

A Translation of the New Edition of the *Suśrutasamhitā*

Jason Birch and Dominik Wujastyk

Draft of 28th July 2021
© Jason Birch and Dominik Wujastyk



© Dominik Wujastyk. I am distributing this pre-publication draft under a Creative Commons Attribution-ShareAlike 4.0 International License. For details, see <http://creativecommons.org/licenses/by-sa/4.0/>

Abstract

The [Suśruta Project](#) is producing [a new Sanskrit text edition](#) of the *Suśrutasaṃhitā* based on the early Nepalese manuscripts. As we gradually transcribe and edit the manuscripts, we are producing this new translation of the classic work.

Contents

The manuscripts and editions used in the vulgate editions by Yā-	
davaśarman Trivikrama Ācārya	5
The sources of the 1915 edition	5
The sources of the 1931 edition	5
The sources of the 1938 edition	6
Evaluation	7
The 1939 edition	8
For the Bhānumatī	8
For the Suśrutasaṃhitā	10
Evaluation	10
Features of the manuscript transmission	12
Palaeographical features	12
Chart of characters	12
Sūtrasthāna, adhyāya 1	13
Sūtrasthāna, adhyāya 2	20
Literature	20
Sūtrasthāna, adhyāya 17	21
Sūtrasthāna, adhyāya 28	27
Kalpasthāna, adhyāya 1	28
Literature	28
Manuscript notes	28
Translation	29
[Threats to the king]	29
Uttaratantra, adhyāya 16 (17 in the vulgate)	32
Literature	32
Translation	32
[Complications]	41
[Characteristics of the probe]	41
[Complications]	42

Abbreviations	44
References	46
Glossary	54
Index of Manuscripts	67
On digital critical editions	68

The manuscripts and editions used in the vulgate editions by Yādavaśarman Trivikrama Ācārya

Yādavaśarman Trivikrama Ācārya produced three successive editions of the *Suśrutasaṃhitā* with the commentary of Ḍalhaṇa, in 1915, 1931 and 1938. These editions, especially the last, are generally considered the most scholarly and reliable editions of the work, and have been constantly reprinted up to the present day.¹

The 1915 edition was based on three manuscripts. The 1931 edition used another seven plus two printed editions. For his final 1938 edition, Ācārya used a further three manuscripts.² These sources are described as follow, with an overview in Table 1.

The sources of the 1915 edition

- 1 Calcutta, Royal Asiatic Society. Covers the *sūtra*, *nidāna*, *śārīra* and *kalpa sthānas*.
- 2 Jaipur, Pandit Gaṅgādharaḥṭṭaśarman, lecturer at the Royal Sanskrit University. Covers the *cikitsāsthāna* and the *uttaratantra*.
- 3 Bundi, my great friend the royal physician Paṃ. Śrīprasādaśarman. Covers the *uttaratantra*.

The sources of the 1931 edition

- 1 Vārāṇasī, professor of literature, the great Gaurīnāthapāṭhaka. With the *Nibandhasaṅgraha*. Covers the *nidānasthāna* and *uttaratantra*.
- 2 Ahmedabad. My friend Sva. Vā. Vaidya Raṇachōḍalāla Motīlālaśarman. With the *Nibandhasaṅgraha*. Covers the *śārīrasthāna*.
- 3 From the personal library of my great friend Sva. Vā. Vaidya Murārājīśarman. Extremely old. No commentary. Covers the *śārīrasthāna*.
- 4 Pune, BORI library. With the *Nibandhasaṅgraha*. Covers the *śārīrasthāna*.³

1 See also the study of these editions by Klebanov (2021a: §1.2) and Wujastyk (2013: 143–144).

2 The following account of the sources is paraphrased from Y. T. Ācārya and N. R. Ācārya's own account of his sources (SS 1938: 22).

3 Not one of the three MSS of the *śārīrasthāna* described in H. D. Sharma 1939.

- 5 Pune, BORI library. With the *Nibandhasaṅgraha*. Complete. With some damaged folia.
- 6 Bombay, Asiatic Society. Incomplete.⁴
- 7 Varanasi, the private library of Vaidya Tryambakaśāstrī. Covers the *cikitsāsthāna*. The variant readings of this MS were compiled by Prof.
- 8 A printed edition together with the commentary *Suśrutasandīpana-bhāṣya* by Professor Hārāṇacandra Cakravārtti. Complete work. This is the 1910 Calcutta edition numbered “t” by Meulenbeld (HIML: IB, 312).⁵
- 9 A printed edition of the first 43 chapters of the *sūtrasthāna*, printed in Bengali script, with the commentaries *Bhānumatī*, *Nibandhasaṅgraha*, edited by Vijayaratnasena and Niśikāntasena. This is the 1886 Calcutta edition numbered “g” by Meulenbeld (HIML: IB, 311).⁶

The sources of the 1938 edition

- 1 Gwalior, from the library of my great friend Paṃ. Rāmeśvaraśāstrin Śukla. Covers the *sūtra*, *nidāna*, *śārīra*, *cikitsā* and *kalpasthānas*.
- 2 Bikaner, from the library of the Royal Palace, supplied by Paṃ. Candraśekharaśāstrin. Contains the commentary *Nyāy-acandrikāpañjikāvyaṅkyā* by Gayadāsa. Covers the *nidānasthāna*. This is almost certainly MS Bikaner Anup 4390.⁷
- 3 Kathmandu, located in the private library of the Royal Guru Hemarāja Śarman. An extremely old palm-leaf manuscript. Readings from this MS were compiled by Paṃ Nityānandaśarman Jośī and sent to Ācārya. Covers from the beginning of the work to the end of the ninth chapter of the *cikitsāsthāna*.

4 Possibly MS Mumbai, AS B.I.3 or MS Mumbai, AS B.D.109 (Velankar 1925–30: v. 1, # 212 and 213). But both these have the *Nibandhasaṅgraha*. The first covers only the *śārīrasthāna*; the second may be complete, but Velankar calls it only “disorderly.”

5 Bhaṭṭācārya 1910–7.

6 sena-1886.

7 See Dominik Wujastyk, “MS Bikaner AnupLib 4390.” *Pandit*. <<http://panditproject.org/entity/108068/manuscript>>.

manuscripts, excluding the printed editions.

Two sources stand out for their historical importance. The first is no. 3 of 1931, which Ācārya calls “extremely old.” It covered the *śārīrasthāna* only, and unfortunately we know nothing of the later history of this manuscript. The second is no. 3 of 1938, which is one of the important Nepalese manuscripts being considered in the present project. Ācārya’s remarks and references to Hemarājaśarman’s introduction to the *Kāśyapasaṃhitā* allow us to identify this manuscript as MS Kathmandu NAK 5-333.⁹ But that manuscript covers the whole work, not just up to the ninth chapter of the *cikitsāsthāna* as Y. T. Ācārya and N. R. Ācārya stated.¹⁰ Perhaps the editors only received collations for this portion of the manuscript and did not know that it was a witness for the whole work.

The 1939 edition

In 1939, Yādavaśarman Trivikrama Ācārya and Nandakiśora Śarman co-edited an edition of the *sūtrasthāna* of the *Suśrutasaṃhitā* that was published by the Swami Laxmi Ram ayurvedic centre in Jaipur, and printed at the famous Nirṇayasāgara Press in Mumbai.¹¹ The text was edited on the basis of the following sources.

For the Bhānumatī

1. A printed edition. Covered the *Bhānumatī* up to chapter Su.sū.40. The siglum was 𑀧 for *mudrita*.¹²

⁹ [SS 1938](#): 22; Hemarāja Śarman [1938](#): 56–57. Discussed by Klebanov ([2021a](#): §1.1, 2.3). See also [HIML](#): IIB, 25–41; Wujastyk [2003](#): 161–169.

¹⁰ [SS 1938](#): 22.

¹¹ Y. T. Ācārya and N. Śarman [1939](#). The description of the sources below is based on Yādavaśarman T. Ācārya’s remarks in his introduction (pp. 3–4).. See also the remarks on this edition by Klebanov ([2021b](#): 7). On the Swami Laxmi Ram centre, see Hofer [2007](#).

¹² Sena et al. [1886–93](#). The manuscript on which this edition was based is probably in the library of the Calcutta Sanskrit College, and described in H. Sastri and Gui [1895–1917](#): v. X.1, which is not available to me. See also [HIML](#): IB, 495, n. 57 for mention of this manuscript. The reference at Rama Rao et al. [2005](#): 217 to CSCL accession number 97 in Bengali script may be this manuscript.

चरके—“लभोपायो हि शस्तानां रसावीनां रसायनम्” (च. चि. अ. १ पा. १) । पारिशेष्याद्वाजीकरणतन्त्रम् । अवाजिनं वाजीकुर्वन्ति येन तद्वाजीकरणम् । ‘अन्येषामपि दृश्यते’ (पा. अ. ६।३।१३७) इति दीर्घत्वम् । येन वाऽत्यर्थं स्त्रीषु व्यज्यते तद्वाजीकरणम् । तदुक्तं चरके—“येन नारीषु सामर्थ्यं वाजिवल्लभते नरः । प्रजेन्नाप्यधिकं येन वाजीकरणमेव तत्” (च. चि. अ. २, पा. ४) इति ॥ ५ ॥

अथास्य प्रत्येकाङ्गलक्षणसमासः—तत्र, शल्यं नाम विविधतृणकाष्ठपाषाणपांशुलोदलोष्टास्थिवालनखपूयास्त्रावदुष्टव्रणान्तर्गर्भशल्योद्धरणार्थं षष्ठ्या विधानैः, यन्त्रशस्त्रक्षाराग्निप्रणिधानव्रणविनिश्चयार्थं च; शालाक्यं नामोर्ध्वजत्रुगतानां श्रवणनयनवदनघ्राणादिसंश्रितानां व्याधीनामुपशमनार्थं; कायचिकित्सा नाम सर्वाङ्गसंश्रितानां व्याधीनां ज्वररक्तपित्तशोफोन्मादापसारकुष्ठमेहातिसारादीनामुपशमनार्थं; भूतविद्या नाम देवांसुरगन्धर्वयक्षरक्षःपितृपिशाचनैलग्रहाष्टपष्टचेतसां शान्तिकर्मबलिहरणादिग्रहोपशमनार्थं; कौमारभृत्यं नाम कुमारभरणघात्रीक्षीरदोषसंशोधनार्थं दुष्टस्तन्यग्रहसमुत्थिनां च व्याधीनामुपशमनार्थम्; अगदतन्त्रं नाम सर्पकीटलृतामूषकादिदृष्टविषव्यञ्जनार्थं विविधविषसंयोगोपशमनार्थं च; रसायनतन्त्रं नाम वयःस्थापनमायुर्मेधाबलकरणं रोगापहरणसमर्थं च; वाजीकरणतन्त्रं नामारूपदुष्टक्षीणशुष्करेतसामाप्यार्थेनप्रसादोपचयजनननिमित्तं प्रहर्षणजननार्थं च ॥ ६ ॥

शल्यार्थविशेषात् शालुं प्रतिलक्षणं संक्षेपेणाह—अथास्येत्यादि । एकमेकमङ्गं प्रति लक्षणानां समासः संक्षेपः प्रत्येकाङ्गलक्षणसमासः । तृणादीनां, तथा दुष्टव्रणस्य, तथाऽन्तर्गत(र्भशल्य)स्य उद्धरणार्थमिति प्रत्येकमुद्धरणशब्दः संबध्यते । दुष्टव्रणस्यान्तस्तृणाद्याहरणार्थमित्यन्ये । षष्ठ्या विधानैरिति द्विव्रणीयोचैरपतर्पणाद्यै रक्षाविधानान्तैः; इत्थंभूतलक्षणे तृतीया । जत्रु ग्रीवामूलं, जत्रुण ऊर्ध्वमूर्ध्वजत्रु । घ्राणादीत्यादिग्रहणाच्छिरःकपालादिग्रहणम् । उत्तरतन्त्रे प्रतिपादितक्रमप्राप्त्या ज्वरानन्तरमतीसारः पठितः, तस्यान्ते पाठोऽतिसारस्य सर्वाङ्गीणदोषारब्धत्वात्, अन्येषामपि तन्मध्यपाठेन सर्वाङ्गीणदोषारब्धत्वप्रतिपादनाध्यतिक्रमं वदन्ति । शान्तिकर्म बलिहरणादिना ग्रहाणां देवादीनामुपशमो यस्तदर्थः; यदि वा ग्रहणं ग्रहो देवानामावेशस्तदुपशमार्थम् । दुष्टस्तन्यग्रहसमुत्थितानामिति दुष्टस्तन्येन

१ ‘सर्वशरीरावस्थितानां’ व्याधीनामुपशमकरणार्थं, ज्वरशोफयुग्मरक्तपित्तोन्मादापसारप्रमेहातीसारादीनां च’ इति ता. । २ ‘देवदानव’ इति ता. । ३ ‘विनायकनागग्रहोप-सृष्टचेतसां’ इति ता. । ४ ‘विषवेगोपशमनार्थं’ इति ता. । ५ ‘शुक्राप्यायन’ इति ता. । ६ ‘घ्राणादीनां शल्यान्तानां’ इति सु. । ७ ‘अन्ये तु तस्यान्ते पाठेन’ इति पा० । ८ ‘ग्रहणाद्’ इति सु. ।

Figure 1: A page of the 1939 *Bhānumatī* edition, showing the variant readings in the footnotes.

2. A manuscript in the India Office Library library provided through the Bhandarkar Oriental Research Institute in Pune.¹³ This manuscript covered the *Bhānumatī* b up to the end of the *sūtrasthāna*. The siglum was ह for हस्तलिखित.¹⁴

For the *Suśrutasamhitā*

1. A palm leaf manuscript from Hemarājaśarman's personal library.¹⁵ The siglum was ता for ताडपत्र.
2. His own published edition. The siglum was ड for डल्हणसंमतः पाठः.¹⁶
3. Hārāṇacandra Cakravartī's published edition with his own commentary.¹⁷ The siglum was ह।.

Evaluation

The main innovation of this publication was to present the only surviving part of the commentary on the *Suśrutasamhitā* by the great eleventh-century medical scholar Cakrapāṇidatta, namely the *Bhānumatī*.¹⁸ A secondary purpose was to present the text of the *sūtrasthāna* as read in MS Kathmandu NAK 5-333, that had recently been brought to the editors' attention. In their judgement, the Kathmandu manuscript presented a text that was closer to what Cakrapāṇidatta had before him than the text according to Ḍalhaṇa. This was the first *Suśrutasamhitā* edition in which Ācārya used sigla to identify the sources from which variant readings were reported, so while it has limitations, it for the first time enables us to get some idea of origins of the text (see Figure 1).

Ācārya noted in his introduction that the manuscripts containing the Ḍalhaṇa's commentary all came together with the root-text of the *Suśrutasamhitā*, and thus the main *Suśrutasamhitā* text reflected the readings

¹³ At this time, manuscripts from Britain were routinely lent to scholars in India and vice versa.

¹⁴ MS London BL H. T. Colebrooke 908 ([PanditProject #109978](#), consulted on July 03, 2021).

¹⁵ I.e., MS Kathmandu NAK 5-333.

¹⁶ [SS 1938](#). It is noteworthy that Ācārya refers to his 1938 edition as representing "the Ḍalhaṇa recension."

¹⁷ Bhaṭṭācārya [1910-7](#).

¹⁸ [HIML](#): IA, 374-375 and IB, 495-496.

chosen by Ḍalhaṇa. But the manuscripts of the *Bhānumatī* contained the commentary alone, without the root-text, and had many explanations based on different readings of the root-text than those of Ḍalhaṇa. In many of these cases it was hard to know what the text that Cakrapāṇidatta had before him. But Ācārya noted that Cakrapāṇidatta had a text before him that had much in common with the text of the Nepalese manuscript.¹⁹

There is compelling evidence that Cakrapāṇidatta's *Bhānumatī* commentary once covered the whole text of the *Suśrutasamhitā*.²⁰ The loss of the rest of the work ranks amongst the greatest disasters in Āyurvedic literature. Remarkably, the whole *Bhānumatī* may still have existed in the early twentieth century. In 1903, Palmyr Cordier reported being privately informed of a complete copy of the work in a personal manuscript collection in Benares.²¹

19 Y. T. Ācārya and N. Śarman 1939: 3–4. See discussion by Klebanov (2021b: 7).

20 HIML: IA, 375.

21 Cordier 1903: 332.

Features of the manuscript transmission

Palaeographical features

- śrita for śṛta.
- ś and s in KL 699.

Chart of characters

[[[Put a chart from QuickPalaeographer here.]]]

Sūtrasthāna, adhyāya 1

- 1 Now I shall narrate the chapter on the origin of this knowledge.²²
- 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.²³
- 3 “O Lord, distress arose in our minds after witnessing people thrashing about with cries, assailed by different kinds of pain and injury (*vedanā-bhīghāta*), feeling helpless in spite of having friends, because of diseases arising from the body, the mind and external sources.
- 4 “To quell the illnesses of those who seek happiness and for our own purpose of prolonging life, we desire the science of life (*āyurveda*) that is being taught. Welfare, both in this world and in the next, depends upon it. Therefore, we have come to the Lord in pupillage.”
- 5 The Lord said to them:
“Welcome to you! My children, all of you are beyond reproach and worthy to be taught.
- 6 “As is well known, Ayurveda is the name of what is said to be the subsidiary part of the Atharvaveda. Before creating people, Svayambhū composed it in hundreds of thousands of verses and a thousand chapters and, after observing the short lifespan and low intelligence of people, he presented it again in eight parts.²⁴
- 7 “Surgery, treatment of body parts above the clavicle, general medicine, knowledge of spirits, care of children, and the disciplines of antidotes,

22 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 MSS is highly noteworthy because it removes the outer narrative frame of the *Suśrutasaṃhitā* (Wujastyk 2013: 148; Klebanov 2021a: § 3.1.2). On the figure of Dhanvatari in medical literature, see HIML: IA 358–361.

23 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 (SS 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.

24 Svayambhū is another name for Brahmā, the creator.

- rejuvenation and aphrodisiacs.
- 8 “Now, a collection of the characteristics of each component of Āyurveda.
- 9 “Among them, [the component] called surgery has the goal of extracting various grasses, wood, stone, dust, iron (?), soil, bone, hair, nails, discharge of pus, malignant wounds and foreign bodies inside the womb, and of determining the application of surgical instruments, knives, caustics and fire by means of sixty definitions.
- 10 “[The component] named the doctrine of treating body parts above the clavicles has the aim of curing diseases situated above clavicles that is, diseases located in ears, eyes, mouth, nose and so on.
- 11 “[The component] called general medicine has the goal of curing illnesses established in the whole body and [diseases] such as fever, tumour, swelling, hemorrhagic disorders, insanity, epilepsy, urinary diseases, diarrhoea and the like.
- 12 “[The component] called knowledge of spirits is for appeasing demons by pacification rites and making food offerings for those whose minds have been possessed by gods, their enemies,²⁵ Gandharvas, Yakṣas, demons, deceased ancestors, Piśācas, Vināyakas,²⁶ Nāgas and evil spirits that possess children.
- 13 “[The component] called care of children is for bearing children and purifying defects in a wet-nurse’s milk, and curing diseases that have arisen from bad breast milk and demons.
- 14 “[The component] called the discipline of toxicology is for [knowing] the signs of poison from snake and insect bites and for neutralising various combinations of poisons.²⁷
- 15 “[The component] called the discipline of rejuvenation is maintaining youth, bringing about a long life and mental vigour and for curing diseases.
- 16 “[The component] called the discipline of aphrodisiacs brings about

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

26 The vulgate doesn’t have *vināyakas* but does add *asuras*, probably under the influence of Ḍalhaṇa. Cite Paul Courtright, Ganesha book.

27 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 N and H 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*).

- the increase, purity, accumulation and production of semen for those whose semen is minimal, bad, depleted, and dry [respectively] and for inducing an erection.
- 17 "Thus, this Āyurveda is taught with eight components."
"Among these [components], tell us which is for whom."
- 18 They said, "After you have conveyed the knowledge of surgery, teach us everything."
- 19 He said, "so be it."
- 20 They then said, "Having considered the view of all of us, when we are unanimous, Suśruta will question you. We too will learn what is being taught to him."
- 21 He said, "so be it."
- 22 "Now, as is well-known, the aim of Āyurveda is eliminating the disease of one who have been assailed by disease and protecting the healthy; āyurveda is [that knowledge] in which they find a long life, or that by which long life is known. Learn its best component (i.e., surgery), which is being taught in accordance with tradition, perception, inference and analogy.
- 23 "For this component is first, the most important, because it is referred to first; it cures wounds and joins together the most important thing, Yajña's head. For, just as it has been said of old, 'the head that had been cut off by Rudra was joined again by the two Aśvins.'
- 24 "And also, of the eight disciplines of Āyurveda, [surgery] alone is the best because of the quick action of its procedures (*kriyā*), its application of blunt instruments, knives, caustics and fire, and it is common to all disciplines.
- 25 "Therefore, [surgery] is eternal, meritorious, leads to heaven, brings renown, bestows a long life, and affords a livelihood.
- 26 "Brahmā said this, 'Prajāpati learned it. From him, the Aśvins. From the Aśvins, Indra. From Indra, I. In this world, I will transmit to those who desire it for the benefit of people.'
[There a verse about this.].²⁸
- 27 *For, I (i.e., Brahmā) am Dhanvantari, the first god, the remover of old age, pain and death of mortals.
Having understood surgery, the best of the great knowledge systems, I*

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

arrived on earth again to teach it here.

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

Why?

Because of the duality of the world, the world is twofold: the stationary and the moving. Its nature (*ātma*) is twofold, depending on the preponderance of Agni and Soma.²⁹ Alternatively, it can be considered as being fivefold. The multitude of beings in it are fourfold: they are termed “sweat-born, stone-born, caul-born and egg-born”.³⁰ Where they are concerned, the human being is the main thing; others are his support. Therefore, the human being (*puruṣa*) is the locus.

- 29 Diseases are said to be the conjunction of the person and suffering (*duḥkha*). There are four of them: invasive, bodily, mental and inherent. The invasive ones are caused by an injury. The bodily ones are based on food, caused by irregularities (*vaiṣaṃyā*) in wind, bile, phlegm and blood.³¹

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

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

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

Scarification (*lekhaṇa*), nourishment (*bṛṇihāṇa*), purification (*saṃśodhana*), pacification (*saṃśamana*), diet (*āhāra*) and regimen (*ācāra*), properly employed, bring about their cure.

- 30 Furthermore, food is the root (*mūla*) of living beings as well as of strength (*bala*), complexion (*varṇa*) and vital energy (*ojas*). It depends on (*āyatta*) the six flavours (*rasa*). Flavours, furthermore, have substances as their substrate (*āśrayin*). And substances are remedies (*oṣadhī*).³² There are two types: stationary (*sthāvara*) and moving

29 See Wujastyk 2004.

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

31 Note that four humoral substances are assumed here.

32 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

- (*jaṅgama*).
- 31 Of these, there are four types of stationary ones: fruit trees (*vanaspati*), flowering trees (*vrkṣa*), herbs (*oṣadhi*) and shrubs (*vīrudh*).³³ Amongst these, the “fruit trees” have fruit but no flowers.³⁴ The “flowering trees” have flowers and fruit. The “herbs” die when the fruit is ripe. “Shrubs” put out shoots.
- 32 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 (*udbhīd*). 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.³⁵ Shoots include red velvet mites (*indragopa*) and frogs (*maṇḍūka*).³⁶
- 33 In this context, among the stationary remedies, skin (*tvak*), leaves (*patra*), flowers (*puṣpa*), fruits (*phala*), roots (*mūla*), bulbs (*kanda*), sap (*kṣīra*), resin (*niryāsa*), essence (*sāra*), oil (*sneha*), and juice extract (*svarasa*)³⁷ are useful; among the moving remedies pelt (*carman*), hair, nails, and blood (*rudhira*) and so forth.
- 34 And earthen products (*pārthiva*) include gold and silver.³⁸
- 35 The items created by time (*kālakṛta*) are clusters (*samplava*) as far as wind and no wind (*nivāta*), heat and shade, darkness and light and the cold, hot and rainy seasons (*varṣā*) are concerned. The divisions of time are the blink of the eye (*nimeṣa*), a trice (*kāṣṭhā*), minutes (*kalā*),

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.

33 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.

34 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 *Viṣṇudharmottarapurāṇa*: 56r).

35 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).

36 On *indragopa*, see Lienhard 1978.

37 On juice extract (*svarasa*) see CS 1.1.73, 1.4.7; Ḍalhaṇa on SS 4.10.12 (SS 1938²: 450).

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

- 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*).³⁹
- 36 These naturally cause accumulation (*sañcaya*), irritation (*prakopa*), pacification (*upaśama*) and alleviation (*pratīkāra*) of the humours (*doṣa*). And they have practical purposes (*prayojanaavat*).
- [There are verses about this:]⁴⁰
- 37 *This fourfold category is taught by physicians as a cause for the agitation and quelling of bodily diseases.*⁴¹
- 38 *There are two kinds of invasive diseases. Some certainly⁴² affect (ni√pat) the mind, others the body. Their treatment (kriyā) is of two kinds too.*
- 39 *For those that affect the body there is physical (śārīravād) therapy, whereas for those that affect the mind there is the collection (varga) of desirable sensory experiences like sound that bring comfort (sukha).*
- 40 Along these lines (*evam*), this brief explanation of the four factors (*catuṣṭaya*) is given:
- human being (*puruṣa*),
 - disease (*vyadhi*),
 - remedies (*oṣadhi*),
 - the time for therapies (*kriyākāla*).

In this context,

- from the mention of the word “human,” the collection of substances that arise from it, such as the elements, and the particulars (*vikalpa*) of its major and minor parts (*aṅga*) such as skin (*tvak*), flesh (*māṃsa*), ducts (*sirā*), sinews (*snāyu*), bones (*asthi*) and joints (*sandhi*) are meant.

39 These units are presented at SS 1.6.5 (SS 1938²:24) and discussed by Hayashi (2017: § 59).

40 See footnote 28.

41 On the topic of the “group of four,” the commentator Ḍalhaṇa considers them to be “food, behaviour, earthen products and items created by time.” He refers to the author of the lost commentary entitled *Pañjikā*, and to Jejjāṭa (HIML: IA, 372–3, 192). In his view, these early commentators do not agree that the fourfold grouping (*caturvarga*) refers to the quartet of stationary (*sthāvara*), moving (*jaṅgama*), earthen products (*pārthiva*) and items created by time (*kālakṛta*) (SS 1938²: 9a).

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

- From the mention of “diseases,” all diseases caused by wind, bile, phlegm, congested humours (*sannipāta*), external factors (*āgantū*) and inherent factors (*svabhāva*) are intended (*vyākhyāta*).
- From the mention of “remedies,” there is the teaching of substances, tastes, potencies, post-digestive tastes.
- From the mention of “procedures (*kriyā*),” therapies (*karman*) such as oiling and excision (*chedya*) are taught.
- From the mention of the word “time,” every single teaching about the times for procedures is meant.

[There is a verse about this:]⁴³

41 *This seed of medicine has been declared in brief. Its explanation will be given in one hundred and twenty chapters.*⁴⁴

42 There are one hundred and twenty chapters in five sections (*adhyāya*).⁴⁵
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.⁴⁶

[There is a verse about this:]⁴⁷

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

43 See footnote 28.

44 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.

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

46 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* (SS1938: 1.3–4ab) there is indeed a statement that picks up the point about there being 120 chapters.

47 See footnote 28.

Sūtrasthāna, adhyāya 2

Literature

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

1

Sūtrasthāna, adhyāya 17

- 1 Now we shall expound the method for the piercing of the ear.⁴⁸
- 2 One may pierce a child's ears for the purpose of preserving and decorating. On renowned days, half days, hours and constellations during the first half of the sixth or seventh lunar month, the boy who has received a benediction (*kṛtamaṅgala*), – blessings pronounced (*svastivācana*) – should be placed on the lap of a wet-nurse.⁴⁹ Then, while pacifying him and having pulled his ear with the left hand, the physician should use his right hand to pierce the ear straight through at a naturally occurring cleft. For a boy do the right ear first; for a girl do the left one. Use a needle on a thin ear; an awl (*ārā*) on a thick one.
- 3 If there is excess blood or pain one should know that it was pierced in the wrong place. The absence of side-effects is a sign that it has been pierced in the right place.⁵⁰
- 4 In this context, if an ignorant person accidentally pierces a duct (*sirā*) there will be fever, burning, swelling (*śvayathu*), pain, lumps (*granthi*), paralysis of the nape of the neck (*manyāstambhā*), convulsions (*apatānaka*), headache or pain in the ear.
- 5 Having removed the wick (*vartī*) in it, one should smear it with a paste of the roots of barley, liquorice, Indian madder (*mañjiṣṭhā*), and the

48 The topic of piercing the ear (*karṇavyadha*) 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). The instrument for piercing the ear is described in the *Aṣṭāṅgahṛdayasūtra* (1.26.26). The vulgate (SS.1.16.1) describes this chapter as the method of piercing and joining the ear (*karṇavyadhabandhavidhi*). Although it is omitted in this opening statement, joining the ear (*karṇabandha*) is mentioned in passages 17–20. Also, the Nepalese version omits the vulgate's opening remark on Dhanvantari (for a discussion of the frame story in the Nepalese version, see [SushrutaProject](#), accessed July 26, 2021). Ḍalhaṇa (1.16.2) notes that only the ears of healthy people, whose bodies are free from disease, should be pierced, and he quotes 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.' (*kāleṣv eteṣv adoṣāṇāṃ bālānāṃ karṇayor vyadhe | saha gātrair vivardhante karṇapālyas ca khāni ca*).

49 The syntax here is unclear. The expression *svastivācana* may have been a gloss inserted into the text at an earlier period to clarify *maṅgala*. But as it stands, it is not syntactically connected to the rest of the sentence. The vulgate records a reading in which the words are united in a compound that reads more naturally.

50 From here on, witness K is missing a folio, so the text is constructed on the basis of witnesses N and H.

- castor oil tree (*gandharvahaṣṭa*), thickened with honey and ghee.
When it has healed well, one should pierce it again.
- 6 One should treat the properly-pierced ear by sprinkling it raw sesame oil. After every three days one should apply a thicker wick (*varti*) and sprinkle oil right on it.⁵¹
- 7 Once the ear is free from humours or side-effects, one should loosen it with a light dilator (*pravardhanaka*) in order to enlarge it.
- 8 *An person's ear enlarged in this way can split in two, either as a result of the humours or as a result of a blow.*

Listen to me about the joins (sandhāna) it can have.

Here, there are, in brief, fifteen ways of mending the ear. They are as follows: Rim-join, Lotus-splittable, Dried Flesh, Fastening, Cheek-ear, Take away, Ready-Split, Multi-joins, Door-hinge, Half door-hinge, Compressed (*saṃkṣipta*), Reduced-ear, Creeper-ear, Stick-ear, and Crow's lip.

In this context, among these,

"Rim-join" (*nemīsandhānaka*): both flaps are wide, long, and equal.

"Lotus-splittable" (*utpalabhedyaka*): both flaps are round, long, and equal.

"Dried flesh" (*vallūraka*): both flaps are short, round, and equal.

"Fastening" (*āsaṅgima*): one flap is longer on the inside.

"Cheek-ear" (*gaṇḍakarṇa*): one flap is longer on the outside.⁵²

"Take-away" (*āhārya*): the flaps are missing, in fact, on both sides.

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

"Multi-joins" (*vyāyojima*): one flap is small, the other thick, one flap is equal, the other unequal.

"Door-hinge" (*kapāṭasandhika*): the flap on the inside is long, the other is small.

⁵¹ The manuscripts support the reading *sthūlatarīm* that is either a non-standard form or a scribal error.

⁵² See fig. ??.

“Half door-hinge” (*ardhakapāṭasandhika*): the flap on the outside is long, the other is small.

“These ten options (*vikalpa*) for joins (*sandhi*) of the ear should be bound. They can mostly be explained as resembling their names.⁵³

The five below are not so successful:

The five from compressed (*saṃkṣipta*) on are incurable. Among these, “compressed” has a dry ear canal and the other flap is small. “Reduced ear” has flaps that have no base and have wasted flesh on their edges. “Creeper-ear” has flaps that are thin and uneven. “Stick-ear” has lumpy (*granthita*) flesh and the flaps are stretched thin and have stiff (*stabdha*) ducts (*sirā*). “Crow-lip” has a flap without flesh with compressed (*saṃkṣipta*) tips and little blood. Even when they are bound up, they do not heal because they are hot, inflamed, suppurating (*srāva*), or swollen.

- 10 A person wishing to perform any of these joins should therefore gather together the supplies prepared according to the recommendations of the ‘Preparatory Supplies’ chapter.⁵⁴ And in particular, he should gather decanted liquor (*surāmaṇḍa*), milk, water, fermented rice-water (*dhānyāmla*), and powdered earthenware crockery (*kapālacūrṇa*).

Next, he should prepare the woman or man who have had the ends of their hair tied up, have eaten lightly, and are firmly supported by qualified attendants.

Then, he should ready the bindings (*bandha*) and carry out the procedure with cutting (*chedya*), splitting (*bhedya*), scarification (*lekhyā*), or piercing (*vyadhana*), examine the blood of the ear to know whether it is tainted (*duṣṭa*) or not. Then if it is tainted by wind, the ear should be bathed with fermented rice-water (*dhānyāmla*) and water; if tainted by choler, then cold water and milk should be used; if tainted by phlegm, then decanted liquor (*surāmaṇḍa*) and water should be used, and then he should scarify it again.

Then, arranging the join in the ear so that it is neither proud, depressed, nor uneven, one should make the join. Next, after anointing it with honey and ghee, each ear should be bandaged with cotton (*picu*) and gauze (*prota*), and bound up with a thread, neither too tightly nor too loosely. Then the earthenware powder should be sprinkled on, and

⁵³ This is an odd assertion, given the strangeness of the names.

⁵⁴ SS.1.5.

- medical advice (*ācārika*) should be given. And he should supplement with food as taught in the ‘Two Wound’ chapter.⁵⁵
- 11 *One should avoid rubbing, sleeping during the day, exercise, overeat-*
 ing, 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.⁵⁶ For when the ear is tainted by wind, then it is obstructed by blood (*raktabaddha*), unhealed and will peel. When tainted with choler, it becomes pinched (*gāḍha*), septic (*pāka*) and red. When tainted by phlegm, it will be stiff (*stabdha*) and itchy. It has excessively copious suppuration (*srāva*) and is *śopha* (*puffed up*). It has it has a small amount of wasted (*kṣīṇa*) flesh and it will not grow.⁵⁷
- 13 When the ear is properly healed and there are no complications, one may very gradually start to expand it. Otherwise, it may be angry (*saṃrambha*), burning, septic or painful. It may even be split open again.
- 14 Now, massage for the healthy ear, in order to enlarge it.
 One should gather as much as one can of the following: a monitor lizard (*godhā*⁵⁸), scavenging (*pratuda*) and seed-eating (*viṣkīra*) birds, and creatures that live in marshes or water,⁵⁹ fat, marrow, milk, and sesame oil, and white mustard oil. Then cook the oil with an admixture (*prativāpa*) of the following: purple calotropis (*arka*⁶⁰), white calotropis (*alarka*⁶¹), country mallow (*balā*⁶²), ‘strong Indian mallow’ (*atibalā*⁶³), country sarsaparilla (*anantā*⁶⁴) beggarweed (*vidāri*⁶⁵), liquorice (*madhuka*), hornwort (*jalaśūka* → *jalanīlika*⁶⁶),⁶⁷ items having the ‘sweet’

55 SS.4.1.

56 The vulgate reads “impure” for the Nepalese “too pure,” which would appear to make better medical sense. Emending the text to *nāśuddha-* for *nātiśuddha-* in the Nepalese recension would yield the same meaning as the vulgate.

57 This passage exemplifies numerous small changes

58 *Varanus bengalensis*, Schneider (Daniel 1983:58)

59 For such classifications, see **zimm-jung** and **smit-clas**.

60 *Calotropis gigantea*, (L.) R. Br. (ADPS 52, AVS 1.341, NK #427, Potter 57, ID 306)

61 *Calotropis procera*, (Ait.) R. Br. (NK #428, GIMP 46b, ID 306)

62 *Sida cordifolia*, L. (ADPS 71, NK #2297)

63 *Abutilon indicum*, (L.) Sweet; *Sida rhombifolia*, L.? (NK #11, IGP ,4 1080; NK #2300)

64 *Hemidesmus indicus*, (L.) R. Br. (ADPS 434, AVS 3.141–5, NK #1210)

65 *Desmodium gangeticum* (L.) DC (Dymock 1.428, GJM 602, cf. NK #1192; ADPS 382, 414 and IMP 2.319, 4.366 are confusing)

66 *Ceratophyllum demersum*, L. (IMP 2371, AVS 2.56, IGP 232)

67 This name is not certain: in fact, the commentator Ḍalhana notes that some people interpret it as a poisonous, hairy, air-breathing, underwater creature.

savour (madhuravarga),⁶⁸ and 'milk flower' (payasyā → vidārī⁶⁹). This should then be deposited in a well-protected spot.

15 *The wise man who been sweated should rub the massaged (mardita) ear with it. Then it will be free of complications, and will enlarge properly and be strong.*

16 Ears which do not enlarge even when sweated and oiled, should be scarified at the edge of the hole (apāṅga), but not outside it.

17 In this tradition, experts know countless repairs to ears. So a physician who is very intent (suniviṣṭa) on working in this way may repair (yojayed) them.

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.

19 Now I shall describe the proper method of repairing a severed nose. 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) with the same measurements off the cheek, the end of the nose is then scarified.⁷⁰

Then the diligent (apramatta) physician, should quickly put it back together (pratisandhā-) so that it is well joined (sādhubaddha).

⁷¹

Having carefully observed that it has been well sown up, two tubes should be fixed in place. Then, having lifted them up,⁷² the powder

68 The items which exemplify the 'sweet' savour (madhuravarga) are enumerated at SS.1.42.11.

69 Pueraria tuberosa (Willd.) DC. (ADPS 510, IMP 1.792f., AVS 4.391; not Dymock 1.424f. See GJM supplement 444, 451, IMP 1.187, but IMP 3.1719 = Ipomoea mauritiana, Jacq.)

70 The vulgate reads bound, connected (baddham) for slice of flesh (vadhra). This is a critical variant from the surgical point of view. If the slice remains connected, it will have a continuing blood supply. This is one of the effective techniques that so astonished surgeons witnessing a similar operation in Pune in the eighteenth century (**wuja-roots3**).

71 Or '... off the cheek, it is fixed to the end of the nose, which has been scarified'. The Sanskrit text is unfortunately not unambiguous on the important point of whether or not the flap of grafted skin remains connected to its original site on the cheek.

72 The Sanskrit here, unnāmayitvā is non-Pāṇinian.

of sappanwood (*pattāṅga*⁷³),⁷⁴ liquorice (*yaṣṭīmadhuka*⁷⁵), and Indian barberry (*añjana*⁷⁶) should be applied to it.

añjana

- 22 The wound should be covered properly with cotton (*picu*) 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.⁷⁷
- 23 And once healed and really come together, what is left of its flesh (*va-dhra*) should then be trimmed. If it is reduced (*hīna*), however, one should make an effort to stretch it, and one should make its overgrown flesh smooth.

⁷³ *Caesalpinia sappan*, L. (AVS 1.323, IMP 2.847f.)

⁷⁴ For *pattāṅga* there are manuscript variants *pattrāṅga* (MS H) and *pattaṅga* (N). We read with H and K (f. 14r:1) on Y. T. Ācārya and N. R. Ācārya (SS 1938²: 1.14.36). The vulgate reads *pataṅga* and this reading is propagated in modern dictionaries.

⁷⁵ *Glycyrrhiza glabra*, L. (AVS 3.84, NK #1136)

⁷⁶ *Berberis aristata*, DC. (Dymock 1.65, NK #685, GJM 562, IGP 141)

⁷⁷ The expression *svayathopadeśa* is ungrammatical but supported in all available witnesses.

Sūtrasthāna, adhyāya 28

- 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.⁷⁸

⁷⁸ SS 1.1.28 ([SS 1938²:7](#)), tr. P. V. Sharma [1999–2001](#): I, 21.

Kalpasthāna, adhyāya 1

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.⁷⁹ Translations of this chapter since 2000 have appeared by Wujastyk (2003: 131–139) and P. V. Sharma (1999–2001: 3, 1–15).

More recently, a discussion of the fourth chapter of this section in the light of the Nepalese manuscripts was published by Harimoto.⁸⁰ 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,⁸¹ had been adjusted textually to smooth over inconsistencies, and gave insights into these editorial processes.

Manuscript notes

- MS Kathmandu NAK 5-333 has foliation letter numerals, for example on f. 323a, that are similar to MS Cambridge Add. 1693,⁸² dated to 1165 CE noted in Bendall's chart of Nepalese letter-numerals Bendall 1883: Lithograph V, after p. 225

⁷⁹ HIML: IA, 289–290.

⁸⁰ Harimoto 2011: 101–104.

⁸¹ The two editions SS 1938 and SS 1889, that Harimoto noted present identical texts.

⁸² Scan at cudl.lib.cam.ac.uk/view/MS-ADD-01693/1.

Translation

- 1–2 And now I shall explain the procedures for safeguarding food and drink, as were declared by the Venerable Dhanvantari.⁸³
- 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.⁸⁴

[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.⁸⁵
- 6 Therefore, a king should always be protected from poison by a physician.
- 7 The racehorse-like fickleness of men's minds is well known. And for this reason, a king should never trust anyone.⁸⁶

83 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 (SS 1.46.3 (SS 1938²: 214)). The scribe presumably felt, not unreasonably, that this section had common subject matter with the present chapter. Further, SS 1.46.3 is the only place in the Nepalese transmission of the *Suśrutasaṃhitā* that names Dhanvantari and integrates him into the narrative of the *Suśrutasaṃhitā* as the teacher of Suśruta.

The mention of Dhanvantari here is the only other time in the Nepalese transmission that this authority is cited as the source of Ayurvedic teaching, and the unique occurrence of this actual phrase, “as was declared by the Venerable Dhanvantari.” See the discussion by Klebanov (2021a: 28–32), who concludes that the earliest recoverable recension of the *Suśrutasaṃhitā* may have had the phrase only at this point and not elsewhere in the work.

84 This is a quite different statement from the vulgate (SS 1938: 559) that has Dhanvantari as the teacher, and calls him the Lord of Kāśī (*kāśīpati*). Ḍalhaṇa followed the vulgate but explicitly noted the reading before us with small differences: दिवोदासः क्षितिपतिस्तपो-धर्मश्रुताकरः “Divodāsa, the king of the earth, was a mine of traditions about discipline and virtue.”

85 Verses about the use of Venomous Virgins as a weapon do not appear in the Nepalese manuscripts. Cf. Wujastyk 2003: 81 f., 132. This material is present in the commentary of Gayadāsa.

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

- 8–11 He should employ a doctor in his kitchen (*mahānasa*) who is respected by experts, who belongs to a good family, is orthodox, sympathetic, not emaciated, and always busy.
- 12–13 The kitchen should be constructed at a recommended location and orientation. It should have a lot of light,⁸⁷ have clean utensils and be staffed by men and women who have been vetted.⁸⁸
- 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.⁸⁹
- 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.⁹⁰ A poisoner goes the wrong way and is absent-minded.
- 25–27 I shall explain the signs to look for in toothbrush twigs, in food and drink as well as in massage oil (*abhyāṅga*) and combs (*avalekhana*); in dry rubs (*utsādana*) and showers, in decoctions (*kaṣāya*) and massage ointment (*anulepana*); in garlands (*sraja*), clothes, beds, armour and ornaments; in slippers and footstools, and on the backs of elephants and horses; in nasya (*snuff*), inhaled smoke (*dhūma*), eye make-up (*añjana*), etc., and any other things which are commonly poisoned. Then, I shall also explain the remedy.
- 28 Flies or crows or other creatures that eat a poisonous morsel (*bali*)

Cf. Arthaśāstra 1.21.8.

87 We read महच्छुचिः with the Nepalese manuscripts and against the vulgate’s महच्छुचि. We understand शुचिस् as a neuter noun meaning “light” following Apte (1992: 1050a).

88 Verses detailing the ideal staff are omitted in the Nepalese manuscripts. Cf. SS 1938: 560; Wujastyk 2003: 132.

89 The word सौपोदनैकपूषिक “chefs for the boiled rice soups and cakes” is grammatically interesting. The term सूपोदन (as opposed to sūpaudana) 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).

90 The word ध्याम is glossed by Ḍalhaṇa (in a variant reading) as someone who is the colour of dirty clothes SS 5.1 (SS 1938²: 560).

- served from the king's portion, die on the spot.
- 29 Such food makes a fire crackle violently, and gives it an overpowering colour like a peacock's throat.
- 30–31 After a chukar partridge (*cakora*) looks at food which has poison mingled with it, its eyes are promptly drained of colour; a peacock pheasant (*jīvajīvaka*) drops dead. A koel (*kokila*) changes its song and the common crane (*kroñca*) rises up excitedly.⁹¹ It will excite a peacock (*mayūra*), and the terrified parakeet (*śuka*) and the hill myna (*sārikā*) screech. The swan (*haṃsa*) trembles very much, and the racket-tailed drongo (*bhṛṅgarāja*) churrs.⁹² The bull (*vṛṣabha*) sheds tears and the monkey releases excrement.⁹³

kroñca note

91 The verb अर्च्छति “rises up” is a rare form best known from epic Sanskrit (see Oberlies 2003: 212, §7.6.1). kroñca in Ḍalhaṇa

92 Ḍalhaṇa seems confused about the भृङ्गराज. He calls it a bee (*bhramaraka*) (which is another meaning of the term, but inappropriate in this list) and then says that it is like the Drongo (*dhūmyāṭa*) and that people call it “the king of birds.”

93 The vulgate replaces bull (*vṛṣabha*) with Chital deer (*prṣata*). The reading वृषभ is easy to read as पृषत in the Newa script.

Uttaratantra, adhyāya 16 (17 in the vulgate)

Literature

Survey of this chapter and the existing research on it to 2002: [HIML: IA](#), 305–306.

History of couching in India: Scott [1817](#); Breton [1826](#); Jack [1884](#); Hendley [1895](#); Elliot [1918](#); Parshwanath Shastri [1940](#); Deshpande [1999](#); [2000](#); Wujastyk [2019](#); Leffler et al. [2020](#), [wuja-root3](#).

Translation

- 1 Now I shall explain the counteraction (*pratiṣedha*) of diseases located in the pupil (*drṣṭi*).
- 2 There are three curable (*sādhya*), three incurable (*asādhya*), and six mitigatable (*yāpya*) diseases located in peoples eyes. Among these, three are curable (*sādhya*). Amongst these three, the remedy (*pratīkāra*) has been stated for the one called “seeing smoke (*dhūmadarśin*)”.⁹⁴
- 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 a balm (*tarpaṇa*),⁹⁵ but not cutting with a blade (*śāstrakṣata*).⁹⁶
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 (*trivṛta*) in the latter [case, of phlegm].
And ghee prepared with tilvaka (*tailvaka*) is wholesome in both cases, or else aged ghee on its own.
- 5cd–7ab In a collyrium, these four compounds (*yoga*) are beneficial in both cases:
 - ochre (*gairika*), Sind salt (*saindhava*), long pepper (*kṛṣṇā*) and the black soot (*maṣī*) from cow’s teeth;

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

maṣī burned charcoal. Find refs.

94 This disease and its cure are described earlier (SS.6.7.39 and SS.6.10.16 ([SS 1938²](#): 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.

95 These therapies are described in SS.6.18 ([SS 1938²](#): 633–640).

96 Dalhaṇa interprets this as blood-letting (*sirāvedha*), which is discussed in SS.1.14 ([SS 1938²](#)).

- Cow's flesh (*gomāṃsa*), black pepper (*marica*), siris (*śirīṣa*) and red arsenic (*manahśilā*);
 - stalk (*vr̥nta*) from a wood apple (*kapittha*) with honey (*madhu*);⁹⁷
 - or the the fruits of the velvet bean (*svayaṃgupta*).
- 8 The physician should make a collyrium with ground up metal (*ku-pyaka*),⁹⁸ Asoka tree (*aśoka*), Sal tree (*śālā*), mango (*amra*), beautyberry (*priyaṃgu*), Indian lotus (*nalina*), blue lotus (*utpala*), together with hareṇu (*hareṇu*), emblic (*āmalaka*), myrobalan (*pathyā*), long pepper (*pippali*). It should be combined with ghee and honey (*kṣaudra*).
- 9–10 Also, when bile and phlegm have developed, the physician should apply hareṇu (*hareṇu*) with the expressed juice (*svarasa*) of the flowers from mango (*amra*) and Jambu (*jambū*) trees. Then this collyrium, matured (*vipakva*) with ghee and honey (*kṣaudra*), should then be applied.
- 10–11ab Filaments (*kiñjalka*) of Indian lotus (*nalina*) and blue lotus (*utpala*), with ochre (*gairika*), and the juice of cow-dung (*gośakṛt*) are a collyrium in the form of a pill (*guḍikā*). This is good for both day and night blindness.
- 11cd–12ab Elixir-salve (*rasāñjana*), honey (*kṣaudra*), ghee, scrambleberry (*tālīśa*), 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*).⁹⁹ Then he mixes it with the bile of a tortoise or with extract of rohu carp (*rauhita*). It should always be used with powdered collyrium to quell the bile.
- 14 Thus, a collyrium of white teak (*kārśmarī*) flowers, liquorice (*madhuka*), tree turmeric (*dārvī*), lodh tree (*lodhra*) and elixir salve (*rasāñjana*) is always good as a collyrium in this case.
- 15 Alternatively, for those who cannot see during the day, this pill (*guḍikā*), with sandalwood, is recommended: salt (*nadīja*), conch shell and
-
- 97 wood apple (*kapittha*) in this verse is ablative singular or accusative plural, neither of which construe obviously.
- 98 A metal other than gold or silver, according to V. Jośī and N. H. Jośī 1968: 1.217. Perhaps lead, which is used in making contemporary collyrium.
- 99 This is Ḍaḷhaṇa's preferred interpretation of *rasa* "juice" in this context. He also notes that some take elixir-salve (*śīta*) to be camphor.

- the three spices, collyrium, realgar (*manaḥśilā*), the two turmeric (*ra-jana*)¹⁰⁰ and liver extract (*yakṛdrasa*).¹⁰¹
- 16 One should grind up kohl (*srotoja*),¹⁰² and Sind salt (*saindhava*) and long pepper and also hareṇu (*hareṇu*). Such wicks with goats urine are good in a collyrium for night blindness (*kṣaṇadāndhya*).
- 17–18ab Alternatively, in such a case, grind together Indian sarsaparilla (*kālā-nusāriva*)¹⁰³ long pepper, dried ginger (*nāgara*) and honey, the leaf of the scramberry (*tālīśapatra*), the two turmeric (*rajana*), a conch shell and liver extract (*yakṛdrasa*). Then shade-dried wicks take away illness (*ruj*).
- 18cd–19ab Wicks made of red arsenic (*manaḥśilā*), chebulic myrobalan (*abhayā*), the three spices (*vyoṣa*). Indian sarsaparilla (*sāriva*), cuttlefish bone (*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 (*dhātṛī*) 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*)¹⁰⁴ with long pepper, honey and box myrtle (*kaṭṭphala*). 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 is good.
- 23 Alternatively, a collyrium that is hareṇu (*hareṇu*) mixed with long pepper (*māgadhi*), the bone and the marrow of a goat, cardamom (*elā*) and

¹⁰⁰Turmeric (*Curcuma longa* Linn.) and tree turmeric (*Berberis aristata* DC). The term *rajana* is unusual; the normal term is *rajanī*. *Rajana* occurs in *Suśrutaniḥṣaṇṭu* 158 in the sense of *Ferula asafoetida*, Linn.

¹⁰¹This verse appears as no. 27 in the vulgate.

¹⁰²Glossed by Ḍalhaṇa as a kind of collyrium. Cf. Nadkarni 1954: 2.M13 and P. V. Sharma 1982: 197–198

¹⁰³There are two forms of *sārivā* mentioned widely in Āyurvedic literature, the white and the black. Ideas on the identity of the black form are particularly fluid. See Sivarajan and Balachandran (1994: 434–438) for a clear discussion.

¹⁰⁴At 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.

- liver, together with liver extract, is good for eyes afflicted by phlegm.¹⁰⁵
- 24 Over a fire, one should cook the liver (*yakṛt*) of a monitor lizard (*godhā*) prepared with entrails (*antra*) and stuffed with long pepper (*māgadhi*). As is well known, liver (*yakṛt*) which is used (*niṣevita*) with collyrium certainly destroys night blindness.
- 25 After preparing both a spleen (*plīhan*) and a liver on a spit, one should eat them both with ghee and oil.¹⁰⁶
- 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.¹⁰⁷ In the case of diseases of blood (*śonita*) and bile (*pitta*), one should drink ghee with the three fruits; it is particularly cleansing.¹⁰⁸ 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).¹⁰⁹
- 28 In cases of partial blindness (*timira*), aged ghee is recommended. It is good if it is kept in an iron vessel.
- 28cd–29ab One should know that ghee with the three mylobalans is always good, and it is made with what is called periploca of the woods (*meṣaviṣāṇa*).

¹⁰⁵On the identities of *elā* and *hareṇu* Watt (1908: 511 ff) described the former as “true” or “lesser” or “Malabar” cardamom, *Elettaria cardamomum*, Maton & White, in contrast to the “greater” cardamom is *Amomum subulatum* (that he discusses on p. 65) that is commonly used as an inferior substitute for *E. cardamomum*. Singh and Chuneekar (1972: 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).

¹⁰⁶We 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.

¹⁰⁷Ḍalhaṇa says that the unexpressed topic of this recipe is partial blindness (*timira*).

¹⁰⁸Blood-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

¹⁰⁹The 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.

- A man who is suffering from partial blindness should lick the finely-ground three fruits mixed with ghee off his hand (*sapāṇa*).¹¹⁰
- 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 (*na-sya*).¹¹¹
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.¹¹²
Fat (*vasā*) from a horse, a vulture, a snake, and a cock (*tāmracūḍa*), combined with mahua (*madhūka*) is always good in a collyrium.†¹¹³
- 33 Having prepared (*niṣevita*) a collyrium made of kohl (*srotas*) and gradually combine it with juices (*rasa*), milk and ghee.¹¹⁴

110 “Off his hand” translates the adverbial *sapāṇam*, an unusual word. Ḍalhaṇa reproduces a reading close to the Nepalese recension but says that Jejjāta rejects it and so he also does (SS 1938²: 627).

111 “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.

112 Ḍalhaṇa notes (SS 1938²: 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 (SS 1938²: 635). On the *puṭa* process in the *Suśrutasaṃhitā*, which is earlier and different than that of *rasaśāstra* literature, see the discussion by Wujastyk (2019: 83):

The term ‘enclosed roasting’ (*puṭapāka*) does occur in the *Suśrutasaṃhitā* 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.

113 This verse contains 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.

114 Ḍalhaṇa specifies that the juices are meat soups of various animals (SS 1938²: 628).

- For thirty days, this collyrium is put in the mouth of a black snake that is covered with kuśa grass (*kuśa*).
- 34 Next, a collyrium that is milk containing long pepper (*māgadhī*), lye (*kṣāraka*) and Sindh salt (*saindhava*) that has been repeatedly prepared with the mouth of a black snake, is good in the case of bloodshot blindness (*rāgin timira*).¹¹⁵
- 35 They say that ghee may be produced from that and combined with sweet herbs is good as an errhine for eye-diseases caused by bile. And here, a balm (*tarpaṇa*) is good that is a combination that is the flesh of wild animals taken hot (*puṭāhvaya*).¹¹⁶
- 36 And realgar (*manaḥśilā*) mixed with elixir salve (*rasāñjana*) and honey is a liquid collyrium (*dravāñjana*) which is, in this case, combined with mahua (*madhūka*).¹¹⁷
- Alternatively, experts on this say that finely ground blue vitriol (*tuttha*) extracted from a gold mine is the “same collyrium (*samāñjana*)”.¹¹⁸
- 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*).¹¹⁹
- The extracts (*rasa*) produced from aflame of the forest (*palāśa*), Rohīta tree (*rohīta*),¹²⁰ mahua (*madhūka*), ground with the supernatant layer (*agra*) of the spirits (*madira*) is applied.
- 38 Alternatively, one should cook an errhine with cuscus grass (*uśīra*), lodh tree (*lodhra*), the three fruits (*triphalā*), beauty berry (*priyaṅgu*) to pacify eye diseases caused by phlegm.¹²¹

115 Ḍalhaṇa describes this blindness as a type of *kāca* disease caused by wind (SS 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.

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

117 The expression liquid collyrium (*dravāñjana*) is only known from Ḍalhaṇa’s comments on SS.6.17.11ab (SS 1938²: 626). The recipe in the present collyrium is different from that discussed by Ḍalhaṇa.

118 The expression “same collyrium (*samāñjana*)” is a hapax legomenon glossed inexplicably by Ḍalhaṇa as “a collyrium with an equal amount of fermented barley” (*tulya-sauvīrāñjana*) (SS 1938²: 628).

119 The ablative “from collyrium” is hard to construe, but Ḍalhaṇa uses this term and phrase in his commentary on SS 6.17.41ab (SS 1938²: 629).

120 Probably *Soymida febrifuga* A. Juss.

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

- 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*)¹²² as well as turmeric (*haridrā*) and spikenard (*nalada*) is good in a balm (*tarpaṇa*).
Alternatively, one may have an enclosed roasting (*puṭapāka*) done with arid-land animals (*jāṅgala*)¹²³ 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*).¹²⁴
They say that an elixir salve (*rasāñjana*) combined with myrobalans, treacle and dried ginger is good.¹²⁵
- 41 Alternatively, a collyrium that has been prepared many times in the eight types of urine¹²⁶ is put into water with the three fruits. Having stored it in the mouth of a nocturnal creature (*niśācara*)¹²⁷ one should place it in a conch (*salilotthita*) for two months.¹²⁸
- 42 One should apply that collyrium together with the flowers of mahua (*madhūka*) and horseradish tree (*śigru*) when [the disease] is caused by all [the humours].
But alternatively, all treatments apply when blood is the cause. The procedure that removes bile is good when there is blue dot cataract (*mlāyin*).¹²⁹

find ref.

Check out these refs.

122These are fig trees. The *Sauśrutanighaṇṭu* (252) specifies the Uḍumbara. Cf. the classification in CS.1.1.71–72, 1.8, *et passim*.

123On this term, see SS.1.35.42 (SS 1938²:157) and the discussion by Zimmermann (1999: 25–31).

124Dalhaṇa glosses treatment (*kriyā*) specifically as inspissation (*rasakriyā*) (SS 1938²: 629).

125We emend *hite* to *hitam*, against the MSS.

126See SS *mūtravarga*

127Dalhaṇa glosses nocturnal creature (*niśācara*) as “vulture,” although elsewhere in the SS it is more commonly interpreted as a spirit or demon. In the present context, following verses 33 and 34, it is probably a snake.

128We interpret “water-born (*salilotthita*)” as “conch” in line with *jalodbhava*, but the term is uncertain.

129The vulgate follows Dalhaṇa in glossing *mlāyin* as *parimlāya*. The description of this condition at SS.6.7.27–28 appears to refer to “blue dot” or “cerulean” cataract. √*mlai* derivatives can mean “dark” or “black.”), which is normally a different ailment.

- 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.¹³⁰
The treatment that is good for removing watery eye (*syanda*) should be properly applied in all these humoral cases, according to the individual.¹³¹
- 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.¹³²
- 45 Someone who uses matured ghee, the three fruits, wild asparagus (*śa-tāvarī*), as well as mung beans (*mudga*), 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 is mitigable (*yāpya*).
- 49 I shall explain the therapy for success when there is a cataract (*liṅga-nāśa*) 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.¹³³
- 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.

¹³⁰The vulgate edition omits part of this verse (ab) combining earlier and later passages.

¹³¹The term watery eye (*syanda*) refers to the specific disease *abhiṣyanda*. See SS.6.6.5, 1.46.51, etc.

¹³²Dalhaṇa notes that *Kalpa* means the Uttaratānta adhyāya 18 (SS 1938²: 633 ff).

¹³³In 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. AS 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.

The wise physician should separate (*muktvā*) two white sections from the black part (*kṛṣṇa*) and from the outer corner of the eye (*apāṅga*). Having pīḍ- (*pressed*) properly into the eye,¹³⁴ at the naturally occurring (*daivakṛte*) hole (*chidra*) with the probe (*śalākā*) made of copper or iron, with a tip like a barley-corn that is 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, there is the simultaneous issue of a drop of liquid and a sound.¹³⁵

- 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*).¹³⁶
- 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*).¹³⁷
- 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.¹³⁸
- 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*).¹³⁹
- 60 Having smeared ghee on the eye, one should cover it with a bandage.

¹³⁴We 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.

¹³⁵Ḍalhaṇa interprets simultaneous (*samyak*) rather as "proper," referring to the proper kind of incision.

¹³⁶The anatomy of the eye is described in SS 6.1.14–16 (SS 1938²: 596) The disks or *maṇḍalas* are the circuits or disks of the eye.

¹³⁷Ḍalhaṇa describes sniffing (*ucchiṅgana*) at SS 6.19.8 (SS 1938²: 641), clearly intending inward sniffing.

¹³⁸We interpret *bhaṅga* as leaves, following the usage elsewhere in this sthāna SS 4.32.9, 6.11.5 (SS 1938²: 513, 614) where *bhaṅga* means shoots (*pallava*). A similar procedure is described at AS 6.17.25 (AS 1980: 716a), where sweating of the eye is done by means of the leaves of a castor-oil plant.

¹³⁹There 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.

- Then, he must lie down supine in a house free from disturbances.¹⁴⁰
- 61 At that time, he should not belch, cough, sneeze, spit or shiver. Afterwards there should be restrictions (*yantraṇā*) as in the case of someone who has drunk oil.¹⁴¹
- 62 Every three days one should wash it with decoctions (*kaṣāya*) that remove wind. After three days, one should sweat the eye externally because of the danger of wind.
- 63 Having restrained himself in this way for ten days he should thereafter take a beneficial regimen (*karma*) that clears the pupil (*dṛṣṭi*) and also he should take light food in measure.

[Complications]

- 64 When there is a misshapen eyeball (*vilocana*), the eye may fill because of the release of blood from a vein.¹⁴²
A hard probe leads to shooting pain (*śūla*), a thin to unsteadiness of the humours (*doṣapariplava*),¹⁴³
- 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*).¹⁴⁴
- 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

¹⁴⁰Dalhaṇa explains disturbances specifically as dust, smoke, drafts and sunlight SS 6.17.67 (SS 1938²: 631a).

¹⁴¹Dalhaṇa glosses “restrictions (*yantraṇā*)” as having a controlled diet and the other restrictions appropriate to someone who is taking oil as a preparation before further therapy (SS 6.17.68 (SS 1938²: 631)). These restrictions are also described at SS 6.18.28 (SS 1938²: 635) and Ah 1.16.25cd (Ah1902: 249).

¹⁴²The condition of “misshapen eye” is referred to briefly in SS 6.61.9 (SS 1938²: 800), where Dalhaṇa glosses it as “bent brow and eye (*vakrabhrūnetra*).” The vulgate’s reading of “with blood (*śonitena*)” is easier to construe.

¹⁴³There is a medically significant difference here from the vulgate, which reads “a rough (*khara*) probe” not a “thin” probe.

¹⁴⁴This translation of loss of function (*kriyāsaṅga*) is given on the basis of Dalhaṇa’s gloss of *kriyāsaṅgakarī* as “causing the destruction of actions such as moving (*gamanādikriyāvīnāśakārī*)” at SS 3.8.19 (SS 1938²: 382).

- a bud at both ends (*vaktra*).
- 67 A commendable probe should be made of silver, iron or gold (*śātaku-mbhī*).¹⁴⁵

[Complications]

- Redness, swelling, lumps, driness (*coṣa*), bubbling (*budbuda*),¹⁴⁶ pigs' eye (*sūkarākṣitā*),¹⁴⁷ 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*).¹⁴⁸ This is immediately beneficial when someone is looking for relief.
- 72 A paste with *Holostemma* (*payasyā*),¹⁴⁹ Indian sarsaparilla (*śārivā*), cassia cinnamon (*patra*), Indian madder (*mañjiṣṭhā*), and liquorice (*madhukair*) stirred with goat's milk, pleasantly warmed, is said to be healthy.¹⁵⁰
- 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.

¹⁴⁵The vulgate reads “copper (*tāmra*)” in place of “silver.”

¹⁴⁶Ḍalhaṇa glosses “bubbling (*budbuda*)” as “prolapse (*māṃsanirgama*) that looks like bubbles.”

¹⁴⁷The expression “pigs’ eye” appears to be a *hapax*. It is glossed as “downward vision (*adhodrṣṭitva*)” by Ḍalhaṇa.

¹⁴⁸On the adverbial use of gently (*mṛdu*), see Gombrich 1979.

¹⁴⁹The identity of *payasyā* is debated (Singh and Chuneekar 1972: 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. (Sivarajan and Balachandran 1994: 195–196). The *Sauśrutaniḡhaṇṭu* glosses it as *kṣīrikā* or *arkapuṣpikā* (Suvedī and Tivārī 2000: v. 307).

¹⁵⁰The expression “stirred with goat’s milk (*ajākṣīrārdita*)” is difficult. It may be connected with the rare root *ard* documented by Whitney (1885: 15). Cf. *√ard gatau* (*Dhātupāṭha* 1.56).

- 74 Alternatively, goats' milk with the Lodh tree, Sindh salt, red grapes and liquorice, cooked, should be used in irrigation because it removes pain and redness.
- 75 Having cooked it with liquorice, water-lily, and costus, mixed with grapes (*drākṣā*), lac (*lākṣā*), white sugar (*sitā*), with wild asparagus, Hare Foot Uraria (*pr̥thakparṇī*),¹⁵¹ 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.¹⁵² This has an admixture of cottony jujube (*kākolī*) etc., should be prescribed in all treatments.¹⁵³
- 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.¹⁵⁴
- 78cd–80ab Now listen to two excellent collyriums for making the pupils clear. After grinding the flowers of perploca of the woods (*meṣaśṛṅga*), siris (*śirīṣa*), axelwood (*dhava*) royal jasmine (*jātī*), pearl and beryl (*vaiḍūrya*) with goat's milk, one should put it in a copper pot for seven days.
- 80cd–81 Having made it into wicks (*vartti*), the physician should apply it as a collyrium. Alternatively, one should make kohl (*srotoja*), coral (*vi-druma*), cuttlefish bone (*phena*), and realgar (*manaḥśilā*) and peppers into wicks as before. One should apply these wicks, which are good in a collyrium, to steady the pupil.
- 82 I shall again discuss the foremost collyriums at length in the *Kriyākalpa* section. Those various methods may be applied here too.

or a dual?

¹⁵¹Suvedī and Tivārī 2000: 18.

¹⁵²Ḍalhaṇa mentions that these drugs include Deodar (*bhadradāru*) and other wind-destroying drugs. The *vātasamśamana* group is listed in *Suśrutasaṃhitā sūtrasthāna* 1.39.7.

¹⁵³Ḍalhaṇa notes that this would include errhines, ointments, etc.

¹⁵⁴The vulgate reads *vāpi* for *cāpi*, so Ḍalhaṇa sees blood-letting and cautery as alternatives, not a sequence of treatments. Ḍalhaṇa lists the places that cauterization may be applied, such as the brow, forehead, etc.

Abbreviations

Ah1902	Kuṁṭe, Ananta Moreśvara and Navare, Kṛṣṇaśāstrī Rāmacandra (1902) (eds.), श्रीमद्वाग्भटविरचितम् अष्टाङ्गहृदयम्, सूत्र-शारीर-निदान-चिकित्सा-कल्प-उत्तरस्थानविभक्तम् श्रीमदरुणदत्तप्रणीतया सर्वाङ्गसुन्दर्याख्यया व्याख्यया समलंकृतम् (Kṛṣṇadāsa Āyurveda Sīrīja, 3; Mumbayyām: Nirṇaya-sāgara Press).
AS 1980	Āṭhavale, Anaṁta Dāmodara (1980) (ed.), <i>Aṣṭāṅgasan̄grahaḥ. Śrīmad Vṛddhāvāgbhaṭaviracitaḥ Induvyākhyāsahitaḥ</i> (Pune: Maheśa Anaṁta Āṭhavale, Śrīmad Ātreya Prakāśanam), ark:/13960/t9773bb9z .
Bhela 1921	Mookerjee, Ashutosh and Ananta Krishna Shastri, Vedantabisharad (1921) (eds.), <i>The Bhela Samhita. Sanskrit Text</i> (Calcutta: University of Calcutta), ark:/13960/t3sv3157j ; Based on two copies made of the Thanjavur codex unicus (MS Thanjavur TMSSML 10773, Burnell 1880: 63–4, P. P. S. Sastri 1933: #11085).
Bhela 2000	Krishnamurthy, K. H. (2000), <i>Bhela-saṁhitā. Text with English Translation, Commentary and Critical Notes</i> (Haridas Ayurveda Series, 8; Varanasi: Chaukhambha Visvabharati).
HIML	Meulenbeld, Gerrit Jan (1999–2002), <i>A History of Indian Medical Literature</i> , 5 vols. (Groningen: E. Forsten), ISBN: 9069801248.
NCC	Raghavan, V. et al. (1949–), <i>New Catalogus Catalogorum, an Alphabetical Register of Sanskrit and Allied Works and Authors</i> , 39 vols. (Madras University Sanskrit Series; Madras: University of Madras); v.1: revised edition, 1968.

- NGMCP (2014), 'Nepal-german Manuscript Cataloguing Project. Online Title List and Descriptive Catalogue', Universität Hamburg and Deutsche Forschungsgemeinschaft, [URL](#).
- SS 1889 Bhaṭṭācāryya, Jīvānanda Vidyāsāgara (1889) (ed.), सुश्रुतः. सूत्र-निदान-शारीर-चिकित्सा-कल्पोत्तर-तन्त्र-कल्पित आयुर्वेद. भगवता धन्वन्तरिणोपदिष्टः सुश्रुतनामधेयेन तच्छिष्येण विरचितः (3rd edn., Calcutta: Saratī Press), [ark : / 13960 / t1nh6j09c](#); [HIML](#): IB, 311, edition b.
- SS 1931 Ācārya, Yādavaśarma Trivikrama (1931) (ed.), सुश्रुतसंहिता, वैद्यवरश्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया समुल्लसिता, महर्षिणा सुश्रुतेन विरचिता, सूत्र-निदान-शारीर-चिकित्सा-कल्पस्थानोत्तरतन्त्रात्मकः. आचार्योपाह्वेन त्रिविक्रमात्मजेन यादवशर्मणा संशोधिता = *The Sushrutasaṃhitā of Sushruta with the Nibandhasangraha Commentary of Shree Dalhaṇāchārya* (2nd edn., Mumbayyām: Pāṇḍuraṅga Jāvajī at the Nirṇayasāgarāmudrāyantrālaye), [ark : / 13960 / t9j41sg94](#), accessed 09/06/2020; [HIML](#): IB, 312 edition *v.
- SS 1938 Ācārya, Yādavaśarma Trivikrama and Ācārya, Nārāyaṇa Rāma (1938) (eds.), श्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया निदानस्थानस्य श्रीगयदासाचार्यविरचितया न्यायचन्द्रिकाख्यपञ्जिकाव्याख्यया च समुल्लसिता महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता (3rd edn., Bombay: Nirṇayasāgara Press); [HIML](#): IB, 313 edition cc.
- SS 1938² Ācārya, Yādavaśarma Trivikrama and Ācārya, Nārāyaṇa Rāma (2004) (eds.), महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता, श्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया निदानस्थानस्य श्रीगयदासाचार्यविरचितया न्यायचन्द्रिकाख्यपञ्जिकाव्याख्यया च समुल्लसिता (Vārāṇasī: Caukhambhā Kṛṣṇadāsa

- Akādāmī); Reprint of the third, 1938 edition (SS1938), with changed pagination.
- SS1915 Ācārya, Yādavaśarma Trivikrama (1915) (ed.), सुश्रुतसंहिता, सुश्रुतेन विरचिता, वैद्यवरश्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया समुल्लसिता, आचार्योपाह्वेन त्रिविक्रमात्मजेन यादवशर्मणा संशोधिता = *The Sushrutasaṃhita of Sushruta, the Nibandhasaṅgraha Commentary of Shri Dalhaṇāchārya* (Mumbayyām: Nirṇayasāgaramudrāyantrālaye), [ark :/ 13960 / t3sv0mt50](https://nirayam.org/ark:/13960/t3sv0mt50), accessed 29/07/2020; HIML: IB, 312 edition *v.
- Viṣṇudharmottarapurāṇa Śarman, Madhusūdana and Śarman, Mād-havaprasāda (1912) (eds.), *Viṣṇudharmottarapurāṇam* (Mumbai: Khemarāja Śrīkrṣṇadāsa at the Śrīveṅkaṭeśvara Steam Press), [ark :/ 13960 / t6qz6fr23](https://nirayam.org/ark:/13960/t6qz6fr23); Lithograph format. Edited on the basis of a manuscript belonging to the astrologer Śudhākaraśarman of the Varanasi Sanskrit Pāṭhaśālā.

References

- Ācārya, Yādavaśarma Trivikrama and Śarman, Nandakiśora (1939) (eds.), सुश्रुतसंहितायाः सूत्रस्थानम्. श्रीचक्रपाणिदत्तविरचितया भानुमतीव्याख्याया समेतम् = *Sushrut-saṃhitā (sūtra Sthān) with Bhānumatī Commentary by Chakrapāṇi Datta with Introduction by Gaṇanāth Sen* (Śrīsvāmī Lakṣmīrāma Nidhi Granthamālā = Shrī Swāmī Lakshmi Rām Trust Series, 1; [Jaipur]: Śyāmasundara Śarman); Printed at the Nirṇayasāgara Press, Bombay.
- Adriaensen, Rob C. R., Barkhuis, Roelf, and Ruijters, Jean-Louis (1984), 'An English Translation of Suśrutasaṃhitā, Nidānasthāna 1, 1–39, Together with Gayadāsa's Nyāyacandrikā', in Gerrit Jan Meulenbeld (ed.), *Proceedings of the International Workshop on Priorities in the Study of Indian Medicine* (Groningen: Forsten), 277–310.

- Apte, Vaman Shivaram (1992), *The Practical Sanskrit-English Dictionary* (Kyoto: Rinsen Book Company), ISBN: 4-653-00038-7; Reprinted from **gode-apte**.
- Bausi, Alessandro et al. (2015), *Comparative Oriental Manuscript Studies. An Introduction* (Hamburg: Tredition). DOI: [10.5281/ZENODO.46784](https://doi.org/10.5281/ZENODO.46784).
- Bendall, Cecil (1883), *Catalogue of the Buddhist Sanskrit Manuscripts in The University Library, Cambridge: With Introductory Notices and Illustrations of the Palaeography and Chronology of Nepal and Bengal* (Cambridge: University Press), [ark:/13960/t03x8vz7b](https://nbn-resolving.org/urn:nbn:uk:2019-06-01-13960-t03x8vz7b).
- Bhaṭṭācārya, Candrakānta (1910–7) (ed.), सुश्रुतसंहिता प्रथमखण्डम् सूत्रस्थानात्मकम्...हाराणचन्द्रचक्रवर्तिकविराजविरचितसुश्रुतार्थसन्दीपनभाष्य-समेतम्...चन्द्रकान्त भट्टाचार्य-प्रमुखैः संशोधितम् = [The *Suśrutasaṃhitā* with the Commentary *Suśrutārthasandīpanabhāṣya* by *Hārāṇacandra Cakravartī*] (Kalikātā: Satya Press); Edition "t" in [HIML](https://www.himl.org/): IB, 312.
- Birch, Jason (2021), 'Cleaning the Body like a Conch: The Haṭhasaṅketacandrikā and Śaṅkhaṇḍaprakṣāṇa', *Academia Letters* (Jan.). DOI: [10.20935/al1144](https://doi.org/10.20935/al1144).
- Breton, P. (1826), 'On the Native Mode of Couching', *Transactions of the Medical and Physical Society of Calcutta*, 2: 341–82, [ark:/13960/t3dz8nn5t](https://nbn-resolving.org/urn:nbn:uk:2019-06-01-13960-t3dz8nn5t), URL, accessed 02/06/2021.
- Bronkhorst, Johannes (2021), 'Patañjali's Āryāvarta = Śuṅga realm?', *Academia Letters*. DOI: [10.20935/al1291](https://doi.org/10.20935/al1291); Article 291.
- Burghart, Marjorie (2016), 'The TEI Critical Apparatus Toolbox: Empowering Textual Scholars through Display, Control, and Comparison Features', *Journal of the Text Encoding Initiative*, 10/Issue 10. DOI: [10.4000/jtei.1520](https://doi.org/10.4000/jtei.1520), URL, accessed 12/12/2017.
- (2017), 'Textual Variants', in Marjorie Burghart, James Cummings, and Elena Pierazzo (eds.), *Digital Editing of Medieval Texts: A Textbook* (DEMM), URL, accessed 04/07/2021.
- Burnell, Arthur Coke (1880), *A Classified Index to the Sanskrit Mss. in the Palace at Tanjore* (London: Trübner), [ark:/13960/t4xh86j61](https://nbn-resolving.org/urn:nbn:uk:2019-06-01-13960-t4xh86j61); *Bhelaśaṃhitā* described on pp. 67 ff.

- Cordier, P. (1903), 'Récentes découvertes de mss. médicaux sanscrits dans l'Inde (1898–1902)', *Muséon, Nouvelle Série*, 4: 321–52, [ark : / 13960 / t26b2j457](https://doi.org/10.1017/S0041977X00016724), accessed 02/01/2020; Reprinted in Roşu 1989: 539–70.
- Deshpande, Vijaya (1999), 'Indian Influences on Early Chinese Ophthalmology: Glaucoma As a Case Study', *Bulletin of the School of Oriental and African Studies*, 62: 306–22. DOI: [10.1017/S0041977X00016724](https://doi.org/10.1017/S0041977X00016724).
- (2000), 'Ophthalmic Surgery: A Chapter in the History of Sino-indian Medical Contacts', *Bulletin of the School of Oriental and African Studies*, 63/3: 370–88, ISSN: 0041-977X. DOI: [10.1017/s0041977x00008454](https://doi.org/10.1017/s0041977x00008454).
- Elliot, Robert Henry (1918), *The Indian Operation of Couching for Cataract: Incorporating the Hunterian Lectures Delivered before the Royal College of Surgeons of England on February 19 and 21, 1917* (London: H. K. Lewis).
- Emeneau, M. B. (1969), 'Sanskrit Syntactic Particles – "kila, khalu, nūnam"', *Indo-Iranian Journal*, 11/4: 241–68.
- Fan, Ka Wai (2005), 'Couching for Cataract and Sino-indian Medical Exchange From the Sixth to the Twelfth Century AD', *Clinical and Experimental Ophthalmology*: 188–90. DOI: [10.1111/j.1442-9071.2005.00978.x](https://doi.org/10.1111/j.1442-9071.2005.00978.x); Unaware of Deshpande 1999; 2000.
- Gombrich, Richard (1979), '“He cooks softly”: dverbs in Sanskrit grammar', *Bulletin of the School of Oriental and African Studies*, 42/2 (June): 244–56. DOI: [10.1017/s0041977x0014580x](https://doi.org/10.1017/s0041977x0014580x).
- Harimoto, Kengo (2011), 'In Search of the Oldest Nepalese Manuscript', *Rivista degli Studi Orientali*, 84/1–4: 85–106, ISSN: 0392-4866, [URL](https://doi.org/10.1017/s0041977x0014580x), accessed 08/09/2019.
- (2014), 'Nepalese Manuscripts of the Suśrutasaṃhitā', *Journal of Indian and Buddhist Studies (Indogaku Bukkyogaku Kenkyu)*, 62/3: 23–29 (1087–1093). DOI: [10.4259/ibk.62.3_1087](https://doi.org/10.4259/ibk.62.3_1087), [URL](https://doi.org/10.4259/ibk.62.3_1087), accessed 08/09/2019.
- (pre-published), '[Preliminary Edition of the Nepalese MSS of the Suśrutasaṃhitā, adhyāyas 1.1–3, 6.4]'; Unpublished document dated 2010.
- Hayashi, Takao (2017), 'The Units of Time in Ancient and Medieval India', *History of Science in South Asia*, 5/1: 1–116. DOI: [10.18732/h2ht0h](https://doi.org/10.18732/h2ht0h).

- Hemarāja Śarman (1938) (ed.), काश्यपसंहिता (वृद्धजीवकीयं तन्त्रं वा) महर्षिणा मारीच-
कश्यपेनोपदिष्टा ... हेमराजशर्मणा लिखितेन विस्तृतेन उपोद्धातेन सहिता ... सत्यपाल भिषगा
कृतया विद्योतिनी हिन्दीव्याख्यया ... समुल्लसिता (1st edn., Mumba: Nirṇayasāgara
Press), [URL](#), accessed 02/02/2018.
- Hendley, T. Holbein (1895), *A Medico-topographical Account of Jeypore, Based
on the Experience of Twenty Years' Service As a Residency Surgeon and Thir-
teen As Superintendent of Dispensaries at Jeypore, Rajputana* (Calcutta: Cal-
cutta Central Press Company).
- Hoernle, A. F. Rudolf (1893–1912) (ed.), *The Bower Manuscript: Facsimile
Leaves, Nagari Transcript, Romanised Transliteration and English Translation
with Notes* (New Imperial Series, 22; Calcutta: Government of India and
under the patronage of the Bengali Government, Archaeological Survey
of India), [ark:/13960/t05z1bg4q](#).
- Hofer, Theresia (2007), 'Swami Laxmi Ram's Ayurvedic Pharmacy in
Jaipur, India', *Wellcome History*, 34: 2–3, [URL](#), accessed 01/07/2021.
- Jack, David Morton (1884), 'A Thesis on Cataract in India: Its Pathology
and Treatment', Wellcome Library, London, MS.3007, [URL](#), accessed
02/06/2021.
- Joṣī, Veṇīmādhavaśāstri and Joṣī, Nārāyaṇa Harī (1968), *Āyurvedīya
Mahākośaḥ arthāt Āyurvedīya Śabdakośaḥ Saṃskṛta–Saṃskṛta* (Mumbaī:
Mahārāṣṭra Rājya Sāhitya āṇi Saṃskṛti Maṇḍala), [URL](#).
- Klebanov, Andrey (2021a), 'On the Textual History of the Suśrutasaṃhitā
(1): A Study of Three Nepalese Manuscripts', to be published in *eJIM:
Electronic Journal of Indian Medicine*, [URL](#), accessed 09/09/2019.
- (2021b), 'On the Textual History of the Suśrutasaṃhitā, (2): An An-
onymous Commentary and its Identified Citations', in Toke Lindegaard
Knudsen, Jacob Schmidt-Madsen, and Sara Speyer (eds.), *Body and Cos-
mos: Studies in Early Indian Medical and Astral Sciences in Honor of Kenneth
G. Zysk* (Leiden, Boston: Brill), 110–39.
- Leffler, Christopher T. et al. (2020), 'The History of Cataract Surgery: From
Couching to Phacoemulsification', *Annals of Translational Medicine*, 8/
22: 1551–97, ISSN: 2305-5847. DOI: [10.21037/atm-2019-rcs-04](#), [URL](#),
accessed 02/11/2020.

- Lienhard, Siegfried (1978), 'On the Meaning and Use of the Word Indragopa', *Indologica taurinensia*, 6: 177–88, [URL](#), accessed 06/02/2021; The indragopa is a 'red velvet mite'.
- Masai, François (1950), 'Principes et conventions de l'édition diplomatique', *Scriptorium*, 4: 177–93. DOI: [10.3406/scrip.1950.2294](#).
- Moureau, Sébastien. (2015), 'The Apparatus Criticus', in Alessandro Bausi et al. (eds.), *Comparative Oriental Manuscript Studies: An Introduction* (Hamburg: Tredition), 348–52, ISBN: 978-3-7323-1768-4, [URL](#), accessed 04/07/2021.
- Nadkarni, K. M. (1954), *Dr. K. M. Nadkarni's Indian Materia Medica, with Ayurvedic, Unani-tibbi, Siddha, Allopathic, Homeopathic, Naturopathic & Home Remedies, Appendices & Indexes ... in Two Volumes*, ed. A. K. Nadkarni, 2 vols. (3 ed., revised by A. K. Nadkarni, Bombay: Popular Prakashan), [ark:/13960/t6rz4h160](#).
- NGMCP (2014), 'Nepal-german Manuscript Cataloguing Project. Online Title List and Descriptive Catalogue', Universität Hamburg and Deutsche Forschungsgemeinschaft, [URL](#).
- Oberlies, Thomas (2003), *A Grammar of Epic Sanskrit* (Indian Philology and South Asian Studies, 5; Berlin: De Gruyter), ISBN: 9783110144482. DOI: [10.1515/9783110899344](#).
- Pandey, Anshuman (2012), 'Proposal to Encode the Newar Script in ISO/IEC 10646', [URL](#).
- Parshwanath Shastri, Vardhaman (1940) (ed.), *The Kalyāṇa-kārikā of Ugrādityacharya, Edited with Introduction, Translation, Notes, Indexes and Dictionary* (Sakharam Nemchand Granthamala; Sholapur).
- Pass, Gregory (2003), *Descriptive Cataloging of Ancient, Medieval, Renaissance, and Early Modern Manuscripts* (Chicago: American Library Association), ISBN: 0-8389-8218-2, [URL](#).
- Preisendanz, Karin (2007), 'The Initiation of the Medical Student in Early Classical Āyurveda: Caraka's Treatment in Context', in Birgit Kellner et al. (eds.), *Pramāṇakīrtiḥ. Papers Dedicated to Ernst Steinkellner on the Occasion of His 70th Birthday. Part 2*, ii, 2 vols. (Wiener Studien zur Tibetologie und Buddhismuskunde, 70.2; Wien: Arbeitskreis für Tibetische Und Buddhistische Studien Universität Wien), 629–68, ISBN: 9783902501097, [URL](#).

- Price, Kenneth M. (2013), 'Electronic Scholarly Editions', in Ray Siemens and Susan Schreibman (eds.), *A Companion to Digital Literary Studies* (Chichester, UK: John Wiley & Sons, Ltd), 434–50. DOI: [10 . 1002 / 9781405177504 . ch24](https://doi.org/10.1002/9781405177504.ch24), URL, accessed 04/07/2021.
- Rama Rao, B. et al. (2005), *Sanskrit Medical Manuscripts in India* (New Delhi: Central Council for Research in Ayurveda & Siddha), [ark : / 13960 / t88h7763b](https://nbn-resolving.org/urn:nbn:in:ccr:13960-t88h7763b).
- Roşu, Arion (1989), *Un demi-siècle de recherches āyurvédiques. Gustave Liétard et Palmyr Cordier: Travaux sur l'histoire de la médecine indienne* (Paris: Institut de Civilisation Indienne).
- Sastri, Hrishikesh and Gui, Siva Chandra (1895–1917), *A Descriptive Catalogue of Sanskrit Manuscripts in the Library of Calcutta Sanskrit College* (Calcutta: Baptist Mission Press).
- Sastri, P. P. S. (1933), *A Descriptive Catalogue of the Sanskrit Manuscripts in the Tanjore Maharaja Serfoji's Sarasvati Mahal Library Tanjore: Natya, Sangita, Kamasastra, Vaidya & Jyotisa*, nos. 10650–11737 (Srirangam: Sri Vani Vilas Press), [ark: / 13960 / t3nw8bc12](https://nbn-resolving.org/urn:nbn:in:ccr:13960-t3nw8bc12).
- Scott, H. (1817), 'Some Remarks on the Arts of India, with Miscellaneous Observations on Various Subjects', *Journal of Science and the Arts*, 2: 67–72, ill. after 133, [ark : / 13960 / t9870jt4g](https://nbn-resolving.org/urn:nbn:in:ccr:13960-t9870jt4g); Breton 1826: 358–363 cites Scott's description of cataract couching.
- Sena, Gaṅgāprasād et al. (1886–93) (eds.), *सुश्रुतसंहिता...दलहनाचार्य-कृत-निबन्ध-संग्रह, चक्रपाणिदत्त-कृत-भानुमती-टीका...वङ्गानुवाद...इंरेजि प्रतिशब्द* (Calcutta: Maṇirāma Press); Edition "g" in [HIML](https://nbn-resolving.org/urn:nbn:in:ccr:13960-t0ms6rc70): IB, 311.
- Sharma, Har Dutt (1939), *Descriptive Catalogue of the Government Collections of Manuscripts Deposited at the Bhandarkar Oriental Research Institute, Vol. XVI, Part I, Vaidyaka* (Descriptive Catalogue of Manuscripts in the Government Manuscripts Library; Pune: Bhandarkar Oriental Research Institute), [ark: / 13960 / t0ms6rc70](https://nbn-resolving.org/urn:nbn:in:ccr:13960-t0ms6rc70), accessed 23/10/2019.
- Sharma, Priya Vrat (1982), *Ḍalhaṇa and his Comments on Drugs* (Delhi: Munshiram Manoharlal).
- (1999–2001), *Suśruta-Saṃhitā, with English Translation of Text and Ḍalhaṇa's Commentary Alongwith (sic) Critical Notes*, 3 vols. (Haridas Ayurveda Series, 9; Varanasi: Chaukhambha Visvabharati).

- Shastri, R. Shama (1920) (ed.), बोधायनगृह्यसूत्रम् *The Bodhāyana Grihyasutra* (Mysore: University of Mysore), [ark:/13960/t2t492622](https://nopr.scribd.org/ark:/13960/t2t492622).
- Singh, Thakur Balwant and Chuneekar, K. C. (1972), *Glossary of Vegetable Drugs in Brhatrayi* (Varanasi: Chowkhamba Sanskrit Series Office).
- Sivarajan, V. V. and Balachandran, Indira (1994), *Ayurvedic Drugs and Their Plant Sources* (New Delhi, Bombay, Calcutta: Oxford & IBH Publishing).
- Suvedī, K. S. and Tivārī, N. (2000) (eds.), *Sauśrutaniḥaṇṭuḥ: granthāḍau viśṭṛtena granthavaiśiṣṭyaprakāśakenopodghātena avasāne ca dravyāṇām anekabhāṣānām āvalī- paryāyasaṅgrahābhyaṃ samalaṅkṛtaḥ Suśrutasaṃhitāyāṃ prayuktānām auśadhadravyāṇām paryāyagaṇakarmavarṇātmako pūroagrathah* (Belajhūṇḍī, Dāñ: Mahendrasaṃskṛtaviśvavidyālayah).
- The Unicode Consortium (1991–2020), 'The Unicode Standard 13.0, NewaRange: 11400–1147F', [URL](https://unicode.org/versions/13.0/), accessed 20/07/2021.
- Velankar, H. D (1925–30), *Descriptive Catalogue of the Sanskrit and Prākṛta Manuscripts in the Library of the Bombay Branch of the Royal Asiatic Society* (Bombay: Royal Asiatic Society, Bombay), [ark:/13960/t53g00h0n](https://nopr.scribd.org/ark:/13960/t53g00h0n); Biswas #0115.
- Watt, George (1889–96), *A Dictionary of the Economic Products of India* (Calcutta: Dept. Revenue and Agriculture, Government of India), [URL](https://nopr.scribd.org/ark:/13960/t9t14xh3x), accessed 28/04/2021.
- (1908), *The Commercial Products of India, Being an Abridgement of "the Dictionary of the Economic Products of India"* (London: John Murray), [ark:/13960/t9t14xh3x](https://nopr.scribd.org/ark:/13960/t9t14xh3x).
- Whitney, William Dwight (1885), *The Roots, Verb-forms, and Primary Derivatives of the Sanskrit Language. A Supplement to his Sanskrit Grammar* (Leipzig: Breitkopf and Härtel), [ark:/13960/t3qv3p906](https://nopr.scribd.org/ark:/13960/t3qv3p906).
- Wujastyk, Dagmar (2012), *Well-mannered Medicine: Medical Ethics and Etiquette in Classical Ayurveda* (New York: Oxford University Press). doi: [10.1093/acprof:oso/9780199856268.001.0001](https://doi.org/10.1093/acprof:oso/9780199856268.001.0001).
- (2019), 'Iron Tonics: Tracing the Development from Classical to Iatrochemical Formulations in Ayurveda', *HIMALAYA, the Journal of the Association for Nepal and Himalayan Studies*, 39/1, ISSN: 2471-3716, [URL](https://nopr.scribd.org/ark:/13960/t9t14xh3x), accessed 23/07/2019.

- Wujastyk, Dominik (2003), *The Roots of Ayurveda: Selections from Sanskrit Medical Writings* (Penguin Classics; 3rd edn., London, New York, etc.: Penguin Group), ISBN: 0-140-44824-1.
- (2004), 'Agni and Soma: A Universal Classification', *Studia Asiatica: International Journal for Asian Studies*, IV–V, ed. Eugen Ciurtin: 347–70, ISSN: 1582–9111, [URL](#).
- (2013), 'New Manuscript Evidence for the Textual and Cultural History of Early Classical Indian Medicine', in *Medical Texts and Manuscripts in Indian Cultural History*, ed. Dominik Wujastyk, Anthony Cerulli, and Karin Preisendanz (New Delhi: Manohar), 141–57, [URL](#).
- Zimmermann, Francis (1999), *The Jungle and the Aroma of Meats* (2nd edn., Delhi: Motilal Banarsidass), ISBN: 8120816188.

Glossary

abhayā
chebulic
myrobalan: 34
abhramukta
free from clouds:
40
abhyāṅga
massage oil: 30
ācāra
regimen: 16
ācārika
medical advice: 24
accumulation
sañcaya: 18
adhimantha
irritation: 42
adhiṣṭhāna
located: 16
adhodṛṣṭitva
downward vision:
42
adhyāya
sections: 19
āgantva
external factors: 19
agra
supernatant layer:
37
agramukta
free from the point:
40
āhāra
diet: 16
ahorātra
day and night: 18
aids
aṅga: 35
ajākṣīrārdita
stirred with goat's
milk: 42
ālepa
liniment: 32
alleviated

yāpya: 35
alleviation
pratīkāra: 18
along these lines
evam: 18
āmālaka
emblic: 33
amra
mango: 33
aṇḍaja
born from eggs: 17
aṅga
aids: 35
parts: 18
anger
krodha: 16
angry
saṃrambha: 24
animals
paśu: 17
añjana
application of
collyrium: 32, 37
eye make-up: 30
stibnite: 37
antra
entrails: 35
ants
pipīlika: 17
anulepana
massage ointment:
30
apāṅga
edge of the hole: 25
outer corner of the
eye: 40
apatānaka
convulsions: 21
application of collyrium
añjana: 32, 37
apramatta
diligent: 25
ārā

awl: 21
araga timira
non-bloodshot
blindness: 39
arid-land animals
jāṅgala: 38
aṇṇavamala
cuttle fish: 34
asādhya
incurable: 32
aśoka
asoka tree: 33
āśoka
grief: 16
asoka tree
aśoka: 33
āśrayin
substrate: 16
asthi
bones: 18
asūyā
jealousy: 16
atibalā
strong mallow: 36
ātmaka
nature: 16
avalekhana
combs: 30
āvarta
spiral: 39
awl
ārā: 21
axelwood
dhava: 43
ayana
half-year: 18
āyatta
depends on: 16
āyur
life, longevity: 13
āyurveda
the science of life:
13

baddham
 bound, connected: 25
balā
 country mallow: 36
bala
 strength: 16
bali
 morsel: 30
 balm
tarpaṇa: 32, 37f
bandha
 bindings: 23
 bearers
voḍhāra: 30
 beauty berry
priyaṅgu: 37
 beautyberry
priyaṅgu: 33
 bee
bhramaraka: 31
 bent brow and eye
vakrabhrūnetra: 41
 beryl
vaiḍūrya: 43
bhadradāru
 deodar: 43
bhaṅga
 leaves: 40
bhavet
 it may be: 39
bhāvita
 cooked: 38
 infused: 33
bhedya
 splitting: 23
bhramaraka
 bee: 31
bhṛṅgarāja
 racket-tailed
 drongo: 31
 bile
pitta: 35
 bindings
bandha: 23

black part
kṛṣṇa: 40
 black pepper
marica: 33
 black soot
maṣī: 32
 blessings pronounced
svastivācana: 21
 blindness
timira: 39
 blink of the eye
nimeṣa: 17
 blood
rudhira: 17
śonita: 35
 blood-bile
śonita-pitta,
rakta-pitta: 35
 blood-letting
sirāvedha: 32
 bloodshot blindness
rāgin timira: 37
rāgiṇi timire: 39
 blue dot cataract
mlāyin: 38
 blue lotus
utpala: 33
 blue vitriol
tuttha: 37
 body language
iṅgita: 30
 bones
asthi: 18
 born from eggs
aṇḍaja: 17
 born in in a caul
jarāyuja: 17
 born of sweat
sveda: 17
 bound, connected
baddham: 25
 box myrtle
kaṭphala: 34
bṛṃhaṇa
 nourishment: 16

bubbling
budbuda: 42
budbuda
 bubbling: 42
 bulbs
kanda: 17
 bull
vṛṣabha: 31
cakora
 chukar partridge:
 31
cala
 liquid: 40
 cardamom
elā: 34
carman
 pelt: 17
 carnivore
kravyabhuj: 36
 cassia cinnamon
patra: 42
 castor oil
pañcāṅgulataila: 35
 castor oil tree
gandharvohasta: 22
 cataract
liṅganāśa: 39
caturvarga
 fourfold grouping:
 18
catuṣṭaya
 four factors: 18
 caused by wind
pavanodbhava: 35
 causing the destruction
 of actions such as
 moving
gamanādikriyāv-
ināśakari: 41
 chebulic myrobalan
abhayā: 34
chedya
 cutting: 23
 excision: 19
chidra

hole: 40
 chital deer
 pr̥ṣata: 31
 chukar partridge
 cakora: 31
 circuit of the pupil
 dr̥ṣṭimaṇḍala: 40
 citron
 mātuluṅga: 42
 clusters
 samplava: 17
 cock
 tāmracūḍa: 36
 collection
 varga: 18
 combined
 upahita: 35
 combs
 avalekhana: 30
 comfort
 sukha : 18
 common crane
 kroñca: 31
 complexion
 varṇa: 16, 27
 compounds
 yoga: 32
 compressed
 saṃkṣipta: 22
 compressed
 saṃkṣipta: 23
 conch
 salilotthita: 38
 congested humours
 sannipāta: 19
 convulsions
 apatānaka: 21
 cooked barley
 yavaudana: 39
 cooked
 bhāvita: 38
 copper
 tāmra: 42
 coral
 vidruma: 43

coṣa
 driness: 42
 cotton
 picu: 23
 cottony jujube
 kākolī: 43
 counteraction
 pratiṣedha: 32
 country mallow
 balā: 36
 cow's flesh
 gomāmsa: 33
 cow's urine
 gomūtra: 34
 cow-dung
 gośakṛt: 33
 creepy-crawlies
 sarīsr̥pa: 14, 17
 curable
 sādhyā: 32
 cuscus grass
 uśīra: 37f
 cutting
 chedya: 23
 cutting with a blade
 śastrakṣata: 32
 cuttle fish
 aṇṇavamala: 34
 cuttlefish bone
 phena: 43
 samudraphena: 34
dainya
 misery: 16
 dais
 pīṭha: 22
daivakṛte
 naturally
 occurring: 40
dārvī
 tree turmeric: 33
 day and night
 ahorātra: 18
 decanted liquor
 surāmaṇḍa: 23
 decoctions

kaṣāya: 30, 41
 deer
 eṇa: 36
 deodar
 bhadradāru: 43
 depends on
 āyatta: 16
 depression
 viṣāda: 16
 desert date
 iṅgudī: 38
 desire
 icchā: 16
dhānyāmla
 fermented
 rice-water: 23
dhātrī
 emblic: 34
dhava
 axelwood: 43
dhūma
 inhaled smoke: 30
dhūmadarśin
 seeing smoke: 32
dhūmyāṭa
 drongo: 31
dhyāma
 grimy: 30
 diet
 āhāra: 16
 dilator
 pravardhanaka: 22
 diligent
 apramatta: 25
 disease
 vyadhi: 18
doṣa
 humour: 39
 humours: 18
doṣapariplava
 unsteadiness of the
 humours: 41
 downward vision
 adhodr̥ṣṭitva: 42
drākṣā

grapes: 43
dravāñjana
 liquid collyrium:
 37
dravya
 substance: 27
 dried ginger
nāgara: 34
 driness
coṣa: 42
 drongo
dhūmyāta: 31
drṣṭi
 pupil: 32, 40f
drṣṭimaṇḍala
 circuit of the pupil:
 40
 dry rubs
utsādana: 30
 duct
sirā: 21
 ducts
sirā: 18, 23
duḥkha
 suffering: 16
dūrvā
 panic grass: 42
duṣṭa
 tainted: 23
dveṣa
 hatred: 16
 earthen products
pārthiva: 17f
 edge of the hole
apāṅga: 25
elā
 cardamom: 34
 elixir salve
rasāñjana: 33, 37f
 elixir-salve
rasāñjana: 33
 elixir-salve
śīta: 33
 embelia
vidāṅga: 38

emblic
āmalaka: 33
dhātrī: 34
eṇa
 deer: 36
 enclosed roasting
puṭākhyā: 36
puṭapāka: 38
 ends
vaktra: 42
 energy
ojas: 27
 entrails
antra: 35
 envy
īrṣyā: 16
 errhine
nasya: 36
 essence
sāra: 17
evam
 along these lines:
 18
 excision
chedya: 19
 expressed juice
svarasa: 33
 external factors
āgantū: 19
 extract of rohu carp
rauḥita: 33
 extracts
rasa: 37
 eye make-up
añjana: 30
 fat
vasā: 36
 fermented rice-water
dhānyāmla: 23
 filaments
kiñjalka: 33
 flame of the forest
palāśa: 37
 flavours
rasa: 16, 27

flesh
māṁsa: 18
vadhra: 26
 flowering trees
vrkṣa: 17
 flowers
puṣpa: 17
 fortnight
pakṣa: 18
 four factors
catuṣṭaya: 18
 fourfold grouping
caturvarga: 18
 free from clouds
abhramukta: 40
 free from the point
agramukta: 40
 frogs
maṇḍūka: 17
 fruit trees
vanaspati: 17
 fruits
phala: 17
gāḍha
 pinched: 24
gairika
 ochre: 32f
gairikaḥ
 red chalk: 42
gamanādikriyāvināśakarī
 causing the
 destruction of
 actions such as
 moving: 41
gandharvahaṣṭa
 castor oil tree: 22
 garlands
sraja: 30
 gauze
prota: 23
 general rule
paribhāṣā: 37
 gently
mṛdu: 42
 ghee

sarpis: 32
 glassy opacity
kāca: 37
godhā
 monitor lizard: 35
 gold
śātakumbhī: 42
gomāṃsa
 cow's flesh: 33
gomūtra
 cow's urine: 34
gośakṛt
 cow-dung: 33
 juice of cow-dung:
 33
granthi
 lumps: 21
granthita
 lumpy: 23
 grapes
drākṣā: 43
 greed
lobha: 16
 green vitriol
kāsīsa: 38
 grief
āśoka: 16
 grimy
dhyāma: 30
guḍikā
 pill: 33
 half-year
ayana: 18
haṃsa
 swan: 31
 hare foot uraria
pr̥thakparṇī: 43
hareṇu
 hareṇu: 33f
hareṇu
 hareṇu: 34
hareṇu
 hareṇu: 33f
hareṇu
 hareṇu: 33f

hari
 sun: 40
haridrā
 turmeric: 38
harṣa
 overexcitement: 16
 hatred
dveṣa: 16
 herbs
oṣadhi: 17
 hill myna
sārikā: 31
 himalayan cherry
padmaka: 42f
hīna
 reduced: 26
 hole
chidra: 40
 holostemma
payasyā: 42
 honey collyrium
kṣaudrāñjana: 34
 honey
kṣaudra: 33
madhu: 33
 horseradish tree
śigru: 38
 human being
puruṣa: 16, 18
 humour
doṣa: 39
 humours
doṣa: 18
icchā
 desire: 16
 if, then not
na ced: 39
 illness
ruj: 34
 in those cases
tatra: 35
 incurable
asādhyā: 32
 indian lotus
nalina: 33

indian madder
mañjiṣṭhā: 21, 42
 indian sarsaparilla
kālānusāriva: 34
śārivā: 42
sāriva: 34
śārivā: 42
indragopa
 red velvet mites: 17
 inflamed
vidagdha: 32
 infused
bhāvita: 33
īṅgita
 body language: 30
īṅgudī
 desert date: 38
 inhaled smoke
dhūma: 30
 inherent factors
svabhāva: 19
 inherent
svābhāvika: 16
 injured
utpīḍita: 39
 inspissation
rasakriyā: 38
 intended
vyākhyāta: 19
 irregularities
vaiṣamya: 16
 irrigation
seka: 32
 irritation
adhimantha: 42
prakopa: 18
īrṣyā
 envy: 16
 it may be
bhavet: 39
 items created by time
kālakṛta: 17f
jambū
 jambu: 33
 jambu

jambū: 33
jāṅgala
 arid-land animals: 38
jaṅgama
 moving: 17f
jarāyujā
 born in in a caul: 17
jātī
 royal jasmine: 43
 jealousy
asūyā: 16
jīvajīvaka
 peacock pheasant: 31
 joining the ear
karṇabandha: 21
 joins
sandhāna: 22
sandhi: 23
 joints
sandhi: 18
 juice extract
svarasa: 17
 juice of cow-dung
gośakṛt: 33
 juices
rasa: 36
kāca
 glassy opacity: 37
kākolī
 cottony jujube: 43
kalā
 minutes: 17
kālakṛta
 items created by
 time: 17f
kālānusāriṇa
 indian sarsaparilla: 34
kāma
 lust: 16
kanda
 bulbs: 17
kapālacūrṇa

powdered
 earthenware
 crockery: 23
kapittha
 wood apple: 33
karma
 regimen: 41
karman
 therapies: 19
karṇabandha
 joining the ear: 21
karṇavyadha
 piercing the ear : 21
karṇavyadhabandhavidhi
 the method of
 piercing and joining
 the ear: 21
kārśmarī
 white teak: 33
kaṣāya
 decoctions: 30, 41
kāśīpati
 lord of kāśī: 29
kāsīsa
 green vitriol: 38
kāṣṭhā
 trice: 17
kaṭphala
 box myrtle: 34
khara
 rough: 41
kinihī
 white siris: 38
kiñjalka
 filaments: 33
 kitchen
mahānasa: 30
 knowledge
veda: 13
 koel
kokila: 31
 kohl
srotas: 36
srotoja: 34, 43
kokila

koel: 31
kravyabhuj
 carnivore: 36
kriyā
 procedures: 15f, 19
 treatment: 18, 38
kriyākāla
 the time for
 therapies: 18
kriyāsaṅga
 loss of function: 41
kṛmi
 worms: 17
krodha
 anger: 16
kroñca
 common crane: 31
kṛṣṇa
 black part: 40
kṛṣṇā
 long pepper: 32
kṛtamaṅgala
 received a
 benediction: 21
kṣaṇadāndhya
 night blindness: 34
kṣāraka
 lye: 37
kṣaudra
 honey: 33
kṣaudrāñjana
 honey collyrium: 34
kṣīṇa
 wasted: 24
kṣīra
 sap: 17
kunta
 small insects: 17
kupyaka
 metal: 33
kuśa grass
kuśa: 37
kuśa
 kuśa grass: 37

lac	<i>kāśīpati</i> : 29	red arsenic: 33f
<i>lākṣā</i> : 43	loss of function	<i>mānasa</i>
<i>lākṣā</i>	<i>kriyāsaṅga</i> : 41	mental: 16
lac: 43	lumps	<i>maṇḍūka</i>
layer	<i>granthi</i> : 21	frogs: 17
<i>paṭala</i> : 39	lumpy	mango
leaves	<i>granthita</i> : 23	<i>amra</i> : 33
<i>bhaṅga</i> : 40	lust	<i>mañjiṣṭhā</i>
<i>patra</i> : 17	<i>kāma</i> : 16	indian madder: 21,
<i>lekhana</i>	<i>lūtā</i>	42
scarification: 16	spiders: 14	<i>manyāstambhā</i>
<i>lekhyā</i>	lye	paralysis of the
scarification: 23	<i>kṣāraka</i> : 37	nape of the neck: 21
life, longevity	<i>madhu</i>	<i>mardita</i>
<i>āyur</i> : 13	honey: 33	massaged: 25
<i>liṅganāśa</i>	<i>madhuka</i>	<i>marica</i>
cataract: 39	liquorice: 33	black pepper: 33
liniment	<i>madhūka</i>	<i>māsa</i>
<i>ālepa</i> : 32	mahua: 36ff	month: 18
liquid	<i>madhukair</i>	<i>maṣī</i>
<i>cala</i> : 40	liquorice: 42	black soot: 32
liquid collyrium	<i>madira</i>	massage oil
<i>dravāñjana</i> : 37	spirits: 37	<i>abhyaṅga</i> : 30
liquorice	<i>madirā</i>	massage ointment
<i>madhuka</i> : 33	spirits: 34	<i>anulepana</i> : 30
<i>madhukair</i> : 42	<i>māgadha</i>	massaged
liver extract	long pepper: 38	<i>mardita</i> : 25
<i>yakṛdrasa</i> : 34	<i>māgadhi</i>	<i>mātsarya</i>
liver	long pepper: 34	malice: 16
<i>yakṛt</i> : 34f	<i>māgadhi</i>	<i>mātuluṅga</i>
<i>lobha</i>	long pepper: 35	citron: 42
greed: 16	<i>māgadhi</i>	matured
located	long pepper: 37	<i>vipakva</i> : 33
<i>adhiṣṭhāna</i> : 16	<i>mahānasa</i>	may repair
lodh tree	kitchen: 30	<i>yojayed</i> : 25
<i>lodhra</i> : 33, 37	mahua	<i>mayūra</i>
<i>lodhra</i>	<i>madhūka</i> : 36ff	peacock: 31
lodh tree: 33, 37	malice	medical advice
long pepper	<i>mātsarya</i> : 16	<i>ācārika</i> : 24
<i>kṛṣṇā</i> : 32	<i>māṃsa</i>	medicines cooked in a
<i>māgadha</i> : 38	flesh: 18	crucible
<i>māgadhi</i> : 35	<i>māṃsanirgama</i>	<i>puṭapāka</i> : 32
<i>māgadhi</i> : 34, 37	prolapse: 42	mental
<i>pippali</i> : 33	<i>manahśilā</i>	<i>mānasa</i> : 16
lord of kāśī	realgar: 34, 37f, 43	<i>meṣaśṛṅga</i>

periploca of the
 woods: 43
meṣaviṣāṇa
 periploca of the
 woods: 35
 metal
kupyaka: 33
 minutes
kalā: 17
 misery
dainya: 16
 misshapen eyeball
vilocana: 41
 mitigable
yāpya: 39
 mitigatable
yāpya: 32
mlāyin
 blue dot cataract:
 38
 monitor lizard
godhā: 35
 month
māsa: 18
 morsel
bali: 30
 moving
jaṅgama: 17f
mṛdu
 gently: 42
mudga
 mung beans: 39
muhūrta
 three-quarters of
 an hour: 18
muktā
 pearl: 39
muktvā
 separate: 40
mūla
 root: 16
 roots: 17
 mung beans
mudga: 39
mūṣika

rodents: 14
mustā
 nutgrass: 43
 myrobalan
pathyā: 33
na ced
 if, then not: 39
nadīja
 salt: 33
nāgara
 dried ginger: 34
nalada
 spikenard: 38
nalina
 indian lotus: 33
 nasal medicines
nasya: 32
nasya
 errhine: 36
 nasal medicines: 32
nasya
 snuff: 30
 naturally occurring
daivakṛte: 40
 nature
ātmaka: 16
 needle
sūcī: 40
 night blindness
kṣaṇadāndhya: 34
nimeṣa
 blink of the eye: 17
niryāsa
 resin: 17
niśācara
 nocturnal creature:
 38
niṣevita
 prepared: 36
 used: 35
nivāta
 no wind: 17
 no wind
nivāta: 17
 nocturnal creature

niśācara: 38
 non-bloodshot
 blindness
araga timira: 39
 non-flowering tree
vanaspati: 38
 nourishment
br̥mhana: 16
 nutgrass
mustā: 43
 obstructed by blood
raktabaddha: 24
 ochre
gairika: 32f
 off his hand
sapāṇa: 36
 oil
sneha: 17
 ojas
 energy: 27
 vital energy: 16
 options
vikalpa: 23
oṣadhi
 herbs: 17
 remedies: 18
oṣadhī-
 remedies: 16
 outer corner of the eye
apāṅga: 40
 overexcitement
harṣa: 16
 pacification
saṁśamana: 16
upaśama: 18
padmaka
 himalayan cherry:
 42f
 pain and injury
vedanābhighāta: 13
pāka
 septic: 24
pakṣa
 fortnight: 18

palāśa
 flame of the forest: 37
pallava
 shoots: 40
pañcāṅgulataila
 castor oil: 35
 panic grass
dūrvā: 42
 parakeet
śuka: 31
 paralysis of the nape of the neck
manyāstambhā: 21
paribhāṣā
 general rule: 37
pārthiva
 earthen products: 17f
 partial blindness
timira: 35
 particulars
vikalpa: 18
 parts
aṅga: 18
paśu
 animals: 17
paṭala
 layer: 39
pāthā
 velvet leaf: 38
pathyā
 myrobalan: 33
patra
 cassia cinnamon: 42
 leaves: 17
pavanodbhava
 caused by wind: 35
payasyā
 holostemma: 42
 peacock
mayūra: 31
 peacock pheasant
jīvajīvaka: 31

pearl
muktā: 39
 pelt
carman: 17
 periploca of the woods
meṣaviṣāṇa: 35
 periploca of the woods
meṣaśṛṅga: 43
phala
 fruits: 17
phena
 cuttlefish bone: 43
 physical
śārīravat: 18
picu
 cotton: 23
 pīd-
 pressed: 40
 piercing the ear
kaṇavyadha: 21
 piercing
vyadha: 40
vyadhana: 23
 pigs' eye
sūkarākṣitā: 42
 pill
guḍikā: 33
 pinched
gāḍha: 24
pipīlika
 ants: 17
pippali
 long pepper: 33
pīṭha
 dais: 22
pitta
 bile: 35
plīhan
 spleen: 35
 powdered earthenware
 crockery
kapālacūrṇa: 23
prabha
 shine: 39
 practical purposes

prayojanavat: 18
pragāḍha
 steeped: 36
prakopa
 irritation: 18
prakṛti
 temperament: 16
pratīkāra
 alleviation: 18
 remedy: 32
pratisandhā-
 put it back together: 25
pratiśedha
 counteraction: 32
pratuda
 scavenging: 24
pravardhanaka
 dilator: 22
prayojanavat
 practical purposes: 18
 prepared
niṣevita: 36
 prepared with tilvaka
tailvaka: 32
 prepared with turpeth
traivṛta: 32
 pressed
 pīd-: 40
priyaṅgu
 beautyberry: 33
priyaṅgu
 beauty berry: 37
 probe
śalākā: 40
 procedures
kriyā: 15f, 19
 prolapse
māṃsanirgama: 42
protā
 gauze: 23
prṣata
 chital deer: 31
prṥhakparṇī

hare foot uraria: 43
puffed up
 śopha: 24
 pupil
dr̥ṣṭi: 32, 40f
 purification
saṃśodhana: 16
puruṣa
 human being: 16,
 18
puṣpa
 flowers: 17
 put it back together
pratisandhā-: 25
puṭāhvaya
 taken hot: 37
puṭākhyā
 enclosed roasting:
 36
puṭapāka
 enclosed roasting:
 38
 medicines cooked
 in a crucible: 32
 racket-tailed drongo
bhr̥ṅgarāja: 31
rāgin timira
 bloodshot
 blindness: 37
rāgiṇi timire
 bloodshot
 blindness: 39
 rainy seasons
varṣā: 17
rajana
 turmeric: 34
raktabaddha
 obstructed by
 blood: 24
rasa
 extracts: 37
 flavours: 16, 27
 juices: 36
 the blood of birds
 and animals: 33

rasakriyā
 inspissation: 38
rasāñjana
 elixir salve: 33, 37f
 elixir-salve: 33
rauḥita
 extract of rohu
 carp: 33
 realgar
manaḥśilā: 34, 37f,
 43
 received a benediction
kṛtamaṅgala: 21
 red arsenic
manaḥśilā: 33f
 red chalk
gairikaḥ: 42
 red velvet mites
indragopa: 17
 reduced
hīna: 26
 regimen
ācāra: 16
karma: 41
 remedies
oṣadhi: 18
oṣadhī-: 16
 remedy
pratīkāra: 32
 resin
niryāsa: 17
 restrictions
yantraṇā: 41
 rigid
sthira: 41
 rodents
mūṣika: 14
rohita
 rohita tree: 37
 rohita tree
rohita: 37
 root
mūla: 16
 roots
mūla: 17

rough
khara: 41
 royal jasmine
jāti: 43
ṛtu
 season: 18
rudhira
 blood: 17
ruj
 illness: 34
sādhubaddha
 well joined: 25
sādhya
 curable: 32
saindhava
 sind salt: 32, 34
 sindh salt: 37
 sal tree
śālā: 33
śālā
 sal tree: 33
śālākā
 probe: 40
salilotthita
 conch: 38
 water-born: 38
 salt
nadīja: 33
samāñjana
 same collyrium: 37
 same collyrium
samāñjana: 37
saṃkṣipta
 compressed: 22
 compressed: 23
samplava
 clusters: 17
saṃrambha
 angry: 24
saṃśamana
 pacification: 16
saṃśodhana
 purification: 16
samudraphena
 cuttlefish bone: 34

saṃvatsara
 year: 18
samyak
 simultaneous: 40
sañcaya
 accumulation: 18
sandal
sugandhi: 35
sandhāna
 joins: 22
sandhi
 joins: 23
 joints: 18
sannipāta
 congested
 humours: 19
sap
kṣīra: 17
sapāṇa
 off his hand: 36
sāra
 essence: 17
sārikā
 hill myna: 31
śārīravād
 physical: 18
sarīsrpa
 creepy-crawlies: 14,
 17
sāriva
 indian sarsaparilla:
 34
śārīvā
 indian sarsaparilla:
 42
sarpis
 ghee: 32
śastrakṣata
 cutting with a
 blade: 32
śātakumbhī
 gold: 42
śatāvarī
 wild asparagus: 39
sauvīraka

stibnite: 33
 scarification
lekhana: 16
 scarification
lekhya: 23
 scavenging
pratuda: 24
 scrambling
tālīsa: 33
tālīsapatra: 34
 season
ṛtu: 18
 sections
adhyāya: 19
 seed-eating
viṣkīra: 24
 seeing smoke
dhūmadarśin: 32
seka
 irrigation: 32
 separate
muktavā: 40
 septic
pāka: 24
 shine
prabha: 39
 shooting pain
śūla: 41
 shoots
pallava: 40
udbhid: 17
 shrubs
vīrudh: 17
siddhārthaka
 white mustard: 42
śigru
 horseradish tree:
 38
 simultaneous
samyak: 40
 sind salt
saindhava: 32, 34
 sindh salt
saindhava: 37
 sinews

snāyu: 18
sirā
 duct: 21
 ducts: 18, 23
sirāvedha
 blood-letting: 32
siris
śīrīṣa: 33, 43
śīrīṣa
 siris: 33, 43
śīta
 elixir-salve: 33
sitā
 white sugar: 43
 skin
tvak: 17f
 slice of flesh
vadhra: 25
 small insects
kunta: 17
snāyu
 sinews: 18
sneha
 oil: 17
 sniffing
ucchiṅgana: 40
 snuff
 nasya: 30
 solid
styāna: 40
śonita
 blood: 35
śonita-pitta, rakta-pitta
 blood-bile: 35
śonitena
 with blood: 41
śopha
 puffed up: 24
 spiders
lūtā: 14
 spikenard
nalada: 38
 spiral
āvarta: 39
 spirits

madira: 37
madirā: 34
spleen
plīhan: 35
splitting
bhedya: 23
sraj
garlands: 30
srāva
suppurating: 23
suppuration: 24
śreyas
welfare: 13
srotas
kohl: 36
srotoja
kohl: 34, 43
stabdha
stiff: 23f
stalk
vṛnta: 33
stationary
sthāvara: 16, 18
steeped
pragāḍha: 36
sthāvara
stationary: 16, 18
sthirā
rigid: 41
stibnite
añjana: 37
sauvīraka: 33
stiff
stabdha: 23f
stirred with goat's milk
ajākṣīrārdita: 42
strength
bala: 16
strong mallow
atibālā: 36
styāna
solid: 40
substance
dravya: 27
substrate

āśrayin: 16
sūcī
needle: 40
suffering
duḥkha: 16
sugandhi
sandal: 35
śuka
parakeet: 31
sūkarākṣitā
pigs' eye: 42
sukha
comfort: 18
śūla
shooting pain: 41
sun
hari: 40
sunivīṣṭa
very intent: 25
supernatant layer
agra: 37
suppurating
srāva: 23
suppuration
srāva: 24
surāmaṇḍa
decanted liquor: 23
svabhāva
inherent factors: 19
svābhāvika
inherent: 16
svarasa
expressed juice: 33
juice extract: 17
svastivācana
blessings
pronounced: 21
svayaṃgupta
velvet bean: 33
śvayathu
swelling: 21
svedaja
born of sweat: 17
swan
haṃsa: 31

swelling
śvayathu: 21
syanda
watery eye: 39
tailasugandhi
the fragrant one in
oil: 35
tailvaka
prepared with
tilvaka: 32
tainted
duṣṭa: 23
taken hot
puṭāhvaya: 37
tālīśa
scramberry: 33
tālīśapatra
scramberry: 34
tāmra
copper: 42
tāmracūḍa
cock: 36
tarpaṇa
balm: 32, 37f
tatra
in those cases: 35
temperament
prakṛti: 16
the blood of birds and
animals
rasa: 33
the fragrant one in oil
tailasugandhi: 35
the method of piercing
and joining the ear
kārṇavyadhaband-
havidhi: 21
the science of life
āyurveda: 13
the three fruits
triphalā: 37
the three spices
vyoṣa: 34
the time for therapies
kriyākāla: 18

therapies
 karman: 19
 three fruits
 triphalā: 32, 34
 three-quarters of an hour
 muhūrta: 18
timira
 blindness: 39
 partial blindness: 35
traivṛta
 prepared with turpeth: 32
 treatment
 kriyā: 18, 38
 tree turmeric
 dārvī: 33
 trice
 kāṣṭhā: 17
triphalā
 the three fruits: 37
 three fruits: 32, 34
trivṛt
 turpeth: 35f
 turmeric
 haridrā: 38
 turmeric
 rajana: 34
 turpeth
 trivṛt: 35f
tuttha
 blue vitriol: 37
tvak
 skin: 17f
ucchiṅgana
 sniffing: 40
udbhīd
 shoots: 17
 unsteadiness of the humours
 doṣapariplava: 41
upahita
 combined: 35
upaśama
 pacification: 18
 used
 niṣevita: 35
uśīra
 cuscus grass: 37f
utpala
 blue lotus: 33
utpīḍita
 injured: 39
utsādana
 dry rubs: 30
vadhra
 flesh: 26
 slice of flesh: 25
vaiḍūrya
 beryl: 43
vaiṣamya
 irregularities: 16
vakrabhrūnetra
 bent brow and eye: 41
vaktra
 ends: 42
vanaspati
 fruit trees: 17
 non-flowering tree: 38
varga
 collection: 18
varṇa
 complexion: 16, 27
varṣā
 rainy seasons: 17
varti
 wick: 21f
vartti
 wicks: 43
vasā
 fat: 36
veda
 knowledge: 13
vedanābhigāta
 pain and injury: 13
 velvet bean
 svayaṃgupta: 33
 velvet leaf
 pāthā: 38
 very intent
 suniviṣṭa: 25
vidagdha
 inflamed: 32
vidāṅga
 embelia: 38
vidruma
 coral: 43
vikalpa
 options: 23
 particulars: 18
vilocana
 misshapen eyeball: 41
vipakva
 matured: 33
vīrudh
 shrubs: 17
viśāda
 depression: 16
viṣkira
 seed-eating: 24
 vital energy
 ojas: 16
voḍhāra
 bearers: 30
vṛkṣa
 flowering trees: 17
vṛnta
 stalk: 33
vṛṣabha
 bull: 31
vyadha
 piercing: 40
vyadhana
 piercing: 23
vyadhi
 disease: 18
vyākhyāta
 intended: 19
vyāla
 wild animals: 17
vyoṣa

the three spices: 34	<i>kārśmarī</i> : 33	liver: 34f
wasted	wick	<i>yantraṇā</i>
<i>kṣīṇa</i> : 24	<i>vartī</i> : 21f	restrictions: 41
water-born	wicks	<i>yāpya</i>
<i>salilotthita</i> : 38	<i>vartti</i> : 43	alleviated: 35
watery eye	wild animals	mitigable: 39
<i>syanda</i> : 39	<i>vyāla</i> : 17	mitigatable: 32
welfare	wild asparagus	<i>yavaudana</i>
<i>śreyas</i> : 13	<i>śatāvarī</i> : 39	cooked barley: 39
well joined	with blood	year
<i>sādhubaddha</i> : 25	<i>śonitena</i> : 41	<i>saṃvatsara</i> : 18
white mustard	wood apple	<i>yoga</i>
<i>siddhārthaka</i> : 42	<i>kapittha</i> : 33	compounds: 32
white siris	worms	<i>yojayed</i>
<i>kinihī</i> : 38	<i>kṛmi</i> : 17	may repair: 25
white sugar	<i>yakṛdrasa</i>	<i>yuga</i>
<i>sītā</i> : 43	liver extract: 34	yuga: 18
white teak	<i>yakṛt</i>	yuga: 18

Index of Manuscripts

The numbers after the colon refer to pages in this document.

Bikaner Anup 4390: 6	London BL H. T. Colebrooke 908: 10
Cambridge Add. 1693: 28	Mumbai, AS B.D.109: 6
Kathmandu NAK 5-333: 8, 10, 28	Mumbai, AS B.I.3: 6
Kathmandu, KL 699: 2	
Kathmandu, NAK 1-1079: 2	
Kathmandu, NAK 5-333: 2	Thanjavur TMSSML 10773: 44

Appendix

On digital critical editions

- Price, Kenneth M. (2013), 'Electronic Scholarly Editions', in Ray Siemens and Susan Schreibman (eds.), *A Companion to Digital Literary Studies* (Chichester, UK: John Wiley & Sons, Ltd), 434–50. doi: [10.1002/9781405177504.ch24](https://doi.org/10.1002/9781405177504.ch24), URL, accessed 04/07/2021.
A survey of the field in 2013, with a focus on the presentation of electronic texts rather than on critical editing as such.
- Moureau, Sébastien. (2015), 'The Apparatus Criticus', in Alessandro Bausi et al. (eds.), *Comparative Oriental Manuscript Studies: An Introduction* (Hamburg: Tredition), 348–52, ISBN: 978-3-7323-1768-4, URL, accessed 04/07/2021.
Useful discussion about the *apparatus criticus* in general, and an evaluation of the plus and minus points of positive and negative apparatuses.
- Burghart, Marjorie (2016), 'The TEI Critical Apparatus Toolbox: Empowering Textual Scholars through Display, Control, and Comparison Features', *Journal of the Text Encoding Initiative*, 10/Issue 10. doi: [10.4000/jtei.1520](https://doi.org/10.4000/jtei.1520), URL, accessed 12/12/2017.
Discussion of a software tool, including the handling of positive and negative apparatus. Makes the assumption that online displays are notational variants only.
- Burghart, Marjorie (2017), 'Textual Variants', in Marjorie Burghart et al. (eds.), *Digital Editing of Medieval Texts: A Textbook* (DEMM), URL, accessed 04/07/2021.
Discussion of how to express various kinds of apparatus in TEI.
- Bausi, Alessandro et al. (2015), *Comparative Oriental Manuscript Studies. An Introduction* (Hamburg: Tredition). doi: [10.5281/ZENODO.46784](https://doi.org/10.5281/ZENODO.46784).
A huge book that disappointingly says nothing at all about Sanskrit manuscripts. Nevertheless there are many interesting case studies and remarks applicable to the Indian manuscript tradition.