 112, 123  
*rub* - *pratisāraṇa*: 203  
*rubbing* - *mardana*: 164 - *pratisāraṇa*: 204  
     - *unmardana*: 164  
*ruddy* - *piṅgalā*: 42  
*rudhira* - blood: 28  
*ruj* - illness: 316  
*rūkṣa* - sere: 110  
*rules of interpretation* - *tantrayukti*: 308  
  
*sacrificial offerings* - *bali*: 251  
*sacrum* - *trika*: 79  
*sāda* - be exhausted: 219  
*sadana* - tiredness: 124  
*ṣaḍaṅga* - the six part: 241

*ṣaḍdharāṇa* - six-units: 163  
*sādhana* - premise: 376, 389  
*sādhya* - curable: 108, 314 - cured: 222  
*sahasrapāka* - thousand cooking: 167  
     - thousand-cooking: 168  
*saindhava* - salt: 220  
*śākhāśrayā* - located on the limb: 252  
*śālākā* - probe: 321f  
*salilotthita* - conch: 320 - water-born: 320  
*saliva* - *lālā*: 225 - *śleṣman*: 202  
*salt* - *nadīja*: 315 - *saindhava*: 220  
*śalya* - foreign bodies: 302 - foreign  
     body: 302 - foreign object: 160  
     - spike: 378f, 389 - splinter: 389  
*sama* - regular: 277  
*samāna* - *samāna*: 77  
*samāna* - *samāna*: 77  
*samāñjana* - same collyrium: 319  
*samantatastāpaḥ* - hot all over: 244  
*sāmānya* - universality: 374  
*samavāya* - inherence: 375  
*same* collyrium - *samāñjana*: 319  
*samīraṇa* - air: 247  
*śaṅkhapāla* - the conch keeper: 241  
*saṅkṣipta* - compressed: 59 - compressed:  
     58  
*samplava* - clusters: 28  
*saṅgrambha* - inflamed: 61  
*saṅśamana* - pacification: 27  
*saṅśaya* - doubt: 387, 391  
*saṅśodhana* - evacuation: 271  
     - purification: 27  
*samuccaya* - aggregation: 387, 391  
*samudāya* - accumulation: 57  
*samuddeśa* - mention: 387, 389  
*samudraphena* - cuttlefish bone: 316  
*sāmudrikā* - oceanic: 41  
*saṁvatsara* - year: 28  
*śanākha* - thorny: 276  
*sañcaya* - accumulation: 28  
*ṣaṇḍa* - a man with no semen: 126  
*sandal* - *sugandhi*: 317  
*ṣaṇḍha* - a man with no semen: 117  
*śaṇḍhī* - impotent: 337  
*sandhi* - joints: 29

*sañjīvana* - resuscitator: 258  
*saṅkoca* - cramp: 172  
*śaṅkumukhī* - dart-mouth: 42  
*sannipāta* - colligation: 122 - congested  
     humours: 29 - humoral colligation:  
     108  
*santānika* - skin: 135  
*santāpa* - anguish: 82  
*sap* - *kṣīra*: 28  
*sapāṇa* - off his hand: 317  
*sāra* - core: 137  
*sāra* - essence: 28 - pith: 212f, 215  
*śārīravād* - physical: 29  
*sarīsrpa* - creepy-crawlies: 25, 28  
*sāriva* - indian sarsaparilla: 316  
*śārīvā* - indian sarsaparilla: 324  
*śarkarā* - small urinary stones: 275  
*sarpāṅkuśa* - snakes' controlling hook:  
     275  
*sarpis* - ghee: 314  
*sarpiṣ* - ghee: 207  
*sarpita* - ophidian: 238 - serpented: 238  
*sarṣapaka* - 'mustard snakes': 226  
*sarṣapikā* - mustard: 286  
*sarvakṛṣṇa* - the all black: 240  
*sarvāṅgasantāpaḥ* - hot over the whole  
     body: 244  
*sarvasara* - mouth ulcer: 275  
*sarvaśvetā* - all-white: 286  
*sarvātmikā* - sarvātmikā: 337  
*sarvātmikā* - *sarvātmikā*: 337  
*śastrakṣata* - cutting with a blade: 314  
*śastrapada* - marks with a knife: 44  
*śātakumbhī* - gold: 323  
*śatapāka* - hundred-cook: 168, 173  
*sātmya* - suitability: 130, 255  
*sattva* - essence: 130 - purity: 104  
*saumya* - of the nature of soma: 122  
     - watery: 283  
*sauna* - *kuṭī*: 164  
*sauvīraka* - sour gruel: 173 - stibnite: 315  
*sāvarikā* - *sāvarikā*: 42  
*sāvarikā* - *sāvarikā*: 42  
*scarification* - *lekhana*: 27  
*scarlet* - *rohiṇī*: 136

- sciatica - *gr̥dhrasī*: 86  
 scruberry - *tālīśapatra*: 316  
 season - *ṛtu*: 28, 112, 123  
 seasonal blood - *ārtava*: 108  
 seat of fire in the gut - *grahanī*: 245  
   - *grahanī*: 245  
 secondary affliction - *upadrava*: 172  
 secondary ailments - *upadrava*: 255  
 secretion - *kiṭṭa*: 140  
 sections - *adhyāya*: 30  
 seed - *bīja*: 115  
 seedless - *abīja*: 108  
 seeing smoke - *dhūmadarśin*: 314  
 segmented - *chinna*: 41  
 seizure - *apatānaka*: 83f - *apatānakina*: 179  
 seka - irrigation: 314  
 semen - *bīja*: 336 - *retas*: 115  
 semen - *retas*: 107  
 semen - *śukra*: 115  
 semen-bearer - *śukradharā*: 139  
 semen-supporter - *śukradharā*: 136  
 sense of self - *ahaṃkāra*: 99  
 sense of taste - *rasana*: 290  
 sense of the self - *ahaṃkāra*: 99  
 separate - *muktvā*: 321  
 sepsis - *pāka*: 206  
 sere - *rūkṣa*: 110  
 serpented - *sarpita*: 238  
 sesame oil - *taila*: 256 - *tailam*: 370  
*sevanī* - raphe: 160  
 sharing her heart with the fetus  
   - *dauhyda*: 126 - *dauhydā*: 126  
 sharp - *tikṣṇa*: 253  
 shine - *prabha*: 321  
 shining - *avabhāsini*: 135  
 shooting pain - *śūla*: 323  
 shoots - *pallava*: 322 - *udbhīd*: 28  
 shower - *parīṣeka*: 204  
 shrivelled hand - *kūni*: 118  
 shrubs - *vīrudh*: 27  
*siddham* - cooked: 370  
*siddhārthaka* - white mustard: 324  
*siddhi* - cure: 220  
 side-effects - *upadrava*: 206, 221  
 signs - *cihna*: 337  
*śigru* - horseradish tree: 320  
 simply - *kevala*: 254  
 sinew - *snāyu*: 137 - *snāyu*: 137, 149, 159  
 sinews - *snāyu*: 29  
*sirā* - duct: 87, 137, 149ff, 156, 160, 252,  
   269, 302 - ducts: 29, 164  
*sirāvedha* - blood-letting: 314  
 siris - *śirīṣa*: 325  
*śirīṣa* - siris: 325  
*śīrṇa* - putrid: 256  
*śirobasti* - application of oil to the head:  
   166  
*śīsuka* - the kid: 241  
*śīta* - elixir-salve: 315  
*sītā* - white sugar: 324  
 six-units - *ṣaḍdharāṇa*: 163  
 skin disease - *koṭha*: 218  
 skin - *santānika*: 135 - *tvac*: 133, 135, 234  
   - *tvak*: 28f  
 sleep - *svāpa*: 215  
*śleṣmadharā* - phlegm-support: 138  
*śleṣmalā* - phlegmatic: 337  
*śleṣman* - mucous: 245  
*śleṣman* - mucus: 137  
*śleṣman* - saliva: 202  
 slice of flesh - *vadhra*: 62f  
 slow poisoning - *dūṣṭviṣa*: 253  
 slow-acting poison antidote - *dūṣṭviṣāri*:  
   203  
 slow-acting poison - *dūṣṭ-viṣa*: 219  
   - *dūṣṭviṣa*: 221, 269  
 sluggish digestive fire - *agnisaṅga*: 169  
 small ear-like growths - *karnika*: 265,  
   268, 270 - *karnikā*: 284  
 small insects - *kunta*: 28  
 small urinary stones - *śarkarā*: 275  
 smell of decomposition - *kunāpa*: 108  
*smṛti* - recollection: 104  
 snakes' controlling hook - *sarpāṅkuśa*:  
   275  
*snāyu* - sinew: 137, 159  
*snāyu* - sinew: 137  
*snāyu* - sinew: 149 - sinews: 29  
*sneha* - oil: 28 - oleation: 164  
*sneha-lavaṇa* - fat-salt: 168

snehapāka - oil-cooking: 167  
 sniffing - *ucchiṅgana*: 322  
 snigdharāji - oil stripe: 242 - oily stripe: 243  
 snuff - *nasya*: 201, 205  
 sole-heart - *talahr̥daya*: 391  
 solid body - *mūrti*: 105  
 solid - *styāna*: 322  
 soma creeper - *somalatā*: 202  
 soma - liquid: 135  
*somalatā* - soma creeper: 202  
*śonita* - blood: 317  
*śonita* - blood: 107f  
*śonita-pitta*, *rakta-pitta* - blood-bile: 317  
*śonitāgamana* - haemorrhaging: 244  
*śonitena* - with blood: 323  
 soot from the chimney - *āgāradhūma*: 52, 165  
 soot - *gr̥hadhūma*: 231, 274  
 sound - *ghoṣa*: 152  
 sour gruel - *sauvīraka*: 173  
 sour - *śukta*: 110  
 sours - *amla*: 173  
*spanda* - spontaneous movement: 104  
 special property - *viśeṣa*: 122  
 speech - *bhāṣā*: 152  
 sperm - *śukra*: 107  
*sphoṭa* - blister: 294 - spots: 205f  
*sphuṭita* - bursts out: 83  
 spiced mince - *vaiśavāra*: 174  
 spiders - *lūtā*: 25  
 spike - *śalya*: 378f, 389  
 spikenard - *nalada*: 319  
 spiral - *āvarta*: 321  
 spirits - *madira*: 319 - *madirā*: 316  
 spleen - *plīhan*: 316  
 splinter - *śalya*: 389  
 spontaneous movement - *spanda*: 104  
 spots - *kaṇṭaka*: 205 - *sphoṭa*: 205f  
 spreading rash - *visarpa*: 297  
 spreading rashes - *visarpa*: 265, 284  
 sprung - *plutā*: 337  
*sraja* - garlands: 200  
*sraṃsanī* - causing a fall: 337  
*srāva* - discharge: 204, 206

śreyas - welfare: 24  
*srotas* - kohl: 318 - pipe: 141 - tube: 137, 139, 149f, 153f, 156, 158 - tubes: 117, 244f  
*srotoja* - kohl: 315, 325  
*stabdha* - numb: 165  
 stale - *paryuṣita*: 110  
 stalk - *vr̥nta*: 314  
 stammering - *gadgada*: 87  
 starting point for the elements - *bhūtādi*: 98  
 stated - *ukta*: 377  
 statement of reason - *apadeśa*: 387, 389  
 stationary - *sthāvara*: 27, 212 - *sthāvara*: 29  
 steeped - *pragāḍha*: 317  
 sternalutatory - *avapīḍa*: 254  
 stewed juice - *niḥkvoātha*: 220  
*sthāvara* - stationary: 212  
*sthāvara* - stationary: 29  
*sthāvara* - stationary: 27  
*sthirā* - rigid: 323  
 stibnite - *añjana*: 319 - *sauvīraka*: 315  
 stick seizure - *daṇḍāpatānaka*: 83  
 stick-ear - *yaṣṭīkarṇa*: 58  
 stiffening - *uddaṇḍaka*: 81  
 stiffness of the neck - *manyāstambha*: 246  
 sting-gush - *alagardā*: 41  
 stings - *asi*: 227 - *śūla*: 226  
 stinking pus - *pūtipūya*: 107  
 stirred with goat's milk - *ajākṣīrārḍita*: 324  
 stomach - *āmāśaya*: 159, 218f  
 strength - *bala*: 27 - *vīrya*: 128  
 strip of cloth - *paṭṭa*: 165  
 striped snake - *rājimat*: 220  
 strong mallow - *atibalā*: 317  
 stultifying - *tāmasa*: 104  
 stung - *daṣṭa*: 285f  
 stupor - *mūrcchā*: 203  
*styāna* - solid: 322  
 subject to modification - *vaikārikī*: 141  
 subsidiary tissue - *upadhātu*: 138  
 substance - *dravya*: 65, 374  
 substrata - *āśraya*: 211  
 substrate - *āśrayin*: 27

- sūcī* - needle: 322  
*sūcīvaṅktrā* - with a needle-like opening: 337  
*suckable* - *lehya*: 392  
*suffering* - *duḥkha*: 27  
*sugandhi* - sandal: 317  
*suitability* - *sātmya*: 130, 255  
*śūka* - bristle: 225  
*śukapatra* - the white leaf: 242  
*sūkarākṣitā* - pigs' eye: 324  
*sukha* - comfort: 29  
*śukla* - white: 116  
*śukra* - semen: 115 - sperm: 107  
*śukradharā* - semen-bearer: 139  
     - semen-supporter: 136  
*śukta* - sour: 110  
*śūla* - abdominal gripes: 275 - gripes: 79  
     - pain: 219 - shooting pain: 323  
     - stings: 226  
*summer* - *grīṣma*: 142  
*sun* - *hari*: 322  
*superficial* - *uttāna*: 171  
*supernatant layer* - *agra*: 319  
*suppressing* - *vegāghāta*: 110  
*supti* - drowsiness: 165 - numbness: 79  
*surā* - wine: 277  
*surasa* - extracted juice: 111  
*sūtra* - aphorism: 388  
*svabhāva* - essential being: 101 - inherent factors: 29  
*svabhāva* - nature: 141  
*svābhāvika* - inherent: 27  
*svāpa* - numbness: 80, 206 - sleep: 215  
*svara* - accents: 252  
*svarasa* - expressed juice: 315 - extracted juice: 206 - juice extract: 28  
*śvāsa* - asthma: 275 - wheezing: 77, 215  
*svasaṃjñā* - field-specific term: 387, 391  
*sveda* - born of sweat: 28  
*śvetā* - white: 136, 285  
*śvetadara* - the white rip: 241  
*svetahanu* - the white jaw: 242  
*śvetakapota* - the white pigeon: 240  
*śvetamaṇḍala* - the white ring: 241  
*śvetavarṇā* - white: 286  
*swelling* - *ādhmāna*: 87  
*swollen* - *ādhmāta*: 244  
*swollen belly* - *udara*: 275  
*śyāma* - dark brown: 114  
*syanda* - watery eye: 320  
*symptom* - *liṅga*: 205  
*symptoms* - *liṅga*: 218  
*system* - *tantra*: 310  
*tabors* - *paṭaha*: 258  
*taijasa* - fiery: 98  
*taila* - sesame oil: 256  
*tailam* - sesame oil: 370  
*tailasugandhi* - the fragrant one in oil: 317  
*take away* - *āhārya*: 58  
*taken hot* - *puṭāhvaya*: 319  
*takes the form of pervading the whole body* - *akhiladehavyāptirūpam*: 217  
*takṣaka* - the snake prince takṣaka: 258  
*talahrdaya* - sole-heart: 391  
*tālīśapatra* - scrambleberry: 316  
*tamas* - gloominess: 299  
*tāmasa* - stultifying: 104  
*tāmasī* - of *tamas*: 141  
*tāmra* - copper: 323 - coppery: 136  
*tāmracūḍa* - cock: 318  
*tanmātra* - bare entities: 98 - fine elements: 98  
*tantra* - system: 310  
*tantrayukti* - hermeneutic rule: 310  
     - logical methods of the system: 387  
     - rules of interpretation: 308  
*tantuka* - the stretch: 241  
*tapas* - religious power: 251  
*tārṣya* - garuḍa: 258  
*tarpaṇa* - eyewash: 206, 314, 319  
     - irrigation: 336  
*taruṇa* - early stage: 129  
*taste* - *rasa*: 128  
*tatra* - in those cases: 317 - the *tatra*: 241  
*tattva* - principle: 98f, 101  
*tawny* - *kapilā*: 42  
*tejas* - brilliance: 114 - heat: 114, 122  
*temperament* - *prakṛti*: 27  
*temperature* - *dāha*: 296  
*tendon* - *kaṇḍarā*: 86, 149

- the all black - *sarvakṛṣṇa*: 240  
 the bamboo leaf - *veṇupatraka*: 241  
 the big black - *mahākṛṣṇa*: 240  
 the big cow snout - *vṛddhagonasa*: 241  
 the big head - *mahāśīrṣa*: 241  
 the big jackfruit - *mahāpanasaka*: 241  
 the big pigeon - *mahākapota*: 240  
 the black belly - *kṛṣṇodara*: 240  
 the black snake - *kṛṣṇasarpa*: 240  
 the blood of birds and animals - *rasa*: 315  
 the break hood - *khaṇḍaphaṇa*: 241  
 the brown - *babhru*: 241  
 the brown hut mouth - *babhrūkuṭīmukha*: 241  
 the caustic antidote - *kṣārāgada*: 275  
 the chariot of light - *jyotīratha*: 242  
 the conch keeper - *śaṃkhaṇḍa*: 241  
 the convulsor - *ākṣepaka*: 83  
 the curd mouth - *dadhimukha*: 241  
 the deer foot - *eṇīpada*: 241  
 the drop stripe - *bindurāji*: 242  
 the efficacious - *kalyāṇaka*: 169  
 the finger stripe - *aṅgulirāji*: 242  
 the flame - *agnika*: 241  
 the flower all - *puṣpasakalī*: 242  
 the flower sprinkle beauty - *puṣpābhikīrṇnābha*: 241  
 the fragrant one in oil - *tailasugandhi*: 317  
 the gavedhuka - *gavedhuka*: 241  
 the gift of god - *devadinna*: 241  
 the goat swallower - *ajāgara*: 242  
 the grass drier - *trṇaśoṣaka*: 242  
 the grass flower - *apuṣpa*: 241  
 - *darbhapuṣpa*: 242  
 The Great Antidote - *mahāgada*: 257  
 the great antidote - *mahāgada*: 267  
 the great lotus - *mahāpadma*: 241  
 the great - *mahān*: 98  
 the great snake - *mahāsarpa*: 240  
 the hand decoration - *hastābharaṇaka*: 241  
 the hungry sting - *alagarda*: 241  
 the ilikinī - *ilikinī*: 242  
 the intoxicator - *madanaka*: 241  
 the jackfruit - *panasaka*: 241  
 the juice of digested food - *rasa*: 150  
 the khaluṣa - *khaluṣa*: 241  
 the kid - *śīśuka*: 241  
 the kūkuṭa - *kūkuṭa*: 241  
 the little tree - *vṛkṣaka*: 242  
 the lotus mouth - *puṇḍarikamukha*: 241  
 the lotus - *padma*: 241 - *puṇḍarika*: 242  
 the mark - *citraka*: 241  
 the milk flower - *kṣīrikāpuṣpa*: 242  
 the mirror ring - *ādarśamaṇḍala*: 241  
 the morning glory - *pāṇḍaka*: 241  
 the mountain snake - *girisarpa*: 241  
 the mud - *kardama*: 242  
 the ochre - *kaṣāya*: 241  
 the pale as a flower - *puṣpapāṇḍu*: 241  
 the pigeon - *pārāvata*: 241  
 the pilindaka - *pilindaka*: 241  
 the rain cloud - *valāhako*: 240, 242  
 the red eye - *lohitākṣa*: 241f  
 the red ring - *raktamaṇḍala*: 241  
 the ringed - *cakraka*: 242  
 the salutary - *kalyāṇaka*: 275  
 the science of life - *āyurveda*: 24  
 the science of medicine - *āyurveda*: 102  
 the six part - *ṣaḍaṅga*: 241  
 the snake around - *parisarpa*: 241  
 the snake prince takṣaka - *takṣaka*: 258  
 the speckled - *prṣata*: 241  
 the stimulator - *dīpyaka*: 242  
 the straight snake - *ṛjusarpa*: 241  
 the stretch - *tantuka*: 241  
 the stripe speckle - *rājicitra*: 242  
 the tatra - *tatra*: 241  
 the three fruits - *triphalā*: 319  
 the three spices - *vyoṣa*: 316  
 the time for therapies - *kriyākāla*: 29  
 the two finger stripe - *dvyāṅgulirāji*: 242  
 the two-day - *dvyāhika*: 242  
 the variegated - *vicitra*: 241  
 the white jaw - *svetahanu*: 242  
 the white leaf - *śukapatra*: 242  
 the white pigeon - *śvetakapota*: 240  
 the white ring - *śvetamaṇḍala*: 241  
 the white rip - *śvetadara*: 241  
 the worm eater - *kikkisāda*: 242  
 the year-snake - *varṣāhika*: 242

- thei snake flag - *ahipatāka*: 242  
 therapies - *karman*: 30  
 third gender - *napuṃsaka*: 131  
 thorny - *sanakha*: 276  
 thousand cooking - *sahasrapāka*: 167  
 thousand-cooking - *sahasrapāka*: 168  
 three fruits - *triphalā*: 314, 316  
 three quarters of an hour - *muḥūrta*: 142  
 three-quarters of an hour - *muḥūrta*: 28  
*tikṣṇa* - sharp: 253  
*timira* - blindness: 321 - partial  
     blindness: 317  
 tingling feet - *pādaharṣa*: 87  
 tiredness - *sadana*: 124  
 tissue - *dhātu*: 136 - *dhātu*: 137  
 tissues - *dhātu*: 277  
 tongue - *jihvā*: 290  
 tooth socket - *dantaveṣṭa*: 203  
 topic - *adhikaraṇa*: 387f  
 torn - *darita*: 238f  
*toṭaka* - 'angry beetles': 226  
 toxic potion - *gara*: 275  
 toxic pulse - *vega*: 264  
 toxic reaction - *vega*: 253 - *vega*: 246f  
     - *vega*: 236, 253, 257 - *viṣavega*: 245  
 toxic shock - *vega*: 210, 284  
 toxin - *gada*: 293  
*traivṛta* - prepared with turpeth: 314  
 transformation - *pariṇāma*: 101  
 trauma - *abhighāta*: 84  
 treatable - *yāpya*: 222  
 treatment - *bheṣaja*: 337 - *kriyā*: 109, 320  
     - *kriyā*: 29  
 trench sweating - *karṣū*: 164  
 triad - *mithuna*: 391  
 tribute - *bhāgadheya*: 127  
 trice - *kāṣṭhā*: 28  
*trika* - between the shoulder-blades: 166  
     - sacrum: 79  
*trikaṇṭaka* - triple-sting: 284  
*triphalā* - the three fruits: 319 - three  
     fruits: 314, 316  
 triple-sting - *trikaṇṭaka*: 284  
*trivṛt* - turpeth: 317  
*trṇaśoṣaka* - the grass drier: 242  
 trunk of the body - *koṣṭha*: 245  
 tube - *nāḍī*: 164 - *srotas*: 137, 139, 149f,  
     153f, 156, 158  
 tubes - *srotas*: 117, 244f  
*tūnī* - quiver: 87  
 turbulence - *rajas*: 104  
 turmeric - *haridrā*: 319  
 turmeric - *rajana*: 315f  
 turpeth - *trivṛt*: 317  
*tuṣodaka* - rice-gruel: 174  
*tuttha* - blue vitriol: 319  
*tvac* - skin: 133, 135, 234  
*tvak* - skin: 28f  
 twelve grams - *akṣa*: 173  
 twins - *yama*: 115  
  
*ucchiṅgana* - sniffing: 322  
*ucchvāsa* - in-breath: 152  
*udaka* - water: 159  
*udāna* - *udāna*: 77  
*udāna* - *udāna*: 77  
*udara* - abdomen: 139 - swollen belly: 275  
*udāvartā* - *udāvartā*: 337  
*udāvartā* - *udāvartā*: 337  
*udbhid* - shoots: 28  
*uddaṇḍaka* - stiffening: 81  
*udveṣṭana* - writhing: 214  
 ugly nails - *kunakha*: 112  
*ūhya* - deducible: 387, 392  
*ukta* - stated: 377  
 umbilicus - *nāḍī*: 130  
 uncongenial - *asātmya*: 82  
 unconscious - *ajñā*: 100  
 undefeated - *aparājita*: 285  
*uṇḍuka* - lower intestine: 138  
*uṇḍuka* - lower intestine: 140  
*uṇḍuka* - intestines: 138  
 universality - *sāmānya*: 374  
*unmāda* - insanity: 141 - madness: 275  
 unmanifest - *avyakta*: 98  
*unmardana* - rubbing: 164  
 unreasonableness - *buddhinirodha*: 104  
 unsteadiness of the humours  
     - *doṣapariplava*: 323  
 untreatable - *asādhya*: 321  
*upadeha* - rheum: 206



*upadeśa* - prescription: 387, 389  
*upadhātu* - subsidiary tissue: 138  
*upādhyāya* - priest: 113  
*upadrava* - secondary affliction: 172  
     - secondary ailments: 255  
     - side-effects: 206, 221  
*upahāra* - oblations: 251  
*upahita* - combined: 317  
*upanāha* - poultice: 164, 174  
*upaśama* - pacification: 28  
*upasarga* - affliction: 206  
*upasneha* - infusion: 128  
*upasṛṣṭa* - afflicted: 108  
*upayoga* - applicability: 102  
*urethral instillation* - *uttarabasti*: 109, 111  
     - *uttaravasti*: 111  
*urinary diseases* - *prameha*: 78  
*urinary stones* - *aśmarī*: 275  
*urine* - *mūtra*: 160  
*ūrṇa* - wool: 165  
*used* - *niṣevita*: 316  
*uśīra* - cuscus grass: 319  
*uterus* - *garbhāśaya*: 123  
*utpalabhedyaka* - lotus-splittable: 58  
*utpīḍita* - injured: 321  
*utsādana* - dry rub: 204 - dry rubs: 200  
*uttāna* - superficial: 171  
*uttara* - latter part: 303  
*uttarabasti* - urethral instillation: 109, 111  
*uttaravasti* - urethral instillation: 111  
  
*vadhra* - slice of flesh: 62f  
*vaidūrya* - beryl: 325  
*vaikārika* - mutable: 98  
*vaikārikī* - subject to modification: 141  
*vaiśamya* - irregularities: 27  
*vaiśavāra* - spiced mince: 174  
*vaiṣṇavī* - related to viṣṇu: 141  
*vaiṣarṇya* - discolouration: 79  
*vakrabhrūnetra* - bent brow and eye: 323  
*vāksamūhārthavistāra* - extensive meaning  
     of the collection of statements: 243  
*vaktra* - ends: 323  
*vākyaśeṣa* - ellipsis: 387 - ellipsis: 390  
*valāhako* - the rain cloud: 240, 242  
*vallikarṇa* - creeper-ear: 58

*vallūraka* - dried flesh: 58  
*vāminī* - vomiting: 337  
*vānara* - monkey: 226  
*vanaspati* - fruit trees: 27 - non-flowering  
     tree: 319  
*vandhyā* - infertile: 337  
*vapour* - *bāṣpa*: 201f, 205  
*varcaḥkīṭa* - dung beetles: 226  
*varga* - collection: 29  
*variable statement* - *anekānta*: 387, 390  
*various treatments* - *miśrakacikitsa*: 62  
*varṇa* - complexion: 27, 65, 114, 130  
*varṣā* - rainy seasons: 28  
*varṣāhika* - the year-snake: 242  
*vartti* - wick: 57 - wicks: 325  
*vasā* - fat: 318  
*vasā* - fat: 138  
*vāta* - wind: 75, 150, 336f  
*vātagulma* - wind-swelling: 275  
*vātakaṇṭhaka* - wind-thorn: 86  
*vātālā* - windy: 337  
*vātarakta* - wind-afflicted blood: 81f, 171  
     - wind-afflicted blood: 83  
*vātaśonita* - wind-afflicted blood: 172  
*vātaśonita* - wind-afflicted blood: 171  
*vātāṣṭhīlā* - wind-stone: 88  
*vāvikṛtā* - or not distorted: 203  
*veda* - knowledge: 23, 374  
*vedanābhighāta* - pain and injury: 24  
*vedanī* - feeling: 136  
*vega* - force: 166 - pulse: 234, 291 - pulses:  
     211 - toxic pulse: 264 - toxic reaction:  
     236, 253, 257  
*vega* - toxic reaction: 246f  
*vega* - toxic shock: 210, 284  
*vegāghāta* - suppressing: 110  
*vegāntara* - pulse interval: 247  
*velvet leaf* - *pāthā*: 319  
*venupatraka* - the bamboo leaf: 241  
*vessel* - *nāḍī*: 149, 159  
*vicakṣaṇa* - expert: 113  
*vicitra* - the variegated: 241  
*vidagdha* - inflamed: 314  
*vidāṅga* - embelia: 319  
*viḍbheda* - loose stool: 215, 228

- vidhāna* - itemization: 387, 390  
*vidruma* - coral: 325  
*vijñānīya* - required knowledge: 212, 236  
*vijṛmbhikā* - gasping: 267  
*vikalpa* - option: 387, 391 - particulars: 29  
*vikāra* - modifications: 98  
*vikṛtākṣa* - dysfunctional eyes: 114, 126  
*vilekhana* - grooming: 112  
*vilocana* - misshapen eyeball: 323  
*vipakva* - matured: 315  
*viparītadarśana* - metamorphopsia: 244  
*viparyaya* - contraposition: 387, 390  
*virtue* - *dharma*: 115  
*vīrudh* - shrubs: 27  
*vīrya* - potency: 257, 267 - power: 158  
     - strength: 128  
*viśāda* - depression: 27  
*viśapūti* - poison-stink: 256  
*visarpa* - spreading rash: 297 - spreading  
     rashes: 265, 284  
*viśavega* - toxic reaction: 245  
*viśeṣa* - individuality: 374 - particular:  
     101 - particular items: 152 - special  
     property: 122  
*viśleṣa* - disjunction: 218  
*viśvañcī* - all bent: 86  
*vital energy* - *ojas*: 27, 127  
*vital wind* - *prāṇa*: 77  
*voḍhāra* - bearers: 200  
*vomiting* - *vāminī*: 337  
*vṛddhagonasa* - the big cow snout: 241  
*vṛddhipatra* - big-leaf scalpel: 300  
*vṛthimukha* - rice-tip instrument: 136  
*vṛkṣa* - flowering trees: 27  
*vṛkṣaka* - the little tree: 242  
*vṛnta* - stalk: 314  
*vyadha* - piercing: 322  
*vyadhi* - disease: 29  
*vyākhyāna* - explication: 387, 391  
*vyākhyāta* - intended: 29  
*vyāla* - wild animals: 28  
*vyāna* - breath - *vyāna*: 245  
*vyāna* - *vyāna*: 77  
*vyāna* - *vyāna*: 77  
*vyāna* - *vyāna* breath: 245  
*vyāñjana* - manifestations: 302  
*vyāyojima* - multi-joins: 58  
*vyoṣa* - the three spices: 316  
  
*waist* - *kaṭī*: 153, 157  
*wasted* - *kṣīṇa*: 60  
*wasting* - *kṣaya*: 85  
*water* - *jala*: 40 - *udaka*: 159  
*water-born* - *salilotthita*: 320  
*water-dwellers* - *jalaaukas*: 40  
*watery eye* - *syanda*: 320  
*watery* - *saumya*: 283  
*weeping* - *kleda*: 298  
*weeping tears* - *aśrupāta*: 112  
*welfare* - *śreyas*: 24  
*wheezing* - *śvāsa*: 77, 215  
*white mustard* - *siddhārthaka*: 324  
*white siris* - *kinihī*: 319  
*white sugar* - *sitā*: 324  
*white* - *śukla*: 116  
*white* - *śvetā*: 136, 285 - *śvetavarṇā*: 286  
*wick* - *vartti*: 57  
*wicks* - *vartti*: 325  
*wild animals* - *vyāla*: 28  
*willpower* - *dhyti*: 104  
*wind* - *māruta*: 108 - *vāta*: 75, 150, 336f  
*wind-afflicted blood* - *vātarakta*: 81f, 171  
*wind-afflicted blood* - *vātarakta*: 83  
*wind-afflicted blood* - *vātaśonita*: 172  
     - *vātaśonita*: 171  
*wind-stone* - *vātāṣṭhīlā*: 88  
*wind-swelling* - *vātagulma*: 275  
*wind-thorn* - *vātakaṇṭaka*: 86  
*windy* - *vātalā*: 337  
*wine* - *surā*: 277  
*with a chest injury* - *kṣataksīṇa*: 142  
*with a needle-like opening* - *sūcīvaktrā*:  
     337  
*with blood* - *śonitena*: 323  
*with bloodloss* - *raktakṣayā*: 337  
*with difficulty* - *kṛcchra*: 321  
*with testicles* - *aṇḍīnī*: 337  
*without feeling* - *acetana*: 84  
*without venom* - *nirviṣa*: 238  
*witness* - *kṣetrajña*: 103  
*witnesses* - *kṣetrajña*: 97

womb - *yoni*: 332  
 wood apple - *kapittha*: 314  
 wool - *ūrṇa*: 165  
 word - *pada*: 373, 375  
 word-meaning - *padārtha*: 375  
 worms - *kṛmi*: 28  
 worn down - *ava* √ *śr̥*: 172  
 writhing - *udveṣṭana*: 214  
  
*yadṛcchā* - chance: 101  
*yakṛdrasa* - liver extract: 315f  
*yakṛt* - liver: 316  
*yama* - twins: 115  
*yamalā* - double: 203  
*yāmīya* - in yama's direction: 232  
*yantraṇā* - restrictions: 322f  
*yāpya* - alleviated: 317 - can be mitigated:  
 83, 321 - mitigatable: 314 - treatable:  
 222

*yaṣṭīkārṇa* - stick-ear: 58  
*yavāgū* - gruel: 220, 253  
*yavaudana* - cooked barley: 321  
 year - *saṃvatsara*: 28  
 yellow - *pīṭikā*: 286  
 yellow-shine - *piṅgabhāsa*: 285  
 yellowish brown - *aruṇa*: 151  
*yoga* - cohesion: 387 - cohesion: 388  
 - compounds: 314 - formulation: 163  
*yoni* - female reproductive organ: 336f  
 - female reproductive system: 336  
 - womb: 332  
*yonivyāpat* - disorders of the female  
 reproductive system: 336  
 young girl - *kaumārī*: 117  
*yuga* - *yuga*: 28  
*yuga* - *yuga*: 28

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## Todo list

■ Cite Paul Courtright, Ganesha book. . . . .	25
■ Can't be "sedation" . . . . .	53
■ complete this thought . . . . .	75
■ add footnote here . . . . .	76
■ add refs to Divodāsa as king. . . . .	76
■ PYS 3.44? . . . . .	103
■ find out about uttarabasti . . . . .	107
■ Add tr. of 3.2.10.add5–3.2.10.add11 . . . . .	109
■ 29, 30 missing? . . . . .	111
■ Problematic passage in the edition. . . . .	111
■ unsolved problem . . . . .	116
■ Look more at Ḍalhaṇa. . . . .	139
■ Cite Hoernle 1893-1912 (II) 35.177.<Hoernle 1908: 325> . . . . .	172
■ The provisional edition should be modified accordingly. . . . .	174
■ There, Ḍalhaṇa commented that deliberation on <i>avapīḍa</i> had been done earlier when it was mentioned. Find that description to know more details. . . . .	177
■ Search for the section where the treatment of <i>ākṣepaka</i> is described. . . . .	179
■ Make the first letter of sentence capital. . . . .	179
■ ? . . . . .	186
■ ? . . . . .	186
■ ? . . . . .	186
■ (?) . . . . .	186
■ Is Dh. the teacher of Su. elsewhere? . . . . .	197
■ Cf. Arthaśāstra 1.21.8. . . . .	198
■ I'm still unhappy about this verse. . . . .	201

■ Mention this in the introduction as an example of the scribe knowing the vulgate. . . . .	201
■ fn about sadyas+ . . . . .	201
■ Bear's bile instead of deer's bile. . . . .	202
■ punarṇavā in the N & K MSS . . . . .	203
■ śrita for śṛta . . . . .	203
■ Medical difference from Sharma. . . . .	204
■ example where the vulgate clarifies that these should be used separately; appears to be a gloss inserted into the vulgate text. . . .	204
■ The two uses of prāpta are hard to translate. prāptāḥ → kṣipraṃ is an example of the vulgate banalizing the Sanskrit text to make sense of a difficult passage. . . . .	204
■ vyadh not √ vedh (also elsewhere and for the ears), causative optative. . . . .	204
■ write footnote: don't repeat ativiṣā; vulgate similar to H. . . . .	227
■ Check this and cf. 5.3.39. . . . .	229
■ Clarify. . . . .	230
■ Or "There are 20 phaṇins and 6 maṇḍalins. The same number are known. There are 13 Rājīmats." Or even, "there are 20 Phaṇins and six of them are Maṇḍalins." Are phaṇins really the same as darvīkaras? . . . . .	235
■ grammar . . . . .	236
■ ri- ṛ-? . . . . .	239
■ varṇa means "colour" elsewhere? . . . . .	240
■ write note on pariṣekān pradehāṃś . . . . .	252
■ where is cutting with a knife related to removing bile or phlegm. . .	312
■ maṣī burned charcoal. Find refs. . . . .	312
■ find ref. . . . .	318
■ Check out these refs. . . . .	318
■ meaning of kalpa . . . . .	319
■ or a dual? . . . . .	323
■ More on Ḍalhaṇa and the meaning of sama? . . . . .	344
■ See chapter 40 of Sūtrasthāna. . . . .	388
■ vasā / medas / majjan . . . . .	388
■ Does bhūtādi a compound or it means ahaṅkāra or ego? . . . . .	389
■ triad? –DW . . . . .	389

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