A Translation of the New Edition of the Suśrutasaṃhitā

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Abstract

The Suśruta Project is producing a new Sanskrit text edition of the Su-śrutasaṃhitā based on the early Nepalese manuscripts. As we gradually transcribe and edit the manuscripts, we are producing this new translation of the classic work.

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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 Dalhaṇa, 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 plust 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 Gaṅgādharabhaṭṭaśarman, lecturer at the Royal Sanskrit University. Covers the *cikitsāsthāna* and the *uttaratantra*.
- 3 Bundi, my great friend the royal physician Pam. 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 Raṇachoḍalāla Motīlālaśarman. With the *Nibandhasaṅgraha*. Covers the *śārīrasthāna*.
- 3 From the personal library of my great friend Sva. Vā. Vaidya Murārajīśarman. Extremely old. No commentary. Covers the śārīrasthāna.
- 4 Puṇe, BORI library. With the *Nibandhasaṅgraha*. Covers the śārīra-sthāna.³

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

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

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

- 5 Puṇe, 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 Pam. Rāmeśvaraśāstrin Śukla. Covers the *sūtra*, *nidāna*, *śārīra*, *cikitsā and kalpasthāna*s.
- 2 Bikaner, from the library of the Royal Palace, supplied by Pam. Candraśekharaśāstrin. Contains the commentary *Nyāyacandrikāpañjikāvyākhyā* 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*.

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 Bīkāner AnupLib 4390." Pandit. http://panditproject.org/entity/108068/manuscript.

	Manuscripts (●) and print editions (∘)															
edition 1915						1931							1938			
sthāna	1	2	3	1	2	3	4	5	6	7	8	9	1	2	3	
sū.	•							•	?		0	0(1-43)			404	
ni.	•			•				•	?		0		•	•		
śā.	•					•		•	?		0		•		•	
ci.		•						•	?	•	0		•		● (1-9)	
ka.	•								?		0					
utt.			•	•				•	?		0		>,			

Table 1: The sources of Yādavaśarman T. Ācārya's three vulgate editions.

Evaluation

Estimates show that there are approximately 230 extant manuscript witnesses for the *Suśrutasaṃhitā*. Many of these manuscripts cover only one or more or its chapters. Nevertheless, this is an order of magnitude more evidence than was considered by Ācārya for his vulgate editions.

While the descriptions provided by Ācārya of his source materials seems at first to be moderately comprehensive, Table 1 reveals the real paucity of textual basis for these editions. Apparently, fifteen manuscripts were consulted. However, we quickly find that two of the sources were other people's printed editions, and one of those covered less than a quarter of the work. That reduces the manuscript base to 13 manuscripts. Acārya does not appear to have seen two of the manuscripts at all, having been sent collations prepared for him by others (7 of 1931 and 3 of 1938). Thus, Ācārya's final edition was based on the personal consultation of eleven manuscripts. One of them, no. 6 of 1931, remains mysterious. Only a single manuscript covers the whole of the Suśrutasamhitā, no. 5 of the 1931 edition. Manuscript 1 of 1938 is the next most complete, but it omits the uttaratantra, which comprises a third of the work. Manuscript 1 of the 1915 edition is next, but it still omits both of the longest chapters, and thus offers less than half the work. For the rest, the evidence is spotty, with each part of the work being supported by only between four and eight

⁸ This figure is arrived at by summing the MSS mentioned in NCC and in the NGMCP. The real figure could be many scores higher.

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 coedited 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 \P for *mudrita*.¹²

⁹ SS 1938: 22; Hemarāja Śarman 1938: 56–57. Discussed by Klebanov (2021*a*: §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 (2021*b*: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—''लाभोपायो हि शस्तानां रसावीनां रसायनम्'' (च.चि. अ. १ पा. १)। पारिशेष्याद्वाजीकरणतन्त्रम् । अवाजिनं वाजीकुवैन्ति येन तद्वाजीकरणम् । 'अन्येषामिष दृश्यते' (पा. अ. ६।३।१३७) इति वीर्घसम् । येन वाऽस्यर्थं स्त्रीषु व्यज्यते तद्वाजी-करणम् । तदुक्तं चरके—''येन नारीषु सामध्यं वाजिवह्रमते नरः । व्रजेचाप्यधिकं येन वाजीकरणमेव तत्' (च. चि. अ. २, पा. ४) इति ॥ ५॥

यथास्य प्रत्येकाक्षळक्षणसमासः—तत्र, शल्यं नाम विविधत्णकाष्टपाषाणपांग्रुलोह्लोप्टास्थिवालनखपूयास्रावदुष्टमणान्तर्गर्भशल्योद्धरणाथ षष्ट्या विधानः, यन्त्रश्राक्षक्षाराग्निप्रणिधानमणविनिश्चयार्थं चः शालाक्यं नामोध्वेजन्तरानां श्रवणनयनवद्नप्राणादिसंश्रितानां व्याधीनामुपश्मनार्थः, कायचिकित्सा नाम सेवाक्षसंश्रितानां व्याधीनां ज्वररक्तपित्तशोषोन्मादापसारक्रप्टमेहातिसारादीनामुपश्मनार्थः, भूतविद्या नाम देवासुरगन्धवेयक्षरक्षःपितृपिशाचनागप्रश्मनार्थः, भूतविद्या नाम देवासुरगन्धवेयक्षरक्षःपितृपिशाचनागप्रह्मसुप्रस्प्रचेतसां
शान्तिकर्मविलहरणादिश्रहोपश्मनार्थः, कौमारभृत्यं नाम कुमारभरणधात्रीक्षीरदोपसंशोधनार्थं दुएस्तन्यग्रहसमुत्थिनां च व्याधीनामुपशमनार्थम्; अगदतन्तं नाम सर्पकीटल्लामूषकादिद्प्रविषव्यक्षनार्थं
विविधविर्दसंयोगोपश्मनार्थं चः रसायनतन्तं नाम वयःस्थापनमार्थुमेधावलकरणं रोगापहरणसमर्थं चः वाजीकरणतन्तं नामास्पदुप्रक्षीणशुकरेतसामाप्यायनप्रसादोपचयजनननिमित्तं प्रहर्षणजननार्थं च ॥ ६ ॥

शस्याङ्गविशेषात्र् शातुं प्रतिलक्षणं संक्षेपेणाह्—अथास्यस्यादि । एकमेकमङ्गं प्रति लक्ष-णानां समासः संक्षेपः प्रत्यकाङ्गलक्षणसमासः । तृणादीनां, तथा दुष्टवणस्य, तथाऽन्त-र्गत(भेशस्य)स्य उद्धरणार्थमिति प्रत्येकमुद्धरणशब्दः संवध्यते । दुष्टवणस्यान्तस्तृणाद्या-हरणार्थमित्यन्ये । षष्ट्या विधानिरिति द्विवणीयोक्तैरपतर्पणावै रक्षाविधानान्तैः; इत्थंभूतलक्षणे तृतीया । जतु प्रीवामूलं, जतुण उद्धवमूद्ध्वेजतु । प्राणादीत्यादिप्रहणान्छिरःकपालादिप्रह-णम् । उत्तरतन्त्रे प्रतिपादितकमप्राप्त्या ज्वरानन्तरमतीसारः पठितः, तस्यान्ते पाठोऽतिसा-रस्य सर्वाङ्गीणदोपार्व्यवाद्, अन्येपामि तन्मध्यपाठेन सर्वाङ्गीणदोषार्व्यवप्रतिपादना-ध्यतिकमं वदन्ति । शान्तिकमं विष्टहरणादिना प्रहाणां देवादीनामुपशमो यस्तदर्थः, यदि वा ग्रहृणं ग्रहो देवानामावेशस्तदुपशमार्थम् । दुष्टस्तन्यमहसमुत्यितानामिति दुष्टस्तन्यन

Figure 1: A page of the 1939 $Bh\bar{a}numat\bar{\iota}$ edition, showing the variant readings in the footnotes.

१ 'सर्वशरीरावस्थितार्नी क्यांचीनामुपश्चमकरणार्थ , ज्वरश्चोफग्रुक्मरक्तिपत्तोन्मादापसार-प्रमेहातीसारादीनां च' इति ता. । २ 'देवदानव' इति ता. । १ 'विनायकनागश्रहोप-सप्टचेतसां' इति ता. । ४ 'विषयवेगोपश्चमनार्थ' इति ता. । ५ 'श्चर्काप्यायन' इति ता. । ६ 'स्णादीनां श्वर्यान्तानां' इति मु. ७ 'अन्ये तु तस्यान्ते पाठेन' इति पा० । ८ 'श्वरणाद्व' इति मु. ।

2. A manuscript in the India Office Library library provided through the Bhandarkar Oriental Research Institute in Pune. This manuscript covered the Bhānumatī b up to the end of the sūtrasthāna. The siglum was ह for हस्तिलिखित. 4

For the Suśrutasamhitā

- 1. A palm leaf manuscript from Hemarājaśarman's personal library. 15 The siglum was না for নাভ্যন্ন.
- 2. His own published edition. The siglum was ड for डल्हणसंमतः पाठः. 16
- 3. Hārāṇacandra Cakravarti's published edition with his own commentary. 17 The siglum was हा.

Evaluation

The main innovation of this publication was to present the only surviving part of the commentary on the *Suśrutasaṃhitā* by the great eleventh-century medical scholar Cakrapāṇidatta, namely the *Bhānumatī*. 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 Dalhaṇa. This was the first *Suśrutasaṃhitā* 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 Dalhaṇa's commentary all came together with the root-text of the *Suśrutasaṃhitā*, and thus the main *Suśrutasaṃhitā* text reflected the readings

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

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 Dalhana recension."

¹⁷ Bhaṭṭācārya 1910-7.

¹⁸ HIML: IA, 374-375 and IB, 495-496.

chosen by Palhaṇa. 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 Palhaṇa. 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 Cakrapāṇidattas's *Bhānumatī* commentary once covered the whole text of the *Suśrutasaṃhitā*.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 (2021*b*:7).

²⁰ HIML: IA, 375.

²¹ Cordier 1903: 332.

Features of the manuscript transmission

Palaeographical features

- śrita for śrta.
- 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
- "O Lord, distress arose in our minds after witnessing people thrashing about with cries, assailed by different kinds of pain and injury (*vedanā-bhighāta*), 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 Dalhaṇa understood the word "knowledge (veda)" as specifically "medical knowledge." He said that the word "longevity" (āyur) had been elided. After this opening statement, later manuscripts and commentaries include the attribution, "as the venerable Dhanvantari stated." The absence of this statement in the early Nepalese 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.
- "[The component] named the doctrine of treating body parts above the clavicles has the aim of curing diseases situated above clavicles that is, diseases located in ears, eyes, mouth, nose and so on.
- "[The component] called general medicine has the goal of curing illnesses established in the whole body and [diseases] such as fever, tumour, swelling, hemorrhagic disorders, insanity, epilepsy, urinary diseases, diarrhoea and the like.
- "[The component] called knowledge of spirits is for appeasing demons by pacification rites and making food offerings for those whose minds have been possessed by gods, their enemies, ²⁵ Gandharvas, Yakṣas, demons, deceased ancestors, Piśācas, Vināyakas, ²⁶ Nāgas and evil spirits that possess children.
- "[The component] called care of children is for bearing children and purifying defects in a wet-nurse's milk, and curing diseases that have arisen from bad breast milk and demons.
- "[The component] called the discipline of toxicology is for [knowing] the signs of poison from snake and insect bites and for neutralising various combinations of poisons.²⁷
- "[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

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

²⁶ The vulgate doesn't have *vināyaka*s but does add *asura*s, probably under the influence of Palhaṇa. 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 ($l\bar{u}t\bar{a}$) and creepy-crawlies ($sar\bar{i}srpa$) in the list, it does seem that MS K had a shorter list, and the vulgate edition adds rodents ($m\bar{u}sika$).

- the increase, purity, accumulation and production of semen for those whose semen is minimal, bad, depleted, and dry [respectively] and for inducing an erection.
- "Thus, this 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."
- They then said, "Having considered the view of all of us, when we are unanimous, Suśruta will question you. We too will learn what is being taught to him."
- 21 He said, "so be it.
- "Now, as is well-known, the aim of 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.
- "For this component is first, the most important, because it is referred to first; it cures wounds and joins together the most important thing, Yajña's head. For, just as it has been said of old, 'the head that had been cut off by Rudra was joined again by the two Aśvins.'
- "And also, of the eight disciplines of \bar{A} yurveda, [surgery] alone is the best because of the quick action of its procedures ($kriy\bar{a}$), its application of blunt instruments, knives, caustics and fire, and it is common to all disciplines.
- 25 "Therefore, [surgery] is eternal, meritorious, leads to heaven, brings renown, bestows a long life, and affords a livelihood.
- "Brahmā said this, 'Prajāpati learned it. From him, the Aśvins. From the Aśvins, Indra. From Indra, I. In this world, I will transmit to those who desire it for the benefit of people.'

[There a verse about this.].²⁸

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.

In this context, as far as this discipline is concerned, a human being (puru
otin a) is called an amalgam of the five elements and the embodied soul. This is where procedures (kriy
otan) apply. This is the locus. Why?

Because of the duality of the world, the world is twofold: the stationary and the moving. Its nature ($\bar{a}tmaka$) is twofold, depending on the preponderance of Agni and Soma.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.

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

The mental $(m\bar{a}nasa)$ ones, caused by desire $(icch\bar{a})$ and hatred (dveṣa), include: anger (krodha), grief $(\bar{a}śoka)$, misery (dainya), overexcitement (harṣa), lust $(k\bar{a}ma)$, depression $(viṣ\bar{a}da)$, envy $(\bar{v}rṣy\bar{a})$, jealousy $(as\bar{u}y\bar{a})$, malice $(m\bar{a}tsarya)$, and greed (lobha).

The inherent $(sv\bar{a}bh\bar{a}vika)$ ones are hunger, thirst, old age, death, sleep and those of the temperament (prakrti).

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

Scarification (lekhana), nourishment (brmhana), purification (samso-dhana), pacification (samsamana), diet ($\bar{a}h\bar{a}ra$) and regimen ($\bar{a}c\bar{a}ra$), properly employed, bring about their cure.

Furthermore, food is the root $(m\bar{u}la)$ of living beings as well as of strength (bala), complexion (varna) and vital energy (ojas). It depends on $(\bar{a}yatta)$ the six flavours (rasa). Flavours, furthermore, have substances as their substrate $(\bar{a}\acute{s}rayin)$. And substances are remedies $(oṣadh\bar{u}-)$.³² There are two types: stationary $(sth\bar{a}vara)$ 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 $(\to oṣadh\bar{\iota})$ under certain conditions. These conditions require that the word be used

(jaṅgama).

- Of these, there are four types of stationary ones: fruit trees (*vanaspati*), flowering trees (*vṛkṣa*), 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.
- As is well known, moving remedies are also of four types: those born in in a caul (*jarāyuja*), those born from eggs (*aṇḍaja*), those born of sweat (*svedaja*), and shoots (*udbhid*). Amongst these, those born in a caul include animals (*paśu*), humans, and wild animals (*vyāla*). Birds, creepycrawlies (*sarīṣṛpa*) and snakes are "born of eggs." Worms (*kṛmi*), small insects (*kunta*) and ants (*pipīlika*) and others are born of sweat.³⁵ Shoots include red velvet mites (*indragopa*) and frogs (*maṇḍūka*).³⁶|
- 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
- The items created by time $(k\bar{a}lakrta)$ are clusters (samplava) as far as wind and no wind $(niv\bar{a}ta)$, heat and shade, darkness and light and the cold, hot and rainy seasons $(vars\bar{a})$ are concerned. The divisions of time are the blink of the eye (nimesa), a trice $(k\bar{a}sth\bar{a})$, minutes $(kal\bar{a})$,
 - in a Vedic mantra and not in the nominative. Neither condition is met in this passage, yet the author uses the form $o\underline{s}adh\overline{\iota}$. This form is in fact not uncommon in medical literature as well as in epics, puranas, smrtis, 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; Dalhana 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 $(muh\bar{u}rta)$, a day and night $(ahor\bar{a}tra)$, a fort-night (pakṣa), a month $(m\bar{a}sa)$, a season (rtu), a half-year (ayana), a year (samvatsara), and yuga (yuga).
- These naturally cause accumulation (*sañcaya*), irritation (*prakopa*), pacification (*upaśama*) and alleviation (*pratīkāra*) of the humours (*doṣa*). And they have practical purposes (*prayojanavat*).

[There are verses about this:]40

- This fourfold category is taught by physicians as a cause for the agitation and quelling of bodily diseases.⁴¹
- 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.
- For those that affect the body there is physical (śārīravad) therapy, whereas for those that affect the mind there is the collection (varga) of desirable sensory experiences like sound that bring comfort (sukha).
- 40 Along these lines (*evam*), this brief explanation of the four factors (*catuṣtaya*) is given:
 - human being (puruṣa),
 - disease (vyadhi),
 - remedies (oṣadhi),
 - the time for therapies (kriyākāla).

In this context,

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

³⁹ These units are presented at SS 1.6.5 ($SS 1938^2:24$) and discussed by Hayashi (2017: § 59).

⁴⁰ See footnote 28.

On the topic of the "group of four," the commentator Dalhana 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 Jejjaṭa (HIML: IA, 372–3, 192). In his view, these early commentators do not agree that the fourfold grouping (*caturvarga*) refers to the quartet of stationary (*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 (āgantu) and inherent factors (svabhāva) are intended (vyākhyāta).
- From the mention of "remedies," there is the teaching of substances, tastes, potencies, post-digestive tastes.
- From the mention of "procedures $(kriy\bar{a})$," therapies (karman) such as oiling and excision (chedya) are taught.
- From the mention of the word "time," every single teaching about the times for procedures is meant.

[There is a verse about this:]43

- This seed of medicine has been declared in brief. Its explanation will be given in one hundred and twenty chapters.⁴⁴
- There are one hundred and twenty chapters in five sections (*adhyāya*). In that regard, having divided them, according to their subject matter, into the Ślokasthāna, the Nidāna, the Śārīra, the Cikitsita and the Kalpa, we shall mention this in the Uttaratantra. 46

[There is a verse about this:]47

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 (\$\sigma\$1938:1.3-4ab) 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

- Now we shall expound the method for the piercing of the ear.⁴⁸
- 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 (krtamangala), blessings pronounced (svastivacana) should be placed on the lap of a wet-nurse. 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 (ara) 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
- 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.
- Having removed the wick (varti) in it, one should smear it with a paste of the roots of barley, liquorice, Indian madder ($ma\tilde{n}jisth\bar{a}$), and the
- 48 The topic of piercing the ear (kaṛnavyadha) is not discussed in the Carakasaṃhitā (HIML: IB, 326, n. 175), but it is mentioned in some texts that followed the Suṣruta-saṃhitā, such as the Kaṣāpyasaṃhitā (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 (kaṛṇavyadhabandhavidhi). Although it is omitted in this opening statement, joining the ear (kaṛṇabandha) 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). Dalhaṇa (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 kaṛṇayor vyadhe | saha gātrair vivardhante kaṛṇapālyaś 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 (*gandharvahasta*), 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" (\bar{a} saṅgima): one flap is longer on the inside.

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

"Take-away" ($\bar{a}h\bar{a}rya$): 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 (saṃ-kṣipta) tips and little blood. Even when they are bound up, they do not heal because they are hot, inflamed, suppurating (srāva), or swollen.

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 (lekhya), 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 ($\bar{a}c\bar{a}rika$) should be given. And he should supplement with food as taught in the 'Two Wound' chapter.⁵⁵

- One should avoid rubbing, sleeping during the day, exercise, overeating, sex, getting hot by a fire, or the effort of speaking.
- One should not make a join when the blood is too pure, too copious, or too thin. For when the ear is tainted by wind, then it is obstructed by blood (raktabaddha), unhealed and will peel. When tainted with choler, is becomes pinched ($g\bar{a}dha$), septic ($p\bar{a}ka$) and red. When tainted by phlegm, it will be stiff (stabdha) and itchy. It has excessively copious suppuration ($sr\bar{a}va$) and is sopha ($puffed\ up$). It has it has a small amount of wasted ($ks\bar{i}na$) flesh and it will not grow. 57
- When the ear is properly healed and there are no complications, one may very gradually start to expand it. Otherwise, it may be angry (saṃ-rambha), burning, septic or painful. It may even be split open again.
- 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 $(godh\bar{a}^{58})$, scavenging (pratuda) and seed-eating (viskira) 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 $(prativ\bar{a}pa)$ of the following: purple calotropis $(arka^{60})$, white calotropis $(alarka^{61})$, country mallow $(bal\bar{a}^{62})$, 'strong Indian mallow' $(at-ibal\bar{a}^{63})$, country sarsaparilla $(anant\bar{a}^{64})$ beggarweed $(vid\bar{a}ri^{65})$, liquorice (madhuka), hornwort $(jalas\bar{u}ka \rightarrow jalan\bar{u}lik\bar{a}^{66})$, 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 Dalhana notes that some people interpret it as a poisonous, hairy, air-breathing, underwater creature.

- savour (madhuravarga),⁶⁸ and 'milk flower' ($payasy\bar{a} \rightarrow vid\bar{a}r\bar{\iota}^{69}$). This should then be deposited in a well-protected spot.
- 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 (*apānga*), but not outside it.
- 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.
- 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*).
 - 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 = Ipmoea 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 ($patt\bar{a}nga^{73}$),⁷⁴ liquorice ($yaṣṭ\bar{\imath}madhuka^{75}$), and Indian barberry ($a\tilde{n}jana^{76}$) should be applied to it.

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- 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
- And once healed and really come together, what is left of its flesh (*vadhra*) 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

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. After a close comparative reading of lists of poisonous snakes, Harimoto concluded that, "the Nepalese version is internally consistent while the [vulgate] editions are not." Harimoto showed how the vulgate editions, had been adjusted textually to smooth over inconsistencies, and gave insights into these editorial processes.

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 অন্ত বনে মুখ্ৰন: "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 (kāśipati). Dalhaṇa followed the vulgate but explicitly noted the reading before us with small differences: दिवोदासः क्षितिपतिस्तपोध्यमिश्रताकरः "Divodāsa, the king of the earth, was a mine of traditions about discipline and virtue."
 - 85 Verses about the use of Venemous 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 $\sqrt{\text{s}}$ vas 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.
 - 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.
 - I shall explain the signs to look for in toothbrush twigs, in food and drink as well as in massage oil (abhyaṅga) and combs (avalekhana); in dry rubs (utsādana) and showers, in decoctions (kaṣāya) and massage ointment (anulepana); in garlands (sraj), clothes, beds, armour and ornaments; in slippers and footstools, and on the backs of elephants and horses; in nasya (snuff), inhaled smoke (dhūma), eye make-up (añjana), etc., and any other things which are commonly poisoned. Then, I shall also explain the remedy.
 - 28 Flies or crows or other creatures that eat a poisonous morsel (bali)

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 सोपोदनैकपूपिक "chefs for the boiled rice soups and cakes" is grammatically interesting. The term सूपोदन (as opposed to sūpaudana) is attested in the *Bodhāyanīya-gṛhyasūtra* 2.10.54 (Shastri 1920: 68). More pertinently, perhaps, सूपोदन is attested in the Bower Manuscript, part II, leaf 11r, line 3 (Hoernle 1893–1912: vol. 1, p. 43).

⁹⁰ The word ध्याम is glossed by Dalhaṇa (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 pheasant peacock (*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 unduly, and the racket-tailed drongo (*bhṛṅgarāja*) churrs. The bull (*vṛṣabha*) sheds tears and the monkey releases excrement.

check jīvajīvaka

kroñca note

⁹¹ kroñca in Dalhana

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 (*dṛṣṭi*).
- There are three curable $(s\bar{a}dhya)$, three incurable $(as\bar{a}dhya)$, and six mitigatible $(y\bar{a}pya)$ diseases located in peoples eyes. Among these, three are curable $(s\bar{a}dhya)$. Amongst these three, the remedy $(prat\bar{\imath}k\bar{a}ra)$ has been stated for the one called "seeing smoke $(dh\bar{\imath}madarsin)$ ". 92
- 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*), but not cutting with a blade (*śastrakṣata*).

One should drink ghee (sarpis) prepared with the three fruits ($triphal\bar{a}$) and in the first [case where the problem is bile], and prepared with turpeth (traivrta) in the latter [case, of phlegm].

And ghee prepared with tilvaka (*tailvaka*) is wholesome in both cases, or else aged ghee on its own.

5cd–7ab In a collyrium, these four compounds (*yoga*) are beneficial in both cases:

• ochre (*gairika*), Sind salt (*saindhava*), long pepper (*kṛṣṇā*) and the black soot (*maṣī*) from cow's teeth;

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

maṣī burned charcoal. Find

- 92 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.
- 93 These therapies are described in SS.6.18 (SS 1938 2 : 633–640).
- 94 Dalhaṇa interprets this as blood-letting ($sir\bar{a}vedha$), which is discussed in SS.1.14 (SS 1938²).

- Cow's flesh (*gomāṃsa*), black pepper (*marica*), siris (*śirīṣa*) and red arsenic (*manahśilā*);
- stalk (*vṛnta*) from a wood apple (*kapittha*) with honey (*madhu*);⁹⁵
- or the the fruits of the velvet bean (*svayamgupta*).
- 8 The physician should make a collyrium with ground up metal (*ku-pyaka*), ⁹⁶ Asoka tree (*aśoka*), Sal tree (*śālā*), mango (*amra*), beautyberry (*priyaṃgu*), Indian lotus (*nalina*), blue lotus (*utpala*), together with hareṇu (*hareṇu*), emblic (*āmalaka*), myrobalan (*pathyā*), long pepper (*pippali*). It should be combined with ghee and honey (*kṣaudra*).
- 9–10 Also, when bile and phlegm have developed, the physician should apply harenu (harenu) with the expressed juice (svarasa) of the flowers from mango (amra) and Jambu (jambū) trees.

 Then this collyrium, matured (vipakva) with ghee and honey (kṣaudra), should then be applied.
- Filaments ($ki\tilde{n}jalka$) of Indian lotus (nalina) and blue lotus (utpala), with ochre (gairika), and the juice of cow-dung ($go\acute{s}akrt$) are a collyrium in the form of a pill ($gu\acute{q}ik\bar{a}$). This is good for both day and night blindness.
- 11cd–12ab Elixir-salve ($ras\bar{a}\tilde{n}jana$), honey (kṣaudra), ghee, scramberry ($t\bar{a}l\bar{i}\acute{s}a$), together with gold and ochre, with the juice of cow-dung ($go\acute{s}akrt$) are for an eye afflicted with bile.
 - Alternatively, wise physician should first grind together elixir-salve (\hat{sita}) and stibnite $(sauv\bar{i}raka)$, infused $(bh\bar{a}vita)$ with the blood of birds and animals (rasa). Then he mixes it with the bile of a tortoise or with extract of rohu carp (rauhita). It should always be used with powdered collyrium to quell the bile.
 - Thus, a collyrium of white teak ($k\bar{a}r\acute{s}mar\bar{\imath}$) flowers, liquorice (madhuka), tree turmeric ($d\bar{a}rv\bar{\imath}$), lodh tree (lodhra) and elixir salve ($ras\bar{a}\tilde{n}jana$) is always good as a collyrium in this case.
 - Alternatively, for those who cannot see during the day, this pill $(gudik\bar{a})$, with sandalwood, is recommended: salt $(nad\bar{\imath}ja)$, conch shell and the

⁹⁵ wood apple (*kapittha*) in this verse is ablative singular or accusative plural, neither of which construe obviously.

⁹⁶ 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.

⁹⁷ This is Dalhaṇa's preferred interpretation of rasa "juice" in this context. He also notes that some take elixir-salve (\hat{sita}) to be camphor.

- three spices, collyrium, realgar ($manah\acute{s}il\bar{a}$), the two turmerics (rajana) 98 and liver extract (yakrdrasa). 99
- One should grind up kohl (*srotoja*),¹⁰⁰ and Sind salt (*saindhava*) and long pepper and also harenu (*harenu*). Such wicks with goats urine are good in a collyrium for night blindness (*kṣaṇadāndhya*).
- Alternatively, in such a case, grind together Indian sarsaparilla ($k\bar{a}l\bar{a}$ - $nus\bar{a}riva$)¹⁰¹ long pepper, dried ginger ($n\bar{a}gara$) and honey, the leaf of the scramberry ($t\bar{a}l\bar{i}\acute{s}apatra$), the two turmerics (rajana), a conch shell and liver extract (yakrdrasa). Then shade-dried wicks take away illness (ruj).
- 18cd–19ab Wicks made of red arsenic ($mana h sil \bar{a}$), chebulic myrobalan ($abhay \bar{a}$), the three spices (vyo sa). Indian sarsaparilla (sariva), cuttlefish bone (samudraphena), combined with goat's milk are good.
- One should cook a honey collyrium (*kṣaudrāñjana*) either in the juices of cow's urine (*gomūtra*), and bile, spirits (*madirā*), liver (*yakṛt*), and emblic (*dhātrī*) or else in the juice of the liver (*yakṛt*) of something different, or else with the extract of the three fruits (*triphalā*). One of these should be mixed with cow urine, ghee and cuttle fish (*arṇavamala*)¹⁰² with long pepper, honey and box myrtle (*kaṭphala*). It is placed in sea salt and stored in a bamboo tube.
 - One should cook the liver of a sheep, the ghee of a goat, with long pepper and Sindh salt, honey and the juice of emblics. Then one should store it properly in a catechu box. Prepared thus, the honey collyrium is good.
 - Alternatively, a collyrium that is harenu (harenu) mixed with long pepper ($m\bar{a}gadh\bar{\iota}$), the bone and the marrow of a goat, cardamom ($el\bar{a}$) and

⁹⁸ Turmeric (Curcuma longa *Linn*.) and tree turmeric (Berberis aristata DC). The term *rajana* is unusual; the normal term is *rajanī*. *Rajana* occurs in *Suśrutanighaṇṭu* 158 in the sense of Ferula asafoetida, Linn.

⁹⁹ This verse appears as no. 27 in the vulgate.

¹⁰⁰Glossed by Palhaṇa as a kind of collyrium. Cf. Nadkarni 1954: 2.M13 and P. V. Sharma 1982: 197–198

¹⁰¹ There are two forms of *sārivā* mentioned widely in Āyurvedic literature, the white and the black. Ideas on the identity of the black form are particularly fluid. See Sivarajan and Balachandran (1994: 434–438) for a clear discussion.

¹⁰²At SS 6.12.31, Dalhaṇa glossed arṇavamala as cuttlefish bone (samudraphena). It may be worth considering whether the unusual term arṇavamala "ocean-filth" might refer to ambergris.

- liver, together with liver extract, is good for eyes afflicted by phlegm.¹⁰³
- 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.¹⁰⁴
- As is well known, there are six diseases that can be alleviated (*yāpya*); in those cases (*tatra*) one should release the blood by bloodletting. And for the sake of wellbeing one should also purge using aged ghee combined (*upahita*) with purgative aids (*aṅga*).
 - When an eye-disease is caused by wind (pavanodbhava) they say that castor oil (pañcāṅgulataila) mixed with milk is good. In the case of diseases of blood (śonita) and bile (pitta), one should drink ghee with the three fruits; it is particularly cleansing. 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).
 - 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).

¹⁰³On the identities of <code>elā</code> and <code>harenu</code> 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 Chunekar (1972: 467 f) provided an interesting discussion of <code>harenu</code>, noting that the term refers to two substances, first the <code>satīna</code> 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 Dalhaṇa described it as aromatic and identical to <code>renukā</code> (SS.ci.2.75).

¹⁰⁴We 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.

¹⁰⁵ Palhaṇa says that the unexpressed topic of this recipe is partial blindness (*timira*).

¹⁰⁶Blood-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

¹⁰⁷The 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 blindess should lick the finely-ground three fruits mixed with ghee off his hand $(sap\bar{a}na)$.¹⁰⁸
- 29cd Alternatively, someone afflicted by phlegm should apply them (the three fruits) mixed with oil and steeped (*pragāḍha*) in honey.
 - The very best oil, well-cooked with a decoction of cow-dung, is good in cases of partial blindness, taken as an errhine.

 In cases caused by bile, ghee by itself is good, as is oil when it arises from wind and blood.
 - And in the case of wind one should apply turpeth (trivrt) based on strong mallow $(atibal\bar{a})$, and country mallow $(bal\bar{a})$ in an errhine (nasya).
 - Ghee which has been extracted from milk cooked with the meat of aquatic creatures and those from marshlands should be prescribed.
 - tAn enclosed roasting (puṭākhya) with Sindh salt and the product of the meat of a carnivore (kravyabhuj) and a deer (eṇa), is combined with honey and ghee. 110
 - Fat $(vas\bar{a})$ from a horse, a vulture, a snake, and a cock $(t\bar{a}mrac\bar{u}da)$, combined with mahua $(madh\bar{u}ka)$ is always good in a collyrium.
 - Having prepared (*niṣevita*) a collyrium made of kohl (*srotas*) and gradually combine it with juices (*rasa*), milk and ghee.¹¹²
 - 108"Off his hand" translates the adverbial *sapāṇam*, an unusual word. Dalhaṇa reproduces a reading close to the Nepalese recention but says that Jejjaṭa rejects it and so he also does (SS 1938: 627).
 - 109"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.
 - 110 Dalhaṇa notes (\$\frac{\subsets 1938^2}{628a}\$) that <code>puṭāhvaya</code> (see verse 35 below) is a synonym for <code>puṭapāka</code>, and that the process is described in the <code>Kriyākalpa</code> chapter, i.e., \$\frac{\subsets 6.18.33-38}{(\subsets 1938^2:635)}\$. On the <code>puṭa</code> process in the <code>Suśrutasaṃhitā</code>, which is earlier and different than that of <code>rasaśāstra</code> 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.
 - 111 This verse contain irresolvable difficulties. There are no significant variants in the Nepalese MS transmission, but the text is ungrammatical. The vulgate reads substantially differently but we have nevertheless made some emendations in line with it and read the verse as two sentences.
 - 112 Dalhana 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*).
- Next, a collyrium that is milk containing long pepper $(m\bar{a}gadh\bar{\iota})$, lye $(k \bar{s}araka)$ and Sindh salt (saindhava) that has been repeatedly prepared with the mouth of a black snake, is good in the case of bloodshot blindness $(r\bar{a}gin\ timira)$.¹¹³
- 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*).¹¹⁴
- 36 And realgar $(mana h sil \bar{a})$ mixed with elixir salve $(ras \bar{a} \tilde{n} jana)$ and honey is a liquid collyrium $(drav \bar{a} \tilde{n} jana)$ which is, in this case, combined with mahua $(madh \bar{u} ka)$. 115
 - Alternatively, experts on this say that finely ground blue vitriol (*tuttha*) extracted from a gold mine is the "same collyrium (*samāñjana*)". 116
- Conch mixed with equal parts of sheep's horn and stibnite ($a\tilde{n}jana$) removes the impurity of the glassy opacity ($k\bar{a}ca$) because of the application of collyrium ($a\tilde{n}jana$).¹¹⁷
 - The extracts (rasa) produced from aflame of the forest ($pal\bar{a}\acute{s}a$), Rohīta tree ($roh\bar{\imath}ta$), 118 mahua ($madh\bar{\imath}ka$), ground with the supernatant layer (agra) of the spirits (madira) is applied.
- 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.¹¹⁹

¹¹³ Dalhana describes this blindness as a type of $k\bar{a}ca$ 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.

¹¹⁴ The expression taken hot (puṭāhvaya) is a guess.

¹¹⁵ The expression liquid collyrium ($drav\bar{a}\tilde{n}jana$) is only known from Palhana's comments on SS.6.17.11ab (SS 1938²: 626). The recipe in the present collyrium is different from that discussed by Dalhana.

¹¹⁶ The expression "same collyrium (samāñjana)" is a hapax legomenon glossed inexplicably by Dalhaṇa as "a collyrium with an equal amount of fermented barley" (tulyasauvīrāñjana) (SS 1938²: 628).

¹¹⁷ The ablative "from collyrium" is hard to construe, but Dalhana uses this term and phrase in his commentary on SS 6.17.41ab (SS 1938²: 629).

¹¹⁸ Probably Soymida febrifuga A. Juss.

¹¹⁹ Dalhaṇa invokes a general rule $(paribh\bar{a}s\bar{a})$ to indicate that this mixture should be cooked with sesame oil.

- One should apply smoke of the bark of embelia ($vida\dot{n}ga$), velvet leaf ($p\bar{a}th\bar{a}$), white siris ($kinih\bar{\iota}$), and desert date ($i\dot{n}gud\bar{\iota}$); and cuscus grass ($u\dot{s}\bar{\imath}ra$) alone.
- A ghee that is cooked ($bh\bar{a}vita$) from a decoction of a non-flowering tree (vanaspati)¹²⁰ as well as turmeric ($haridr\bar{a}$) and spikenard (nalada) is good in a balm (tarpaṇa).
 - Alternatively, one may have an enclosed roasting ($puṭap\bar{a}ka$) done with arid-land animals ($j\bar{a}ngala$)¹²¹ and a plentiful amount of long pepper ($m\bar{a}gadha$), 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*).¹²²
 - They say that an elixir salve ($ras\bar{a}\tilde{n}jana$) combined with myrobalans, treacle and dried ginger is good.¹²³
- Alternatively, a collyrium that has been prepared many times in the eight types of urine¹²⁴ is put into water with the three fruits. Having stored it in the mouth of a nocturnal creature $(niś\bar{a}cara)^{125}$ one should place it in a conch (salilotthita) for two months.¹²⁶

find ref

- One should apply that collyrium together with the flowers of mahua $(madh\bar{u}ka)$ and horseradish tree $(\acute{s}igru)$ when [the disease] is caused by all [the humours].
 - But alternatively, all treatments apply when blood is the cause. The procedure that removes bile is good when there is blue dot cataract $(ml\bar{a}yin)$.¹²⁷

Check out these refs.

¹²⁰These are fig trees. The *Sauśrutanighaṇṭu* (252) specifies the Udumbara. Cf. the classification in CS.1.1.71–72, 1.8, *et passim*.

¹²¹On this term, see SS.1.35.42 (SS 1938^2 : 157) and the discussion by Zimmermann (1999: 25–31).

¹²² Palhaṇa glosses treatment $(kriy\bar{a})$ specifically as inspissation $(rasakriy\bar{a})$ (SS 1938²: 629).

¹²³We emend hite to hitam, against the MSS.

¹²⁴See SS mūtravarga

¹²⁵ Dalhaṇa 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.

¹²⁶We interpret "water-born (*salilotthita*)" as "conch" in line with *jalodbhava*, but the term is uncertain.

¹²⁷The vulgate follows Dalhaṇa in glossing $ml\bar{a}yin$ as $pariml\bar{a}ya$. The description of this condition at SS.6.7.27–28 appears to refer to "blue dot" or "cerulean" cataract. \sqrt{mlai} derivatives can mean "dark" or "black."), which is normally a different ailment.

- For one who has a humour, the physician should consider the rule in all humoral cases and then smear the ointment on the face. The treatment that is good for removing watery eye (*syanda*) should be properly applied in all these humoral cases, according to the individual. 129
- 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. ¹³⁰
- Someone who uses matured ghee, the three fruits, wild asparagus ($\hat{s}a-t\bar{a}var\bar{\iota}$), 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.
- 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*).
- I shall explain the therapy for success when there is a cataract ($li\dot{n}ga-n\bar{a}\acute{s}a$) caused by phlegm. It may be white, like a full moon, an umbrella, a pearl ($mukt\bar{a}$) or a spiral ($\bar{a}varta$).
- 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.¹³¹
- 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.

¹²⁸The vulgate edition omits part of this verse (ab) combining earlier and later passages. 129The term watery eye (*syanda*) refers to the specific disease *abhiṣyanda*. See SS.6.6.5, 1.46.51, etc.

¹³⁰ Palhaṇa notes that *Kalpa* means the Uttaratantra adhyāya 18 (SS 1938²: 633 ff).

¹³¹ In the vulgate, and in parallel passages in the AS, the reading "it may be (bhavet)" is replaced with the negative "if, then not ($na\ ced$)" (cf. 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 ($muktv\bar{a}$) two white sections from the black part (krsna) and from the outer corner of the eye ($ap\bar{a}nga$). Having $p\bar{i}d$ - (pressed) properly into the eye, ¹³² at the naturally occurring (daivakrte) hole (chidra) with the probe ($sal\bar{a}k\bar{a}$) 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. 133
- The expert should moisten the exact place of piercing with a woman's breast-milk. Then he should scratch the circuit of the pupil (drstimandala) with the tip of the probe $(sal\bar{a}k\bar{a})$.¹³⁴
- Without injuring, gently pushing the phlegm in the circuit of the pupil against the nose, he should remove it by means of sniffing (ucchingana).¹³⁵
- Whether the humour is solid ($sty\bar{a}na$) or liquid (cala), one should apply sweating to the eye externally, with leaves ($bha\dot{n}ga$) that remove wind, after fixing the needle ($s\bar{u}c\bar{i}$) properly.¹³⁶
- But if the humour cannot be destroyed or if it comes back, one should apply the piercing (*vyadha*) once again, with appropriate oils and so on.
- Now the pupil (drsti) shines like the sun (hari) in a cloudless sky; then, when objects become visible, one may slowly remove the probe $(sa-l\bar{a}k\bar{a})$.
- 60 Having smeared ghee on the eye, one should cover it with a bandage.

¹³²We 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.

¹³³ Dalhana interprets simultaneous (*samyak*) rather as "proper," referring to the proper kind of incision.

¹³⁴The 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.

¹³⁵Dalhana describes sniffing (*ucchingana*) at SS 6.19.8 (SS 1938²: 641), clearly intending inward sniffing.

¹³⁶We interpret *bhanga* as leaves, following the usage elsewhere in this sthāna SS 4.32.9, 6.11.5 (SS 1938²: 513, 614) where *bhanga* 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.

¹³⁷There 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. 138
- At that time, he should not belch, cough, sneeze, spit or shiver. Afterwards there should be restrictions $(yantranaa \bar{a})$ as in the case of someone who has drunk oil.¹³⁹
- 62 Every three days one should wash it with decoctions (*kaṣāya*) that remove wind. After three days, one should sweat the eye externally because of the danger of wind.
- Having restrained himself in this way for ten days he should thereafter take a beneficial regimen (*karma*) that clears the pupil (*dṛṣṭi*) and also he should take light food in measure.

[Complications]

- 64 When there is a misshapen eyeball (*vilocana*), the eye may fill because of the release of blood from a vein. ¹⁴⁰
 A hard probe leads to shooting pain (\hat{sula}), a thin to unsteadiness of the
 - humours (dosapariplava), 141
- 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*).¹⁴²
- 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

¹³⁸Dalhaṇa explains disturbances specifically as dust, smoke, drafts and sunlight SS 6.17.67 (SS 1938^2 : 631a).

¹³⁹ Dalhaṇa 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).

¹⁴oThe condition of "misshapen eye" is referred to briefly in SS 6.61.9 (SS 1938²: 800), where Dalhana glosses it as "bent brow and eye (*vakrabhrūnetra*)." The vulgate's reading of "with blood (*śonitena*)" is easier to construe.

¹⁴¹ There is a medically significant difference here from the vulgate, which reads "a rough (*khara*) probe" not a "thin" probe.

¹⁴²This translation of loss of function (*kriyāsaṅga*) is given on the basis of Dalhaṇa's gloss of *kriyāsaṅgakarin* as "causing the destruction of actions such as moving (*gamanādikriyāvināśakarī*)" 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 (\dot{sataku} - $mbh\bar{\iota}$). 143

[Complications]

Redness, swelling, lumps, driness (coṣa), bubbling (budbuda), ¹⁴⁴ pigs' eye $(s\bar{u}kar\bar{a}kṣit\bar{a})$, ¹⁴⁵, irritation (adhimantha), etc. and other diseases arise from faults in the piercing,

- or even from bad behaviour. One should treat them each accordingly. Listen to me once again about compounds for painful red eyes. Red chalk (gairikah), Indian sarsaparilla $(s\bar{a}riv\bar{a})$, panic grass $(d\bar{u}rv\bar{a})$, 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*). This is immediately beneficial when someone is looking for relief.
 - 72 A paste with Holostemma (payasyā), 147 Indian sarsaparilla (śārivā), cassia cinnamon (patra), Indian madder (mañjiṣṭhā), and liquorice (madhukair) stirred with goat's milk, pleasantly warmed, is said to be healthy. 148
 - 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.

¹⁴³The vulgate reads "copper (tāmra)" in place of "silver."

¹⁴⁴ Palhaṇa glosses "bubbling (budbuda)" as "prolapse ($m\bar{a}msanirgama$) that looks like bubbles."

¹⁴⁵The expression "pigs' eye" appears to be a *hapax*. It is glossed as "downward vision (*adhodṛṣṭitva*)" by Dalhaṇa.

¹⁴⁶On the adverbial use of gently (*mṛdu*), see Gombrich 1979.

¹⁴⁷The identity of *payasyā* is debated (Singh and Chunekar 1972: 538), and was already in doubt at the time of Dalhaṇa but likely candidates may be those suggested by Dalhaṇa, who suggests either *arkapuṣpī* or *kṣīrakākolī*, that may be *Holostemma adakodien* Schult. and *Leptadenia reticulata* (Retz.) Wight & Arn. (Sivarajan and Balachandran 1994: 195-196). The *Sauśrutanighaṇṭu* glosses it as *kṣīrikā* or *arkapuṣpikā* (Suvedī and Tīvārī 2000: v. 307).

¹⁴⁸The expression "stirred with goat's milk (ajākṣīrārdita)" is difficult. It may be connected with the rare root ard documented by Whitney (1885: 15). Cf. \sqrt{ard} gatau (Dhātupāṭha 1.56).

- Alternatively, goats' milk with the Lodh tree, Sindh salt, red grapes and liquorice, cooked, should be used in irrigation because it removes pain and redness.
- Having cooked it with liquorice, water-lily, and costus, mixed with grapes (*drākṣā*), lac (*lākṣā*), white sugar (*sitā*), with wild asparagus, Hare Foot Uraria (*pṛthakparṇī*), 149 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. This has an admixture of cottony jujube $(k\bar{a}kol\bar{\iota})$ etc., should be prescribed in all treatments. 151
- 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. 152
- 78cd–80ab Now listen to two excellent collyriums for making the pupils clear. After grinding the flowers of perploca of the woods (meṣaśṛṅga), siris (śirīṣa), axelwood (dhava) royal jasmine (jātī), pearl and beryl (vaiḍūrya) with goat's milk, one should put it in a copper pot for seven days.
 - 8ocd–81 Having made it into wicks (*vartti*), the physician should apply it as a collyrium. Alternatively, one should make kohl (*srotoja*), coral (*vidruma*), cuttlefish bone (*phena*), and realgar (*manaḥśilā*) and peppers into wicks as before. One should apply these wicks, which are good in a collyrium, to steady the pupil.
 - 82 I shall again discuss the foremost collyriums at length in the *Kriyākalpa* section. Those various methods may be applied here too.

149Suvedī and Tīvārī 2000: 18.

or a dual

¹⁵⁰ Dalhaṇa mentions that these drugs include Deodar (*bhadradāru*) and other wind-destroying drugs. The *vātasaṃśamana* group is listed in *Suśrutasaṃhitā sūtrasthāna* 1.39.7.

¹⁵¹ Dalhana notes that this would include errhines, ointments, etc.

¹⁵²The vulgate reads $v\bar{a}pi$ for $c\bar{a}pi$, so Dalhana sees blood-letting and cautery as alternatives, not a sequence of treatments. Dalhana lists the places that cauterization may be applied, such as the brow, forehead, etc.

Abbreviations

Ah1902	Kuṃṭe, Ananta Moreśvara and Navare,
	Kṛṣṇaśāstrī Rāmacandra (1902) (eds.),
	श्रीमद्वाग्भटविरचितम् अष्टाङ्गहृदयम्, सूत्र-शारीर-निदान-
	चिकित्सा-कृत्प-उत्तरस्थानविभक्तम् श्रीमदरुणदत्तप्रणीतया
	सर्वांगसुंदर्याख्यया व्याख्यया समलंकतम् (Krsnadāsa

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ark:/13960/t9773bb9z.

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Burnell 1880: 63–4, P. P. S. Sastri 1933: #11085).

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HIML Meulenbeld, Gerrit Jan (1999–2002), A History

of Indian Medical Literature, 5 vols. (Groningen:

E. Forsten), ISBN: 9069801248.

NCC Raghavan, V. et al. (1949–), New Catalogus Catalogorum, an Alphabetical Register of Sanskrit and Allied Works and Authors, 39 vols. (Madras

and Allied Works and Authors, 39 vols. (Madras University Sanskrit Series; Madras: University

of Madras); v.1: revised edition, 1968.

NGMCP

SS 1889

SS 1931

SS 1938

SS 1938²

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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, 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, 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 Stud*
 - ies. An Introduction (Hamburg: Tredition). DOI: 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.