# A Translation of the New Edition of the Suśrutasaṃhitā

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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.

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## The Manuscripts used in the Vulgate editions by Yādavaśarma Trivikrama Ācārya

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

The 1915 edition was based on three manuscripts. The 1931 edition used another nine. For his final 1938 edition, Ācārya used a further three.<sup>1</sup>

#### The manuscripts 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 cikitsāsthānna and the uttaratantra.
- 3 Bundi, my great friend the royal physician Pam. Śrīprasādaśarman Covers the uttaratantra.

#### The manuscripts 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 library of my great friend Sva. Vā. Vaidya Murārajīśarman. Extremely old. No commentary. Covers the śārīrasthāna.
- 4 Puṇe, BORI library. With the *Nibandhasangraha*. Covers the śārīrasthāna.<sup>2</sup>
- 5 Puṇe, BORI library. With the *Nibandhasaṅgraha*. Complete. With some damaged folia.

<sup>&</sup>lt;sup>1</sup>SS 1938: 22.

<sup>&</sup>lt;sup>2</sup>Not one of the three MSS of the *śārīrasthāna*described in **shar-vaid**.

6 Bombay, Asiatic Society. Incomplete.<sup>3</sup>
7
8

#### The manuscripts of the 1938 edition

							Man	uscr	ipts		1				
edition		1915	5					19	35					19	38
sthāna	1	2	3	1	2	3	4	5	6	7	8	9	1	2	3
$s\bar{u}$ .	•							• /	?		•	<b>•</b> 1-43	•		•
ni.	•								?		•		•		•
śā.	•				•				?		•		•		•
ci.		•							?	•	•		•		●1-9
ka.	•								?		•		•		
utt.			•	•				•	?		lacktriangle				

<sup>&</sup>lt;sup>3</sup>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."

#### Sūtrasthāna, adhyāya 1

- Now I shall narrate the chapter on the origin of this knowledge.<sup>4</sup>
- 2 Now, as is well-known, Aupadhenava, Vaitaraṇa, Aurabhra, Puṣkalāvata, Karavīra, Gopurarakṣita, Bhoja, Suśruta and others addressed Lord Divodāsa, king of Kāśi, the best of the immortals, who was in his ashram surrounded by an entourage of sages.<sup>5</sup>
- "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.<sup>6</sup>
- "Surgery, treatment of body parts above the clavicle, general medicine, knowledge of spirits, care of children, and the disciplines of antidotes, rejuvenation and aphrodisiacs.

<sup>&</sup>lt;sup>4</sup>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* (Dominik Wujastyk 2013: 148; Klebanov 2021*a*: § 3.1.2). On the figure of Dhanvatari in medical literature, see HIML: IA 358–361.

<sup>&</sup>lt;sup>5</sup>On these persons, see HIML:IA 361–363, 369 ff. The authority Bhoja does not appear in the list as published in the vulgate edition (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 (2021*b*) has discussed these authors in the context of an anonymous commentary on the *Suśrutasaṃhitā* that cites them.

<sup>&</sup>lt;sup>6</sup>Svayambhū is another name for Brahmā, the creator.

- 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, Gandharvas, Yakṣas, demons, deceased ancestors, Piśācas, Vināyakas, 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.9
- "[The component] called the discipline of rejuvenation is maintaining youth, bringing about a long life and mental vigour and for curing diseases.
- 16 "[The component] called the discipline of aphrodisiacs brings about the increase, purity, accumulation and production of semen for those

<sup>&</sup>lt;sup>7</sup>Dānavas. The insertion marks ( $k\bar{a}kapadas$ ) below the text at this point appears to be by the original scribe.

<sup>&</sup>lt;sup>8</sup>The vulgate doesn't have *vināyaka*s but does add *asuras*, probably under the influence of Dalhaṇa. Cite Paul Courtright, Ganesha book.

<sup>&</sup>lt;sup>9</sup>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 ( $m\bar{u}sika$ ).

- whose semen is minimal, bad, depleted, and dry [respectively] and for inducing an erection.
- "Thus, this Ayurveda is taught with eight components."

  "Among these [components], tell us which is for whom."
- 18 They said, "After you have conveyed the knowledge of surgery, teach us everything."
- 19 He said, "so be it."
- They then said, "Having considered the view of all of us, when we are unanimous, Suśruta will question you. We too will learn what is being taught to him."
- 21 He said, "so be it.
- "Now, as is well-known, the aim of 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.
- "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.]. 10

For, I (i.e., Brahmā) am Dhanvantari, the first god, the remover of old age, pain and death of mortals.

Having understood surgery, the best of the great knowledge systems, I arrived on earth again to teach it here.

<sup>&</sup>lt;sup>10</sup>This is an expansion of the scribe's abbreviation *bha* for *bhavati cātra ślokaḥ* "There is a verse about this" (sometimes plural).

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.<sup>11</sup> 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".<sup>12</sup> 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.<sup>13</sup>

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

The inherent  $(sv\bar{a}bh\bar{a}vika)$  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 (bṛṇhaṇa), purification (saṇśo-dhana), pacification (saṇśamana), 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  $(oṣadh\bar{\iota}-)$ . There are two types: stationary  $(sth\bar{a}vara)$  and moving

<sup>&</sup>lt;sup>11</sup>See Dominik Wujastyk 2004.

<sup>&</sup>lt;sup>12</sup>This fourfold classification of beings is paralleled with closely-related vocabulary in *Bhelasaṃhitā* 4.4.4 (Bhela 2000: 206; Bhela 1921: 81).

<sup>&</sup>lt;sup>13</sup>Note that four humoral substances are assumed here.

<sup>&</sup>lt;sup>14</sup>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 in a Vedic mantra and not in the nominative. Neither condition is met in this passage, yet the

(jaṅgama).

- Of these, there are four types of stationary ones: fruit trees (*vanaspati*), flowering trees (*vṛkṣa*), herbs (*oṣadhi*) and shrubs (*vīrudh*). Amongst these, the "fruit trees" have fruit but no flowers. The "flowering trees" have flowers and fruit. The "herbs" die when the fruit is ripe. "Shrubs" put out shoots.
- As is well known, moving remedies are also of four types: those born in in a caul (<code>jarāyuja</code>), those born from eggs (<code>aṇḍaja</code>), those born of sweat (<code>svedaja</code>), and shoots (<code>udbhid</code>). Amongst these, those born in a caul include animals (<code>paśu</code>), humans, and wild animals (<code>vyāla</code>). Birds, creepycrawlies (<code>sarīsṛpa</code>) and snakes are "born of eggs." Worms (<code>kṛmi</code>), small insects (<code>kunta</code>) and ants (<code>pipīlika</code>) and others are born of sweat. <sup>17</sup> Shoots include red velvet mites (<code>indragopa</code>) and frogs (<code>maṇḍūka</code>). <sup>18</sup>|
- In this context, among the stationary remedies, skin (tvak), leaves (pa-tra), flowers (puṣpa), fruits (phala), roots ( $m\bar{u}la$ ), bulbs (kanda), sap ( $kṣ\bar{t}ra$ ), resin ( $niry\bar{a}sa$ ), essence ( $s\bar{a}ra$ ), oil (sneha), and juice extract (sva-rasa)<sup>19</sup> 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.<sup>20</sup>
- The items created by time  $(k\bar{a}lak\dot{r}ta)$  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  $(nimes\bar{a})$ , a trice  $(k\bar{a}sth\bar{a})$ , minutes  $(kal\bar{a})$ , three-quarters of an hour  $(muh\bar{u}rta)$ , a day and night  $(ahor\bar{a}tra)$ , a fort-

author uses the form  $oṣadh\bar{\iota}$ . This form is in fact not uncommon in medical literature as well as in epics, purāṇas, smṛtis, and other parts of Sanskrit literature.

<sup>&</sup>lt;sup>15</sup>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.

<sup>&</sup>lt;sup>16</sup>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).

<sup>&</sup>lt;sup>17</sup>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).

<sup>&</sup>lt;sup>18</sup>On *indragopa*, see Lienhard 1978.

<sup>&</sup>lt;sup>19</sup>On juice extract (*svarasa*) see CS 1.1.73, 1.4.7; SS 4.10.12.

<sup>&</sup>lt;sup>20</sup>The flow of concepts in the treatise seems to be interrupted here.

- night (pakṣa), a month ( $m\bar{a}sa$ ), a season (rtu), a half-year (ayana), a year (samvatsara), and yuga (yuga).<sup>21</sup>
- 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:]<sup>22</sup>

- This fourfold category is taught by physicians as a cause for the agitation and quelling of bodily diseases.<sup>23</sup>
- There are two kinds of invasive diseases. Some certainly<sup>24</sup> affect (nipat-) 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 (*catustaya*) is given:
  - human being (puruṣa),
  - disease (vyadhi),
  - remedies (osadhi),
  - 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.

<sup>&</sup>lt;sup>21</sup>These units are presented at SS 1.6.5 and discussed by Hayashi (2017: § 59).

<sup>&</sup>lt;sup>22</sup>See footnote 10.

 $<sup>^{23}</sup>$ On the topic of the "group of four," the commentator Dalhaṇa considers them to be "food, behaviour, earthen products and items created by time." He refers to the author of the lost commentary entitled  $Pa\bar{n}jik\bar{a}$ , and to Jejjaṭa (HIML: IA, 372–3, 192). In his view, these early commentators do not agree that the fourfold grouping (caturvarga) refers to the quartet of stationary ( $sth\bar{a}vara$ ), moving (jangama), earthen products ( $p\bar{a}rthiva$ ) and items created by time ( $k\bar{a}lakrta$ ) (SS 1938 $^2$ : 9a).

<sup>&</sup>lt;sup>24</sup>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 (*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:]<sup>25</sup>

- This seed of medicine has been declared in brief. Its explanation will be given in one hundred and twenty chapters.<sup>26</sup>
- There are one hundred and twenty chapters in five sections (*adhyāya*).<sup>27</sup> 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.<sup>28</sup>

#### [There is a verse about this:]29

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

<sup>&</sup>lt;sup>25</sup>See footnote 10.

 $<sup>^{26}</sup>$ This is the number of chapters in the first five sections of the work, namely the  $S\bar{u}tra$ -,  $Nid\bar{a}na$ -,  $S\bar{a}r\bar{t}ra$ -,  $Cikits\bar{a}$ - and Kalpa-sth $\bar{a}na$ s. These have 46, 16, 10, 40 and 8 chapters respectively. The Uttaratantra has 66 chapters.

<sup>&</sup>lt;sup>27</sup>On *vimśa* in the sense of "greater by 20" see P.5.2.46 *śadantavimśateś ca*.

<sup>&</sup>lt;sup>28</sup>The end of this sentence reads oddly. The vulgate edition adds an object: "[we shall mention] the remaining topics [in the Uttara]" which smooths out the difficulty, but this is supported in none of the Nepalese MSS. At the start of the Uttaratantra (SS 1938: 1.3–4ab) there is indeed a statement that picks up the point about there being 120 chapters.

<sup>&</sup>lt;sup>29</sup>See footnote 10.

## Sūtrasthāna, adhyāya 2

#### Literature

HIML: IA, 204; Preisendanz 2007; Dagmar Wujastyk 2012: 82–83, et passim.

1

#### Sūtrasthāna, adhyāya 16

- 1 Now we shall expound the method for the piercing of the ear.
- One may pierce a child's ears for the purpose of preserving and decorating.
  - During the first half of the sixth or seventh lunar month, during a renowned day, half day, hour and constellation the child who has received a benediction (krtamangala), blessings pronounced (svastivacana) should be placed on the lap of a wet-nurse.<sup>30</sup> For a boy, do the right one first; for a girl do the left one. Use a needle on a thin ear; an awl ( $\bar{a}r\bar{a}$ ) on a thick one.
- 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.<sup>31</sup>
- 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 (*mañjiṣṭhā*), and the 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.<sup>32</sup>
- 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.

<sup>&</sup>lt;sup>30</sup>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.

 $<sup>^{31}</sup>$ From here on, witness K is missing a folio, so the text is contstructed on the basis of witnesses N and H.

 $<sup>^{32}</sup>$ The manuscripts support the reading  $sth\bar{u}latar\bar{t}m$  that is either a non-standard form or a scribal error.

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.33

"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.

"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.<sup>34</sup> 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)

<sup>33</sup>See fig. ??.

<sup>&</sup>lt;sup>34</sup>This is an odd assertion, given the strangeness of the names.

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.<sup>35</sup> 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 medical advice ( $\bar{a}c\bar{a}rika$ ) should be given. And he should supplement with food as taught in the 'Two Wound' chapter.<sup>36</sup>

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.<sup>37</sup> 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 copi-

<sup>35</sup>SS.1.5.

<sup>&</sup>lt;sup>36</sup>SS.4.1.

<sup>&</sup>lt;sup>37</sup>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.

- ous 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.<sup>38</sup>
- 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.
- 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 ( $godh\bar{a}^{39}$ ), scavenging (pratuda) and seed-eating (viskira) birds, and creatures that live in marshes or water,<sup>40</sup> fat, marrow, milk, and sesame oil, and white mustard oil. Then cook the oil with an admixture (prativāpa) of the following: purple calotropis ( $arka^{41}$ ), white calotropis ( $alarka^{42}$ ), country mallow ( $bal\bar{a}^{43}$ ), 'strong Indian mallow' ( $atibal\bar{a}^{44}$ ), country sarsaparilla ( $anant\bar{a}^{45}$ ) beggarweed ( $vid\bar{a}ri^{46}$ ), liquorice (madhuka), hornwort ( $jalas\bar{u}ka \rightarrow jalan\bar{l}ik\bar{a}^{47}$ ),<sup>48</sup> items having the 'sweet' savour (madhuravarga),<sup>49</sup> and 'milk flower' ( $payasy\bar{a} \rightarrow vid\bar{a}r\bar{\iota}^{50}$ ). 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 (*apāṅga*), but not outside it.
- 17 In this tradition, experts know countless repairs to ears. So a physi-

<sup>&</sup>lt;sup>38</sup>This passage exemplifies numerous small changes

<sup>&</sup>lt;sup>39</sup>Varanus bengalensis, Schneider (Daniel 1983:58)

<sup>&</sup>lt;sup>40</sup>For such classifications, see **zimm-jung** and **smit-clas**.

<sup>&</sup>lt;sup>41</sup>Calotropis gigantea, (L.) R. Br. (ADPS 52, AVS 1.341, NK #427, Potter 57, ID 306)

<sup>&</sup>lt;sup>42</sup>Calotropis procera, (Ait.) R. Br. (NK #428, GIMP 46b, ID 306)

<sup>&</sup>lt;sup>43</sup>Sida cordifolia, L. (ADPS 71, NK #2297)

<sup>&</sup>lt;sup>44</sup>Abutilon indicum, (L.) Sweet; Sida rhombifolia, L.? (NK #11, IGP ,4 1080; NK #2300)

<sup>&</sup>lt;sup>45</sup>Hemidesmus indicus, (L.) R. Br. (ADPS 434, AVS 3.141–5, NK #1210)

<sup>&</sup>lt;sup>46</sup>Desmodium gangeticum (L.) DC (Dymock 1.428, GJM 602, cf. NK #1192; ADPS 382, 414 and IMP 2.319, 4.366 are confusing)

<sup>&</sup>lt;sup>47</sup>Ceratophyllum demersum, L. (IMP 2371, AVS 2.56, IGP 232)

<sup>&</sup>lt;sup>48</sup>This name is not certain: in fact, the commentator Dalhana notes that some people interpret it as a poisonous, hairy, air-breathing, underwater creature.

<sup>&</sup>lt;sup>49</sup>The items which exemplify the 'sweet' savour (*madhuravarga*) are enumerated at SS.1.42.11.

<sup>&</sup>lt;sup>50</sup>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.)

- cian 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. 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,<sup>53</sup> the powder of sappanwood ( $patt\bar{a}nga^{54}$ ),<sup>55</sup> liquorice ( $yast\bar{n}madhuka^{56}$ ), and Indian barberry ( $a\tilde{n}jana^{57}$ ) should be applied to it.
- 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.<sup>58</sup>
- 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.

<sup>&</sup>lt;sup>51</sup>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**).

<sup>&</sup>lt;sup>52</sup>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.

<sup>&</sup>lt;sup>53</sup>The Sanskrit here, *unnāmayitvā* is non-Pāṇinian.

<sup>&</sup>lt;sup>54</sup>Caesalpinia sappan, L. (AVS 1.323, IMP 2.847f.)

<sup>&</sup>lt;sup>55</sup>For pattānga there are manuscript variants *pattrānga* (MS H) and *pattanga* (N). We read with H and K (f. 14r:1) on Y. T. Ācārya and N. R. Ācārya (SS 1938<sup>2</sup>: 1.14.36). The vulgate reads *patanga* and this reading is propagated in modern dictionaries.

<sup>&</sup>lt;sup>56</sup>Glycyrrhiza glabra, L. (AVS 3.84, NK #1136)

<sup>&</sup>lt;sup>57</sup>Berberis aristata, DC. (Dymock 1.65, NK #685, GJM 562, IGP 141)

<sup>&</sup>lt;sup>58</sup>The expression *svayathopadeśa* is ungrammatical but supported in all available witnesses.

#### 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; Dagmar Wujastyk 2019; Leffler et al. 2020.

#### **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  $(dh\bar{\imath}madarsin)$ ".<sup>59</sup>
- 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*), <sup>60</sup> but not cutting with a blade (*śastrakṣata*). <sup>61</sup>

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

 $<sup>^{59}</sup>$ This disease and its cure are described earlier (SS.6.7.39 and SS.6.10.16 (SS 1938 $^2$ : 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.

 $<sup>^{60}</sup>$ These therapies are described in SS.6.18 (SS 1938<sup>2</sup>: 633–640).

 $<sup>^{61}</sup>$ Dalhaṇa interprets this as blood-letting ( $sir\bar{a}vedha$ ), which is discussed in SS.1.14 (SS 1938<sup>2</sup>).

- Cow's flesh (*gomāṃsa*), black pepper (*marica*), siris (*śirīṣa*) and red arsenic (*manahśilā*);
- stalk (vṛnta) from a wood apple (kapittha) with honey (madhu);62
- or the the fruits of the velvet bean (*svayamgupta*).
- 8 The physician should make a collyrium with ground up metal (*ku-pyaka*), <sup>63</sup> 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  $(sauv\bar{t}raka)$ , infused  $(bh\bar{a}vita)$  with the blood of birds and animals (rasa). Then he mixes it with the bile of a tortoise or with extract of rohu carp (rauhita). It should always be used with powdered collyrium to quell the bile.
    - Thus, a collyrium of white teak ( $k\bar{a}r\acute{s}mar\bar{\iota}$ ) flowers, liquorice (madhuka), tree turmeric ( $d\bar{a}rv\bar{\iota}$ ), lodh tree (lodhra) and elixir salve ( $ras\bar{a}\tilde{n}jana$ ) is always good as a collyrium in this case.
    - Alternatively, for those who cannot see during the day, this pill  $(gudik\bar{a})$ , with sandalwood, is recommended: salt  $(nad\bar{\imath}ja)$ , conch shell and the

<sup>&</sup>lt;sup>62</sup>wood apple (*kapittha*) in this verse is ablative singular or accusative plural, neither of which construe obviously.

<sup>&</sup>lt;sup>63</sup>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.

<sup>&</sup>lt;sup>64</sup>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)<sup>65</sup> and liver extract (yakrdrasa).<sup>66</sup>
- One should grind up kohl (*srotoja*),<sup>67</sup> 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  $(k\bar{a}l\bar{a}-nus\bar{a}riva)^{68}$  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*)<sup>69</sup> 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

<sup>&</sup>lt;sup>65</sup>Turmeric (Curcuma longa *Linn*.) and tree turmeric (Berberis aristata DC). The term *rajana* is unusual; the normal term is *rajanī*. *Rajana* occurs in *Suśrutanighaṇṭu* 158 in the sense of Ferula asafoetida, Linn.

<sup>&</sup>lt;sup>66</sup>This verse appears as no. 27 in the vulgate.

<sup>&</sup>lt;sup>67</sup>Glossed by Dalhana as a kind of collyrium. Cf. Nadkarni 1954: 2.M13 and Sharma 1982: 197–198

 $<sup>^{68}</sup>$ There are two forms of  $s\bar{a}riv\bar{a}$  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.

<sup>&</sup>lt;sup>69</sup>At SS 6.12.31, Dalhaṇa glossed *arṇavamala* as cuttlefish bone (*samudraphena*). It may be worth considering whether the unusual term *arṇavamala* "ocean-filth" might refer to ambergris.

- liver, together with liver extract, is good for eyes afflicted by phlegm.<sup>70</sup>
- 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.<sup>71</sup>
- 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.<sup>72</sup> In the case of diseases of blood (śonita) and bile (pitta), one should drink ghee with the three fruits; it is particularly cleansing.<sup>73</sup> In the case of phlegm, a purgative by means of turpeth (trivṛt) is recommended. In the case of all three humours, sandal (sugandhi) in oil is prepared with it (turpeth).<sup>74</sup>
    - 28 In cases of partial blindness (*timira*), aged ghee is recommended. It is good if it is kept in an iron vessel.
- 28cd–29ab One should know that ghee with the three mylobalans is always good, and it is made with what is called periploca of the woods (meṣaviṣāṇa). A man who is suffering from partial blindess should lick the finely-

<sup>7</sup>ºOn 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).

<sup>&</sup>lt;sup>71</sup>We read the locative as if an instrumental; if the locative were intended then it would be the spit that would be coated with oil and ghee.

<sup>&</sup>lt;sup>72</sup>Dalhaṇa says that the unexpressed topic of this recipe is partial blindness (*timira*).

<sup>&</sup>lt;sup>73</sup>Blood-bile (*śonita-pitta, rakta-pitta*) is a widely-recognized disease in ayurveda, but the compound here is definitely dual, which rules out that interpretation. One would expect blood-bile because the previous verse

<sup>&</sup>lt;sup>74</sup>The expression "the fragrant one in oil (*tailasugandhi*)" is puzzling. The word *sugandhi* has different referents in the *Nighaṇṭu* literature but is not common as a noun in the extant literature. "Sandal" is just one of its possible meanings.

- ground three fruits mixed with ghee off his hand (sapāṇa).75
- 29cd Alternatively, someone afflicted by phlegm should apply them (the three fruits) mixed with oil and steeped (*pragāḍha*) in honey.
  - The very best oil, well-cooked with a decoction of cow-dung, is good in cases of partial blindness, taken as an errhine.
    - In cases caused by bile, ghee by itself is good, as is oil when it arises from wind and blood.
  - 31 And in the case of wind one should apply turpeth (trivrt) based on strong mallow  $(atibal\bar{a})$ , and country mallow  $(bal\bar{a})$  in an errhine  $(nasya).^{76}$ 
    - Ghee which has been extracted from milk cooked with the meat of aquatic creatures and those from marshlands should be prescribed.
  - †An 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.<sup>77</sup>
    - 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.<sup>78</sup>
  - Having prepared (*niṣevita*) a collyrium made of kohl (*srotas*) and gradually combine it with juices (*rasa*), milk and ghee.<sup>79</sup>
    For thirty days, this collyrium is put in the mouth of a black snake that

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.

<sup>&</sup>lt;sup>75</sup>"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).

<sup>&</sup>lt;sup>76</sup>"Based on" translates -āśrita "depending on" which does not construe easily here. The Vulgate has śṛṭa "cooked" which makes easier sense but is not supported by the Nepalese MSS.

<sup>&</sup>lt;sup>77</sup>Dalhaṇa notes (SS 1938<sup>2</sup>: 628a) that puṭāhvaya (see verse 35 below) is a synonym for puṭapāka, and that the process is described in the Kriyākalpa chapter, i.e., SS.6.18.33–38 (SS 1938<sup>2</sup>: 635). On the puṭa process in the  $Suśrutasaṇhit\bar{a}$ , which is earlier and different than that of rasaśāstra literature, see the discussion by Dagmar Wujastyk (2019: 83):

<sup>&</sup>lt;sup>78</sup>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.

<sup>&</sup>lt;sup>79</sup>Dalhana specifies that the juices are meat soups of various animals (SS 1938<sup>2</sup>: 628).

- is covered with kuśa grass (kuśa).
- Next, a collyrium that is milk containing long pepper  $(m\bar{a}gadh\bar{\iota})$ , lye  $(k \bar{s}araka)$  and Sindh salt (saindhava) that has been repeatedly prepared with the mouth of a black snake, is good in the case of bloodshot blindness  $(r\bar{a}gin\ timira)$ .
- They say that ghee may be produced from that and combined with sweet herbs is good as an errhine for eye-diseases caused by bile. And here, a balm (*tarpaṇa*) is good that is a combination that is the flesh of wild animals taken hot (*puṭāhvaya*).<sup>81</sup>
- 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).<sup>82</sup>
  - Alternatively, experts on this say that finely ground blue vitriol (*tuttha*) extracted from a gold mine is the "same collyrium" (*samāñjana*).<sup>83</sup>
- 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  $(a\tilde{n}jana)$ .<sup>84</sup>
  - The extracts (rasa) produced from aflame of the forest ( $pal\bar{a}\acute{s}a$ ), Rohīta tree ( $roh\bar{\imath}ta$ ), \*s mahua ( $madh\bar{\imath}ka$ ), ground with the supernatant layer (agra) of the spirits (madira) is applied.
- 38 Alternatively, one should cook an errhine with cuscus grass ( $u \le \bar{v} = 1$ ), lodh tree (lodhra), the three fruits ( $triphal\bar{a}$ ), beauty berry (priyangu) to pacify eye diseases caused by phlegm.<sup>86</sup>
  - One should apply smoke of the bark of embelia (vidanga), velvet leaf

 $<sup>^{80}</sup>$ Palhaṇa 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.

<sup>&</sup>lt;sup>81</sup>The expression taken hot (puṭāhvaya) is a guess.

 $<sup>^{82}</sup>$ The expression liquid collyrium ( $drav\bar{a}\tilde{n}jana$ ) is only known from Dalhaṇa's comments on SS.6.17.11ab (SS 1938 $^2$ : 626). The recipe in the present collyrium is different from that discussed by Dalhana.

<sup>&</sup>lt;sup>83</sup>The expression "same collyrium" (*samāñjana*) is a hapax legomenon glossed inexplicably by Dalhaṇa as "a collyrium with an equal amount of fermented barley" (*tulya-sauvīrāñjana*) (SS 1938<sup>2</sup>:628).

 $<sup>^{84}</sup>$ The ablative "from collyrium" is hard to construe, but Dalhana uses this term and phrase in his commentary on Utt.41ab (SS 1938 $^2$ : 629).

<sup>&</sup>lt;sup>85</sup>Probably *Soymida* febrifuga A. Juss.

<sup>&</sup>lt;sup>86</sup> Dalhaṇa invokes a general rule ( $paribh\bar{a}s\bar{a}$ ) to indicate that this mixture should be cooked with sesame oil.

- $(p\bar{a}th\bar{a})$ , white siris  $(kinih\bar{\iota})$ , and desert date  $(i\dot{n}gud\bar{\iota})$ ; and cuscus grass  $(u\dot{s}\bar{\imath}ra)$  alone.
- 39 A ghee that is cooked ( $bh\bar{a}vita$ ) from a decoction of a non-flowering tree (vanaspati)<sup>87</sup> 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 ( $j\bar{a}ngala$ )<sup>88</sup> and a plentiful amount of long pepper ( $m\bar{a}gadha$ ), Sindh salt and honey.
- 40 A treatment ( $kriy\bar{a}$ ) with realgar ( $mana h \dot{s}il\bar{a}$ ), the three spices, conch, honey, along with Sindh salt, green vitriol ( $k\bar{a}s\bar{\imath}sa$ ) and elixir salve ( $ras\bar{a}n\bar{\imath}jana$ ).<sup>89</sup>
  - They say that an elixir salve ( $ras\bar{a}\tilde{n}jana$ ) combined with myrobalans, treacle and dried ginger is good.<sup>90</sup>
- Alternatively, a collyrium that has been prepared many times in the eight types of urine<sup>91</sup> is put into water with the three fruits. Having stored it in the mouth of a nocturnal creature (*niśācara*)<sup>92</sup> one should place it in a conch (*salilotthita*) for two months.<sup>93</sup>
- 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  $(ml\bar{a}yin)$ .<sup>94</sup>
- 43 For one who has a humour, the physician should consider the rule in

Check out these refs.

<sup>&</sup>lt;sup>87</sup>These are fig trees. The *Sauśrutanighanṭu* (252) specifies the Udumbara. Cf. the classification in CS.1.1.71–72, 1.8, *et passim*.

 $<sup>^{88}</sup>$ On this term, see SS.1.35.42 (SS 1938<sup>2</sup>:157) and the discussion by Zimmermann (1999: 25–31).

<sup>&</sup>lt;sup>89</sup> Dalhaṇa glosses treatment ( $kriy\bar{a}$ ) specifically as inspissation ( $rasakriy\bar{a}$ ) (SS 1938<sup>2</sup>: 629).

<sup>&</sup>lt;sup>90</sup>We emend *hite* to *hitam*, against the MSS.

<sup>&</sup>lt;sup>91</sup>See SS mūtravarga

 $<sup>^{92}</sup>$ Dalhaṇa glosses nocturnal creature ( $nis\bar{a}cara$ ) 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.

<sup>&</sup>lt;sup>93</sup>We interpret "water-born" (*salilotthita*) as "conch" in line with *jalodbhava*, but the term is uncertain.

<sup>&</sup>lt;sup>94</sup>The 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.

- all humoral cases and then smear the ointment on the face.<sup>95</sup> The treatment that is good for removing watery eye (*syanda*) should be properly applied in all these humoral cases, according to the indi-
- The physician should not employ substances in errhines etc., when the humours intensify, and also when disease spreads. And further, in the *Kalpa*, there is a good deal more said about collyriums, and that should be considered and then applied.<sup>97</sup>

vidual.96

- 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 ( $linga-n\bar{a}$ sa) caused by phlegm. It may be white, like a full moon, an umbrella, a pearl ( $mukt\bar{a}$ ) or a spiral ( $\bar{a}varta$ ).
- Or it may be uneven, thin in the middle, streaked or have excessive shine (*prabha*). A humour (*doṣa*) in the pupil may be characterized as being painful or having blood.<sup>98</sup>
- 51–52 At a time that is neither too hot or too cold, the patient who has been oiled and sweated is restrained and seated, looking symmetrically at his own nose,

the wise physician should free the two white parts from the black

<sup>&</sup>lt;sup>95</sup>The vulgate edition omits part of this verse (ab) combining earlier and later passages.

<sup>&</sup>lt;sup>96</sup>The term watery eye (*syanda*) refers to the specific disease *abhiṣyanda*. See SS.6.6.5, 1.46.51, etc.

<sup>&</sup>lt;sup>97</sup>Dalhana notes that *Kalpa* means the Uttaratantra adhyāya 18 (\$\frac{1}{2}\$ 1938<sup>2</sup>: 633 ff).

<sup>&</sup>lt;sup>98</sup>In the vulgate, and in parallel passages in the AS, the reading "it may be (*bhavet*)" is replaced with the negative "if, then not (*na ced*)" (cf. AS utt.17.1–3 (Āṭhavale 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.

(kṛṣṇa) at the corner of the eye  $(ap\bar{a}nga)$ , having squeezed it, at the naturally ocurring

### 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.<sup>99</sup>

<sup>&</sup>lt;sup>99</sup>SS 1.1.28 Sharma 1999–2001: I, 21, SS 1938<sup>2</sup>: 7.

#### **Abbreviations**

Bhela 1921

Mookerjee, Ashutosh and Ananta Krishna Shastri, Vedantabisharad (1921) (eds.), *The Bhela Samhita. Sanskrit Text* (Calcutta: University of Calcutta), ark:/13960/t3sv3157j; Based on two copies made of the Thanjavur codex unicus (MS Thanjavur TMSSML 10773, Burnell 1880: 63–4, Sastri 1933: #11085).

Bhela 2000

Krishnamurthy, K. H. (2000), *Bhela-saṃhitā*. *Text with English Translation, Commentary and Critical Notes* (Haridas Ayurveda Series, 8; Varanasi: Chaukhambha Visvabharati).

HIML

Meulenbeld, Gerrit Jan (1999–2002), *A History of Indian Medical Literature*, 5 vols. (Groningen: E. Forsten), ISBN: 9069801248.

SS 1931

Ācārya, Yādavaśarma Trivikrama सुश्रुतसंहिता, वैद्यवरश्रीडल्हणाचार्यविरचि-(ed.), तया निबन्धसंग्रहाख्यव्याख्यया समुक्रसिता, महर्षिणा सूत्र-निदान-शारीर-चिकित्सा-विरचिता. सुश्रुतेन कल्पस्थानोत्तरतन्त्रात्मकः. आचार्योपाह्वेन त्रिविक्रमात्मजेन यादवशर्मणा संशोधिता = The Sushrutasamhitā of Sushruta with the Nibandhasangraha Commentary of Shree Dalhanāchārya (2nd edn., Mumbayyām: Pāṇḍuraṅga Jāvajī at the Nirṇayasāgaramudrāyantrālaye), ark: / 13960 / t9j41sg94, accessed 09/06/2020; HIML: IB, 312 edition \*v.

SS 1938

Ācārya, Yādavaśarma Trivikrama and Ācārya, Nārāyaṇa Rāma (1938) (eds.), श्रीडल्हणाचार्यविर-चितया निबन्धसंग्रहाख्यव्याख्यया निदानस्थानस्य श्रीगयदा-साचार्यविरचितया न्यायचिन्द्रकाख्यपञ्जिकाव्याख्यया च समु-छ्रिसता महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता (3rd edn., Bombay: Nirṇayasāgara Press); HIML: IB, 313 edition cc.

SS 1938<sup>2</sup>

SS<sub>1915</sub>

Ācārya, Yādavaśarma Trivikrama and Ācārya, Nārāyaṇa Rāma (2004) (eds.), महर्षिणा सु-श्रुतेन विरचिता सुश्रुतसंहिता, श्रीडल्हणाचार्यविरचितया निवन्धसंग्रहाख्यव्याख्यया निदानस्थानस्य श्रीगयदासा-चार्यविरचितया न्यायचन्द्रिकाख्यपञ्जिकाव्याख्यया च समुल्लसिता (Vārāṇasī: Caukhambhā Kṛṣṇadāsa Akādamī); Reprint of the third, 1938 edition (SS 1938), with changed pagination.

Ācārya, Yādavaśarma Trivikrama (1915) (ed.), सुश्रुतसंहिता, सुश्रुतेन विरचिता, वैद्यवरश्रीडल्ह-णाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया समुष्ठसिता, आचार्योपाह्वेन त्रिविकमात्मजेन यादवशर्मणा संशोधिता = The Sushrutasamhita of Sushruta, the Nibandhasangraha Commentary of Shri Dalhaṇāchārya (Mumbayyāṃ: Nirṇayasāgaramudrāyantrālaye), ark :/ 13960 / t3sv0mt50, accessed 29/07/2020; HIML: IB, 312 edition \*v.

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## Glossary

		1
nipat-	mango: 19	āśoka
affect: 10	aṇḍaja	grief: 8
"same collyrium"	born from eggs: 9	Asoka tree
samāñjana: 23	aṅga	aśoka: 19
"water-born"	aids: 21	āśrayin
salilotthita: 24	parts: 10	substrate: 8
11 -	anger	asthi
abhayā	krodha: 8	bones: 10
chebulic	angry	аѕӣуӣ
myrobalan: 20	saṃrambha: 16	jealousy: 8
ācāra	animals	atibalā
regimen: 8	paśu: 9	strong mallow: 22
ācārika	añjana	ātmaka
medical advice: 15	application of	nature: 8
accumulation	collyrium: 18, 23	āvarta
sañcaya: 10	stibnite: 23	spiral: 25
adhiṣṭhāna	antra	awl
located: 8	entrails: 21	ārā: 13
adhyāya		ayana
sections: 11	ants	half-year: 10
affect	pipīlika: 9	āyatta
nipat-: 10	apāṅga	depends on: 8
āgantu	corner of the eye:	āyur
external factors: 11	26	life, longevity: 5
agra	edge of the hole: 16	āyurveda
supernatant layer:	apatānaka	the science of life: 5
23	convulsions: 13	the selence of me. 5
āhāra	application of collyrium	baddham
diet: 8	añjana: 18, 23	bound, connected:
ahorātra	apramatta	17
day and night: 9	diligent: 17	balā ,
aids	ārā	country mallow: 22
aṅga: 21	awl: 13	bala
ālepa	araga timira	strength: 8
liniment: 18	Non-bloodshot	balm
alleviated	blindness: 25	tarpaṇa: 18, 23f
уаруа: 21	arid-land animals	bandha
alleviation	jāṅgala: 24	bindings: 15
pratīkāra: 10	arnavamala	beauty berry
Along these lines	cuttle fish: 20	priyangu: 23
evam: 10	asādhya	
āmalaka	incurable: 18	beautyberry
	aśoka	priyaṃgu: 19 bhavet
emblic: 19		
amra	Asoka tree: 19	it may be: 25

bhāvita	svedaja: 9	compounds
cooked: 24	bound, connected	yoga: 18
infused: 19	baddham: 17	compressed
bhedya	box myrtle	saṃkṣipta: 14f
splitting: 15	kaṭphala: 20	Compressed
bile	bṛṃhaṇa	saṃkṣipta: 14
pitta: 21	nourishment: 8	conch
bindings	bulbs	salilotthita: 24
bandha: 15	kanda: 9	congested humours
black		sannipāta: 11
kṛṣṇa: 26	cardamom	convulsions
black pepper	elā: <b>2</b> 0	apatānaka: 13
marica: 19	carman	cooked barley
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