A Translation of the New Edition of the *Suśrutasaṃhitā*

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Introduction

This section begins with several lists of poisonous plants. The Sanskrit names for these plants are mostly not standard or familiar from anywhere in Sanskrit or ethnobotanical literature. It remains a historical puzzle why these particular names are so difficult to interpret. However, we are not the first to encounter these difficulties. In the twelfth century, the learned commentator on the text, Ḍalhaṇa, remarked,

> In spite of having made the greatest effort, it has been impossible to identify these plants. In the Himalayan regions, Kirātas and Śabaras are able to identify them.[1]

Ḍalhaṇa also recorded variant readings of these poison names from the manuscripts that he consulted of the lost commentary of Gayadāsa (fl. c. CE 1000). The identities of these poisons have been in doubt for at least a thousand years.[2] Identifications have in many cases been equally impossible for us today.

One path for exploration in this situation is to attempt to reverse-engineer some identifications by considering the known toxic plants of India.[3]

Translation

1 And now I shall explain what should be known about stationary poisons.[4]

3 It is said that there are two kinds of poisons, stationary (*sthāvara*) and mobile (*jaṅgama*). The former dwells in ten sites, the latter in sixteen places.

4 Traditionally, the ten are: root, leaf, fruit, flower, bark, milky sap (*kṣīra*), pith (*sāra*), resin (*niryāsa*), the elements (*dhātu*), and the tuber.

5 In that context,

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1 After *Suśrutasaṃhitā*, *kalpasthāna* 2.5 (Su 1938: 564). From the view of Sanskrit authors, Kirāṭas and Śabaras were tribal peoples. The eleventh-century author Bhikṣu Govinda, however, cast his treatise as a dialogue with a Kirāṭa king called Madana who was a master of the alchemical art (HIML: IIA, 620).

2 See Wujastyk 2003: 80–81.

3 Valuable reference sources on Indian plant toxicology in general include Pillay 2013: chs. 10, 11 and Barceloux 2008: parts 1.II, 3 and 4.

4 No reference is made to Dhanvantari (see Birch, Wujastyk, Klebanov, Parameswaran, et al. 2021). "Stationary" here is a term contrasted with "moving," and signifies plants as opposed to animals and insects.

- the eight root-poisons are:
  1. liquorice (*klītaka*)[i],[5]
  2. sweet-scented oleander (*aśvamāraka*)[ii],[6]
  3. jequirity (*guñjā*)[iii],[7]
  4. aconite (*subhaṅgurā*)[iv],[8]
  5. *karaṭā*,[9] and ending with
  6. leadwort (*vidyutśikhā* → *agni- or rakta-śikhā?*)[v],[10]
  7. 'endless' (*ananta*)[vi], and
  8. *vijayā*,[11]
- the leaf-poisons include:
  - 'poison-leaf' (*viṣapatrikā*)[vii],

Expected (Pillay 2010): Croton tiglium, L. = Naepala, Jayapala, kanakaphala, titteriphala (NL #720); Calotropis spp.; Citrullus colocynthus (colocynth); Ricinus communis (castor);

Note about Gayī's edition.

5 Liquorice eaten in excess can be poisonous.

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

7 Jequirity does indeed contain a dangerous toxin called Abrin in its seeds and to a lesser extent in its leaves, but apparently not in its roots or bulb. Abrin is not harmful if eaten, but an infusion of the bruised (not boiled) seeds injected or rubbed in the eyes can be fatal (NK: # 6). The dose can be quite small.

8 The plant is usually called just *bhaṅgurā* without the prefix *su-* "good."

9 This poisonous root cannot at present be identified. Similar-sounding candidates include *karkaṭaka*, *karaghāṭa* (emetic nut), and *karahāṭa*, but since this is a prose passage, there would be no reason to alter the word to fit a metre. Monier-Williams et al. (MW: 255) cite an unknown lexical source that equates *karaṭa* (mn.) with safflower (*Carthamus tinctorius*, L.), but this plant does not have a poisonous root.

10 The roots of both rose and white leadwort are very toxic.

11 Meulenbeld (1989: 61, n. 3) argued that our text read a masculine or neuter noun *vijaya*, which never signifies cannabis. However, unlike the vulgate, the unanimous readings of the Nepalese manuscripts give feminine *vijayā*. Nevertheless, even this form only started to signify *Cannabis sativa* L. after the end of the first millennium (Meulenbeld 1989; Wujastyk 2002; McHugh 2021). The *Sauśrutanighaṇṭu* gives a number of synonyms for *vijayā*, almost none of which have any poisonous parts (Suvedī and Tīvārī 2000: 5.77, 10.143). But one of them, *viṣāṇī* (also *meṣaśṛṅgī*), is sometimes equated with *Dolichandrone falcata (DC.) Seemann* (Sivarajan and Balachandran 1994: 518), a plant used as an abortifacient and fish poison (Nadkarni 1982*a*: #862). This identification is tenuous.

i Glycyrrhiza glabra, L.; see AVS 3.84, NK #1136

ii Nerium oleander, L.; see ADPS 223, NK #1709

iii Abrus precatorius, L.; see AVS 1.10, NK #6, Potter 168

iv → *bhaṅgura* = *ativiṣā*? Aconitum ferox, Wall. ex Ser.; see NK #38

v Plumbago zeylanica (or rosea?), L.; see NK #1966, 1967

vi ?; see ?

vii unknown; see ?

    - ‘drum-giver’ (*lambaradā*)[viii],
    - thorn apple (*karambha*)[ix], and
    - ‘big thorn apple’ (*mahākarambha*)[x];
- the fruits of items like: jequirity (*guñjā*)[xi], rūṣkara ()[xii], viṣa ()[xiii], and vedikā ()[xiv], are
    - kumudavati (*kumadavati*)[xv],
    - reṇuka (*?*)[xvi],
    - kurūkaka (*?*)[xvii],
    - ‘little bamboo’ (*veṇuka*)[xviii],[12],
    - thorn apple (*karambha*)[xix],
    - ‘big thorn apple’ (*mahākarambha*)[xx],
    - ‘pleaser’ (*nandanā*)[xxi],
    - ‘crow’ (*kāka*)[xxii],
- the flower-poisons include those of:
    - rattan (*vetra*)[xxiii],
    - wild chinchona (*kādamba*)[xxiv],
    - black pepper (*vallīja* → *marica*)[xxv],
    - thorn apple (*karambha*)[xxvi], and

12 Not poisonous.

viii unknown; see ?
ix Datura metel, L.; see AVS 2.305 (cf. Abhidhānamañjarī), NK #796 ff., Potter 292 f., ADPS 132.
x Datura metel, L.?; see AVS 2.305 (cf. Abhidhānamañjarī), NK #796 ff., Potter 292 f., ADPS 132.
xi ; see
xii ; see
xiii ; see
xiv ; see
xv unknown; see ?
xvi ?; see Piper aurantiacum Wall. (NK: #1924) is not poisonous.
xvii ?; see ?
xviii Bambusa bambos, Druce?; see NK #307
xix Datura metel, L.; see AVS 2.305 (cf. Abhidhānamañjarī), NK #796 ff., Potter 292 f., ADPS 132.
xx Datura metel, L.?; see AVS 2.305 (cf. Abhidhānamañjarī), NK #796 ff., Potter 292 f., ADPS 132.
xxi ?; see ?
xxii ?; see ?
xxiii Calamus rotang, L.; see AVS 1.330, NK #413
xxiv Anthocephalus cadamba, Miq.; see NK #204
xxv Piper nigrum, L.?; see NK #1929; Rā.6.115, Dha.4.85, Dha.2.88
xxvi Datura metel, L.; see AVS 2.305 (cf. Abhidhānamañjarī), NK #796 ff., Potter 292 f., ADPS 132.

    - big thorn apple (*mahākarambha*)[xxvii];
- the seven bark, pith (*sāra*) and resin (*niryāsa*) poisons are:
    - 'gutboiler' (*antrapācaka*)[xxviii],
    - 'blade' (*kartarīya*)[xxix],
    - wild mustard (*saurīyaka*)[xxx],
    - emetic nut (*karaghāṭa* → *karahāṭa?* → *madana*)[xxxi],
    - thorn apple (*karambha*)[xxxii],
    - wild asparagus (*nandana* → *bahuputrā?*)[xxxiii], and
    - munj grass (*nārācaka*)[xxxiv];[13]
- the three milky sap (*kṣīra*)-poisons are:
    - purple calotropis (*kumudaghnī* → *arka?*)[xxxv],[14]
    - oleander spurge (*snuhī*)[xxxvi], and
    - 'web-milk' (*jālakṣīri*)[xxxvii];
- the two element (*dhātu*)-poisons are:
    - 'foam-stone' (*phenāśma*)[xxxviii], and

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

14 The name of this poison, *kumuda-ghnī*, means 'lotus killer'. In Sanskrit literature, the *kumuda* lotus is associated with the moon, since it blossoms by night. Since the sun causes this lotus to close, it is therefore an 'enemy' of the lotus. One of the chief words for the sun, *arka*, is also the name of *Calotropis gigantea*, which indeed has a milky juice which is a violent purgative, poison and abortifacient.

xxvii Datura metel, L.?; see AVS 2.305 (cf. Abhidhānamañjarī), NK #796 ff., Potter 292 f., ADPS 132.
xxviii unknown; see ?
xxix unknown; see ?
xxx Cleome viscosa, L.? (cf. Rā.4.144); see AVS 2.116, NK #615
xxxi Randia dumetorum, Lamk.; see NK #2091
xxxii Datura metel, L.; see AVS 2.305 (cf. Abhidhānamañjarī), NK #796 ff., Potter 292 f., ADPS 132.
xxxiii Asparagus racemosus, Willd.; see ADPS 441, AVS 1.218, NK #264, IGP 103, IMP 4.2499ff., Dymock 482ff.
xxxiv Saccharum bengalense, Retz.?; see NK #2184
xxxv Calotropis gigantea, (L.) R. Br.; see ADPS 52, AVS 1.341, NK #427, Potter 63
xxxvi Euphorbia neriifolia, L., or E. antiquorum, L.; see ADPS 448, AVS (2.388), 3.1, NK #988, IGP 457b
xxxvii unknown; see ?
xxxviii unknown; see ?

    - orpiment (*haritāla*)[xxxix],[15]
- the thirteen tuber-poisons are:
    - jequirity (*kālakūṭa*)[xl],[16]
    - wolfsbane (*vatsanābha*)[xli],
    - Indian mustard (*sarṣapa*)[xlii],
    - leadwort (*pālaka* → *citraka*)[xliii],
    - 'muddy' (*kardama*)[xliv], the
    - 'Virāṭa's plant' (*vairāṭaka*)[xlv],
    - nutgrass (*mustaka*)[xlvi],
    - atis root (*śṛṅgīviṣa*)[xlvii],
    - sacred lotus (*prapuṇḍarīka*)[xlviii],
    - radish (*mūlaka*)[xlix],
    - 'alas, alas' (*hālāhala*)[l],
    - 'big poison' (*mahāviṣa*)[li], and

15 Dutt (1922: 38–42) conjectured that 'foam-stone' may be impure white arsenic obtained by roasting orpiment.

16 The much later (perhaps sixteenth century) alchemical *Rasaratnasamuccaya* of pseudo-Vāgbhaṭa (21.14) says that the *kālakūṭa* poison, here translated as 'jequirity', is similar to '*kākacañcu*' or 'Crow's Beak', which is indeed a name for the plant jequirity or *Abrus precatorius*, L., more commonly called *guñjā* (not to be confused with *gañjā*). The black seed-pod is described as having a 'sharp deflexed beak' in botanical descriptions, so the Sanskrit name is quite graphic and appropriate. The poisonous scarlet seeds of *A. precatorius* can have a distinct black dot or tip, which could perhaps be translated '*kāla-kūṭa*', or 'Black Tip'.
The *Rājanighaṇṭupariśiṣṭa* (9.35) gives *kālakūṭaka* as a synonym for *kāraskara*, or *Strychnos nux-vomica*, L., whose seeds are notoriously poisonous.

xxxix Arsenii trisulphidum; see NK v. 2, p. 20 ff.
xl Abrus precatorius, L.? Cf. RRS 21.14.; see AVS 1.10, NK #6, Potter 168.
xli Aconitum napellus, L.; see AVS 1.47, NK #42, Potter 4 f.
xlii Brassica juncea, Czern. & Coss.; see AVS 1.301, NK #378
xliii Plumbago zeylanica (indica? rosea?), L.; see Rā. 6.124, ADPS 119, NK #1966, 1967
xliv unknown; see ?
xlv unknown; see ?
xlvi Cyperus rotundus, L.; see ADPS 316, AVS 2.296, NK #782
xlvii Aconitum heterophyllum, Wall. ex Royle; see AVS 1.42, NK #39
xlviii Nelumbo nucifera, Gaertn.; see Dutt 110, NK #1698
xlix Raphanus sativus, L.; see NK #2098
l unknown; see Cf. Soḍhalanighantu p.43 (sub bola) = stomaka = vatsanābha
li unknown; see ?

- galls (*karkaṭa*)[lii].[17]

Thus, there are fifty-five stationary poisons.

6 There are believed to be four kinds of wolfsbane, two kinds of *mustaka*, and six kinds of Indian *sarṣapa*. But the rest are said to be unique types.

The effects of poisons

7–10 People should know that root-poisons cause writhing (*udveṣṭana*), ranting (*pralāpa*), and delirium (*moha*), and leaf-poisons cause yawning, writhing, and wheezing (*śvāsa*).
Fruit-poisons cause swelling of the scrotum, a burning feeling and writhing.
Flower-poisons will cause vomiting, distension (*ādhmāna*) and sleep (*svāpa*).
The consumption of poisons from bark, pith (*sāra*) and resin (*niryāsa*) will cause foul breath, hoarseness (*pāruṣya*), a headache, and a discharge of phlegm (*kapha*).[18]
The milky sap (*kṣīra*)-poisons make one froth at the mouth, cause loose stool, and make the tongue feel heavy.[19] The element (*dhātu*)-poisons give one a crushing pain in the chest, make one faint and cause a burning feeling on the palate.
These poisons are classified as ones which are generally speaking lethal after a period of time.

11–17 Symptoms of tuber poisoning

The tuber-poisons, though, are severe. I shall talk about them in detail.

17 Leadwort root is a powerful poison. Nutgrass is tuberous, but non-toxic. Atis has highly toxic tuberous roots. Neither sacred lotus nor galls are toxic. The 'alas, alas' poison (*hālāhala*) is the mythical poison produced from the churning of the ocean at the time of creation: it occurs in medical texts such as the present one, and commentators identify it with one or other of the lethal poisons such as wolfsbane or jequirity. Agrawala (1963: 126) makes the intriguing suggestion that the word *hālāhala*, possibly to be identified with Pāṇini's *hailihila* (P.6.2.38), may be of Semitic origin, although his evidence seems uncertain (Steingass (1930: 1506a) cites Persian *halāhil* 'deadly (poison)' as a loan from Sanskrit). Mayrhofer 1953–72: iii.585 also cites a claim for an Austro-Asiatic origin for the word.

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

19 At 6.54.10 (Su 1938: 773), Ḍalhaṇa glosses loose stool (*viḍbheda*) as *dravapurīṣatā*, "having liquid stool."

lii Rhus succedanea, L.; see NK #2136

With jequirity (*kālakūṭa*)[liii], there is numbness and very severe trembling. With wolfsbane (*vatsanābha*)[liv], there is rigidity of the neck, and the faeces, and urine become yellow.

With sārṣapa (*sārṣapa*),[20] the wind becomes defective (*vātavaiguṇya*), there is constipation (*ānāha*), and lumps (*granthi*) start to appear. With leadwort (*pālaka* → *citraka*)[lv], there is weakness in the neck, and speech gets jumbled.[21]

With the one called 'muddy' (*kardama*)[lvi], there is a discharge (*praseka*), the faeces pour out, and the eyes turn yellow. The 'Virāṭa's plant' (*vairāṭaka*)[lvii] causes pain in the body and illness in the head. Paralysis of one's arms and legs and trembling are said to be caused by mustaka (*mustaka*).[22]

15b With great aconite (*mahāviṣa*) one's limbs grow weak, there is a burning feeling and swelling of the belly.[23]

16a With puṇḍarīka (*puṇḍarīka*), one's eyes go red, and one's belly becomes distended.[24]

16b With mūlaka (*mūlaka*), one's body is drained of colour and the limbs are paralysed.[25]

-> ativiṣa

Look up the ca. reference.

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

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

22 The substitution in MS NAK 5-333 affecting 15cd is caused by an eye-skip to the word *viṣeṇa* in 2.17. *Mustaka* commonly refers to Cyperus rotundus, L.; the root is used in āyurveda but is not poisonous. However other dictionaries list *mustaka* amongst serious poisons, for example *Rājanighaṇṭu* (22 v. 42) and *Rasaratnasamuccaya* 16, v. 80. However, its ancient identity is still doubtful.

23 The poisonous root great poison (*mahāviṣa*) is not clearly identifiable, although *viṣa* is commonly aconite. Verse 6 above notes that there are several kinds of aconite.

24 The word *puṇḍarīka* very commonly means sacred lotus, Nelumbo nucifera, Gaertn. The entire plant is edible and cannot be the poison intended here. Singh and Chunekar (1972: 252) noted that this poison is unidentified and that it is also listed as a poison in *Carakasaṃhitā*ci.23.12.

25 The word *mūlaka* very commonly means the radish, *Raphanus sativus*, L. The root is edible and cannot be the poison intended here. Singh and Chunekar (1972: 317) noted that this poison is unidentified.

liii Abrus precatorius, L.? Cf. RRS 21.14.; see AVS 1.10, NK #6, Potter 168.

liv Aconitum napellus, L.; see AVS 1.47, NK #38, Potter 4 f.

lv Plumbago zeylanica (indica? rosea?), L.; see Rā. 6.124, ADPS 119, NK #1966, 1967

lvi unknown; see ?

lvii unknown; see ?

17a With hālāhala (*Aconite*), a man turns a dark colour (*dhyāma*), and gasps.[26]

17b With atis root (*śṛṅgīviṣa*)[lviii], one gets violent knots (*granthi*) and stabbing pains in the heart.[27]

18a With markaṭa (*monkey*), one leaps up, laughs, and bites.[28]

18b-19a Experts have said that one should know that the thirteen highly potent tuber-poisons, which are mentioned here, have ten qualities (*guṇa*).

19b–20a The ten are:

- dry (*rūkṣa*),
- hot,
- sharp,
- rarified (*sūkṣma*),
- fast-acting,
- pervasive (*vyavāyin*),
- expansive (*vikāsin*),
- limpid (*viśada*),
- light, and
- indigestible.

20b Because of dryness, it may cause inflammation of the wind; because of heat it inflames the choler and blood. Because of the sharpness it unhinges the mind, and it cuts through the connections with the sensitive points (*marman*). Because it is rarified it can infiltrate and distort the parts of the body.[29]

22 Because it is fast-acting it kills quickly, and because of its pervasiveness it affects one's whole physical constitution (*prakṛti*).[30] Because of its expansiveness it enters into the humour (*doṣa*)s, bodily constiuents (*dhātu*)s, and

26 Identification of *hālāhala* is uncertain. It may simply be a mythical poison, or its specific identity may have been lost over the centuries. Late *nighaṇṭu*s identify it as *stomaka* = *vatsanābha*, i.e., *Aconitum napellus*, L. (*Soḍhalanighantu* p.43). Ḍalhaṇa on 5.2.17 (Su 1938: 564) interprets our "gasps" as "the man laughs and grinds his teeth." But this gloss is probably displaced and intended to apply to verse 2.18.

27 Singh and Chunekar (1972: 407) noted that *vatsanābha* and *śṛṅgīviṣa* are two different varieties of poisonous Aconites that are difficult to distinguish.

28 Singh and Chunekar (1972: 299) said of *markaṭa*, "an unidentified vegetable poison." Cf. Suvedī and Tīvārī 2000: v.36 for synonyms that lead to the non-toxic jujube tree.

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

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

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

even the impurities. Because it is limpid it overflows, and because it is light it is difficult to treat. Because it is indigestible it is hard to eliminate. Therefore, it causes suffering for a long time.

24 Any poison that is instantly lethal, whether it be stationary, mobile, or artificial, will be known to have all ten of these qualities.

Slow-acting poison

25cd–26 A poison that is old or destroyed by anti-toxic medicines, or else dried up by blazing fire, wind, or sunshine, or which has just lost its qualities by itself,[31] becomes a slow-acting poison (*dūṣīviṣa*).[32] Because it has lost its potency it is no longer perceived. Because it is surrounded by phlegm (*kapha*) it has an aftermath that lasts for a very long time.

27 If he is suffering from this, the colour of his stools changes, he gets sourness and a bad taste with great thirst. Stammering and close to death, wandering about, he may feel faint, giddy, and aroused.[33]

28 If it lodges in his stomach (*āmāśaya*), he becomes sick because of wind and phlegm; if it lodges in his intestines (*pakvāśaya*), he becomes sick because of wind and choler. A man's hair and limbs fall away and he looks like a bird whose wings have been chopped off.

29a–c If it lodges in one of the body tissues such as chyle (*rasa*), it causes the diseases arising from the body tissues, that have been said to be wrong.[34] and it rapidly becomes inflamed on days that are nasty because of cold and wind.

29d–31 Listen to its initial symptoms (*liṅga*): it causes heaviness due to sleep, yawning, disjunction (*viśleṣa*) and horripilation (*harṣa*) and a bruising of the limbs (*aṅgamarda*).[35] Next, it causes intoxication from food (*annamada*) and indigestion, loss of appetite (*arocaka*), the condition of having a skin disease (*koṭha*) with round blotches (*maṇḍala*),[36] dwindling away (*kṣaya*) of flesh,

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

32 Ḍalhaṇa cited this verse at 1.46.83 (Su 1938: 222) while explaining *dūṣīviṣa*.

33 Similar symptoms of slow-acting poison are described at 2.7.11–13 (Su 1938: 296) in the context of contamination dropsy (*duṣyodara*). This this may explain why the vulgate inserted reference to this disease at this point.

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

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

36 The last ailment could perhaps be ringworm.

swelling of the feet, hands, and face, the fever called *pralepaka*, vomiting and diarrhoea.[37] The slow-acting poison might cause wheezing, thirst and fever, and it might also cause distension of the abdomen.

32 These various disorders are of many different types: one poison may produce madness, while another one may cause constipation (*ānāha*), and yet another may ruin the semen. One may cause emaciation, while another pallid skin disease (*kuṣṭha*).

33 Something is "corrupted" by repetitively keeping to bad locations, times, foods, and sleeping in the daytime. Or, traditionally, "corrupting poison" (slow-acting poison (*dūṣī-viṣa*)) is so called because it may corrupt (*dūṣayet*) the body tissue (*dhātu*)s.

34- The stages of toxic shock

In the first shock of having taken a stationary poison, a person's tongue becomes dark brown and stiff, he grows faint, and panics.

35 In the second, he trembles, feels exhausted, has a burning feeling, as well as a sore throat. When the poison reaches the stomach (*āmāśaya*), it causes pain in the chest (*hṛd*).

36 In the third,his palate goes dry, he gets violent pain (*śūla*) in the stomach (*āmāśaya*), and his eyes become weak, swollen and yellow.

37 In the fourth shock, it causes the intestines and stomach to be exhausted (*sāda*), he gets hiccups, a cough, a rumbling in the gut (*antra*), and his head becomes heavy too.

38 In the fifth he dribbles phlegm (*kapha*), goes a bad colour, his ribs crack (*pārśvabheda*), all his humours are irritated, and he also has a pain in his intestines (*pakvādhāna*).

39a In the sixth, he loses consciousness and he completely loses control of his bowels.

39b In the seventh, there are breaks in his shoulders, back and loins, and he stops breathing.[38]

37 The *pralepaka* fever was described by Ḍalhaṇa, at 6.39.52 (Su 1938: 675), as an accumulation of phlegm in the joints. Its symptoms are described in 6.39.54

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

Remedies for the stages of slow poisoning

40 In the first shock of the poison, the physician should make the man, who has vomited and been sprinkled with cold water, drink an antidote (*agada*) mixed with with honey and ghee.

41a In the second, he should make the man who has vomited and been purged drink as before;

41b on the third, drink an antidote and a beneficial nasal medicine (*nasya*) as well as an eye salve (*añjana*).

42a In the fourth, the physician should make him drink an antidote that is salt with a little oil.[39]

42b In the fifth, he should be prescribed the antidote together with a decoction (*kvātha*) of honey and liquorice (*madhuka*)[lix].

43 In the sixth, the cure (*siddhi*) is the same as for diarrhoea. And in the seventh, he perishes.[40]

44 In between any one of these shocks, once the above treatment has been done, he should give the patient the following cold gruel (*yavāgū*) together with ghee and honey, that will take away the poison.

45–46 A gruel (*yavāgū*) made of the following items in a stewed juice (*niḥkvātha*) destroys the two poisons: gourd (*kośavatī*),[41] wild celery (*agnika*),[42]

39 At 6.52.30 (Su 1938: 769) Ḍalhaṇa noted that *sindhu* can be interpreted as salt (*saindhava*).

40 The vulgate text here is quite different, recommending that the patient have medicated powder blown up his nose. It may be possible to detect the evolution of the Nepalese अवसीदेत् to the vulgate's अवपीडश्. The vulgate version is hard to construe, and we see Ḍalhaṇa struggling to interpret it in his commentary on 5.2.43ab (Su 1938: 566). This sternutatory is, however, recommended in the Nepalese version at 5.5.30ab (Su 1938: 576), for the seventh shock of poisoning by a rājimat (*striped snake*) snake. It is possible the text migrated from that location to this.
Another difference at this point is that the Nepalese version also does not support the vulgate's passage on the crow's foot (*kākapada*) therapy (Wujastyk 2003: 145, n. 106). The same is the case at 5.5.24 (Su 1938: 575) and the clear description at 5.5.45 (Su 1938: 577), in neither of which is the therapy supported in the Nepalese version. This therapy seems unknown in the Nepalese version. Perhaps the therapy migrated into the *Suśrutasaṃhitā* from the *Carakasaṃhitā* (6.23.66–67 (Ca. 1941: 574)).

41 At 4.10.8 (Su 1938: 449) Ḍalhaṇa glosses *kośavatī* as *devadālī* and at 4.18.20 (Su 1938: 472) as *kaṭukośātakī*, vocabulary pointing to *Cucumis cylindrica*, *Cucumis actangula* or *Luffa echinata* (Singh and Chunekar 1972: 207, 121; Sivarajan and Balachandran 1994: 252–253).

42 A plant often cited in *Suśrutasaṃhitā*, but rarely in *Carakasaṃhitā* (Singh and Chunekar 1972: 4). Ḍalhaṇa glossed it here, 5.2.45 (Su 1938: 566), as wild celery (*ajamodā*), *Apium grave-*

lix Glycyrrhiza glabra, L.; see AVS 3.84, NK #1136

velvet-leaf (*pāṭhā*),[43] 'sun-creeper' (*sūryavallī*),[44] heart-leaved moonseed (*amṛtā*),[45] myrobalan (*abhayā*),[46] siris (*śirīṣa*)[47], and selu plum (*śelu*)[48] white siris (*kiṇihi*),[49] the two turmerics (*haridrā*),[50] and the two Indian nightshades (*bṛhatī*),[51] hogweed, black cardamom, the three heating spices, the Indian sarsaparillas (*sārive*)[52] and water-lily (*utpala*).[53]

The 'invincible' ghee

47–49 There is a famous ghee called "Invincible" (*ajeya*). It rapidly destroys all poisons and it is unbeaten. It is prepared with a mash (*kalka*) of the follow-

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olens, L., but noted that others consider it to be *moraṭa*, *Marsdenia tenacissima* (Roxb.) Wight et Arn. There is considerable complexity surrounding the identification of *moraṭa/mūrvā* and related synonyms (Singh and Chunekar 1972: 314-316). Taking *agnika* as a short reference to *agnimantha*, often identified with *Premna corymbosa*, Rottl., might be plausible, since that is antitoxic or anti-inflammatory (Sivarajan and Balachandran 1994: 21; Nadkarni 1954: #2025; Warrier et al. 1994–6: 4, 348), but such a short reference is not known elsewhere.

43 *Cissampelos pariera*, L., Sivarajan and Balachandran 1994: 366; Nadkarni 1954: #592; Singh and Chunekar 1972: 243–244; Warrier et al. 1994–6: 2.277.

44 At 5.2.45 (Su 1938: 566) Ḍalhaṇa said that this plant has leaves like the *paṭola*, *Trichosanthes dioica* Roxb. Singh and Chunekar (1972: 280, 443) argued plausibly that this is a synonym for *arkapuṣpī*, *Holostemma ada-kodien*, (Roxb.) Schult., as Ḍalhaṇa also stated in 1.45.120 (Su 1938: 206), and the leaves of Holostemma and Trichosanthes are indeed strikingly similar. The appearance of the plant, a creeper with sun-like flowers, fits the name. But there remains much controversy about the identities of these candidates (e.g., Sivarajan and Balachandran 1994: 195–198).

45 *Tinospora cordifolia*, (Willd.) Hook.f. & Thoms. (Singh and Chunekar 1972: 141–143; Sivarajan and Balachandran 1994: 38–40)Nadkarni 1954: #2472 and #624.

46 *Terminalia chebula*, Retz. (Sivarajan and Balachandran 1994: 172; Nadkarni 1954: #2451; Singh and Chunekar 1972: 15).

47 *Albizia lebbeck*, Benth. (Warrier et al. 1994–6: 1.81; Nadkarni 1954: #91; Singh and Chunekar 1972: 399–400).

48 *Cordia myxa*, L. non Forssk. (Warrier et al. 1994–6: 2.180; Nadkarni 1954: #672; Singh and Chunekar 1972: 408, 413–414).

49 *Albizia procera*, (Roxb.) Benth. (Nadkarni 1954: #93; Singh and Chunekar 1972: 98).

50 *haridrā* and *dāruharidrā* Singh and Chunekar 1972: 465–466.

51 Poison berry (*bṛhatī*), *Solanum violaceum*, Ortega, and yellow-berried nightshade (*kṣudrā*), *Solanum virginianum*, L. (Singh and Chunekar 1972: 277–278; Sivarajan and Balachandran 1994: 100; Nadkarni 1954: #2329; Warrier et al. 1994–6: 5.151, 164).

52 country sarsaparilla (*anantā*) Hemidesmus indicus, (L.) R. Br. ADPS 434, AVS 3.141–5, NK #1210 and black creeper (*pālindī*) Ichnocarpus frutescens, (L.) R.Br. or Cryptolepis buchanani, Roemer & Schultes AVS 3.141, 3.145, 3.203, NK #1283, #1210, ADPS 434.

53 *Nymphaea stellata*, Willd. GJM 528, IGP 790; Dutt 110, NK #1726. Ḍalhaṇa was aware of this reading 5.2.46 (Su 1938: 566).

ing plants: liquorice, crape jasmine, costus, deodar, black cardamom, Indian madder, cardamom and cherry, cobra's saffron, water-lily, white clitoria, embelia, sandalwood, cassia cinnamon, beautyberry, rosha grass, the two turmerics,[54] the two Indian nightshades,[55] Indian sarsaparilla, beggarweed, and country mallow.

Curing the 'slow-acting' poison

50–52 Someone suffering from 'slow-acting poison (*dūṣīviṣa*)' should be well sweated, and purged both top and bottom. Then he should be made to drink the following eminent antidote which removes 'slow-acting poison':
Take long pepper (*pippalī*)[lx], rosha grass (*dhyāmaka*)[lxi], spikenard (*māṃsī*)[lxii], lodh tree (*śāvara* → *lodhra*)[lxiii], nutgrass (*paripelava* → *plava* → *mustā?*)[lxiv], soda crystals (*suvarcikā* → *suvarjikā*)[lxv], cardamom (*sūkṣmailā*)[lxvi], 'scented pavonia' (*toya* → *bālaka*)[lxvii], and 'gold-chalk' ochre (*kanakagairika*). This antitoxin, taken with honey, eliminates 'slow-acting poison'. It is called 'slow-acting poison antidote (*dūṣīviṣāri*)', and there is no situation where it is not recommended.

53–54 If there are any side-effect (*upadrava*)s, such as fever, a burning feeling, hiccups, constipation (*ānāha*), depletion of the semen, distension, diarrhoea, fainting, illness in the heart, bellyache (*jaṭhara*), madness, trembling, or others, then one should treat each one in its own terms, as well as using the anti-toxic medicines.

55 'Slow-acting poison' is curable (*sādhya*) if caught immediately; it is treatable (*yāpya*) if it is of a year's standing; but it cannot be cured in someone who has unhealthy habits or who is weak (*kṣīṇa*).

Thus ends the second chapter, called 'on the knowledge of stationary poisons', in the Procedures Section of Suśruta's *Compendium*.

54 ?? and Indian barberry.
55 poison berry and yellow-berried nightshade.

lx Piper longum, L.; see ADPS 374, NK #1928
lxi Cymbopogon martinii (Roxb.) Wats; see AVS 2.285, NK #177
lxii Nardostachys grandiflora, DC.; see NK #1691
lxiii Symplocos racemosa, Roxb.; see ADPS 279, NK #2420
lxiv Cyperus rotundus, L.; see ADPS 316, AVS 2.296, NK #782
lxv Sodium carbonate; see NK 2, p. 101
lxvi Elettaria cardamomum, Maton; see AVS 2.360, NK #924, Potter 66
lxvii Pavonia odorata, Willd.; see ADPS 498, NK #1822

Abbreviations

Ah 1939 — Kuṃṭe, Aṇṇā Moreśvara, Navare, Kṛṣṇaśāstrī, and Parādkar, Hariśāstrī (1939) (eds.), श्रीमद्वाग्भटविरचितम् अष्टाङ्गहृदयम्, श्रीमदरुणदत्तविरचितया सर्वाङ्गसुन्दराख्यया व्याख्यया, हेमाद्रिप्रणीतया आयुर्वेदरसायनाह्वया टीकया च समुल्लसितम् = *The Astāngahṛidaya* (6th edn., Muṃbayyām: Nirṇayasāgara Press), ark:/13960/t3tt6967d.

Anup — *Anup Sanskrit Library* (n.d.).

Apte — Apte, Vaman Shivaram (1992), *The Practical Sanskrit-English Dictionary* (Kyoto: Rinsen Book Company), ISBN: 4-653-00038-7; Reprinted from Gode and Karve 1957–9.

AS — *Asiatic Society* (n.d.).

As 1980 — Āṭhavale, Anaṃta Dāmodara (1980) (ed.), *Aṣṭāṅgasaṅgrahaḥ. Śrīmad Vṛddhavāgbhaṭaviracitaḥ Induvyākhyāsahitaḥ* (Puṇe: Maheśa Anaṃta Āṭhavale, Śrīmad Ātreya Prakāśanam), ark:/13960/t9773bb9z.

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, P. P. S. 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).

BL — *British Library* (n.d.).

Ca. 1941 — Ācārya, Yādavaśarma Trivikrama (1941) (ed.), महर्षिणा पुनर्वसुनोपदिष्टा, तच्छिष्येणाग्निवेशेन प्रणीता, चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता, श्रीचक्रपाणिदत्तविरचितया आयुर्वेददीपिकाव्याख्यया संवलिता (3rd edn., Mumbayyāṃ: Nirnaya Sagara Press), URL, accessed 01/01/2018.

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

KL — *Kaiser Library* (n.d.).

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

NAK — *National Archives of Kathmandu* (n.d.).

NCC — Raghavan, V. et al. (1949–), *New Catalogus Catalogorum, an Alphabetical Register of Sanskrit and Allied Works and Authors*, 39 vols. (Madras University Sanskrit Series; Madras: University of Madras); v.1: revised edition, 1968.

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

NK — Nadkarni, K. M. (1982*a*), *Dr. K. M. Nadkarni's Indian Materia Medica, with Ayurvedic, Unani-tibbi, Siddha, Allopathic, Homeopathic, Naturopathic & Home Remedies, Appendices & Indexes ... in Two Volumes*, ed. A. K. Nadkarni, 2 vols. (3 ed., revised and enlarged by A. K. Nadkarni, Bombay: Popular Prakashan), ISBN: 8171541429, URL.

RORI — *Rajasthan Oriental Research Institute* (n.d.).

Su 1889 — Bhaṭṭācāryya, Jīvānanda Vidyāsāgara (1889) (ed.), सुश्रुतः. सूत्र-निदान-शारीर-चिकित्सा-कल्पोत्तर-तन्त्र-कल्पित आयुर्वेद. भगवता धन्वन्तरिणोपदिष्टः सुश्रुतनामधेयेन तच्छिष्येण विरचितः (3rd edn., Calcutta: Saratī Press), ark:/13960/t1nh6j09c; HIML: IB, 311, edition b.

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

Su 1931 — Ācārya, Yādavaśarma Trivikrama (1931) (ed.), सुश्रुतसंहिता, वैद्यवरश्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया समुल्लसिता, महर्षिणा सुश्रुतेन विरचिता, सूत्र-निदान-शारीर-चिकित्सा-कल्पस्थानोत्तरतन्त्रात्मकः. आचार्योपाह्वेन त्रिविक्रमात्मजेन यादवशर्मणा संशोधिता = *The Sushrutasaṃhitā of Sushruta with the Nibandhasangraha Commentary of Shree Dalhaṇāchārya* (2nd edn., Mumbayyāṃ: Pāṇḍuraṅga Jāvajī at the Nirṇayasāgaramudrāyantrālaye), ark:/13960/t9j41sg94, accessed 09/06/2020; HIML: IB, 312 edition *v.

Su 1938 Ācārya, Yādavaśarma Trivikrama and Ācārya, Nārāyaṇa Rāma (1938) (eds.), श्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया निदानस्थानस्य श्रीगयदासाचार्यविरचितया न्यायचन्द्रिकाख्यपञ्जिकाव्याख्यया च समुल्लसिता महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता (3rd edn., Bombay: Nirṇayasāgara Press), ark:/13960/t09x0sk1h; HIML: IB, 313, edition cc ('the vulgate').

Su 1938[2] Ācārya, Yādavaśarma Trivikrama and Ācārya, Nārāyaṇa Rāma (2004) (eds.), महर्षिणा सुश्रुतेन विरचिता सुश्रुतसंहिता, श्रीडल्हणाचार्यविरचितया निबन्धसंग्रहाख्यव्याख्यया निदानस्थानस्य श्रीगयदासाचार्यविरचितया न्यायचन्द्रिकाख्यपञ्जिकाव्याख्यया च समुल्लसिता (Vārāṇasī: Caukhambhā Kṛṣṇadāsa Akādamī); Reprint of the third, 1938 edition (Su 1938).

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

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

TMSSML *Tanjore Maharaja Serfoji Saraswati Mahal Library* (n.d.).

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

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References

Ācārya, Yādavaśarma Trivikrama (1941) (ed.), **महर्षिणा पुनर्वसुनोपदिष्टा, तच्छिष्येणाग्निवेशेन प्रणीता, चरकदृढबलाभ्यां प्रतिसंस्कृता चरकसंहिता, श्रीचक्रपाणिदत्तविरचितया आयुर्वेददीपिकाव्याख्यया संवलिता** (3rd edn., Mumbayyāṃ: Nirnaya Sagara Press), URL, accessed 01/01/2018.

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

Adriaensen, Rob, Barkhuis, Roelf, and Ruijters, Jean-Louis (1984), 'An English Translation of Suśrutasaṃhitā, Nidānasthāna 1, 1–39, Together with Gayadāsa's Nyāyacandrikā', in Gerrit Jan Meulenbeld (ed.), *Proceedings of the International Workshop on Priorities in the Study of Indian Medicine* (Groningen: Forsten), 277–310.

Adriaensen, Rob C. R., Barkhuis, Roelf, and Ruijters, Jean-Louis (1984), 'An English Translation of Suśrutasaṃhitā, Nidānasthāna 1, 1–39, Together with Gayadāsa's Nyāyacandrikā', in Gerrit Jan Meulenbeld (ed.), *Proceedings of the International Workshop on Priorities in the Study of Indian Medicine* (Groningen: Forsten), 277–310.

Agrawala, V. S. (1963), *India As Known to Pāṇini: A Study of the Cultural Material in the Aṣṭādhyāyī* (2nd edn., Varanasi: Prthvi Prakashan); First published in 1953.

Angermeier, Vitus (2020), *Regenzeiten, Feuchtgebiete, Körpersäfte. Das Wasser in der klassischen indischen Medizin* (Wien: Österreichische Akademie der Wissenschaften).

Baber, Zaheer (1996), *The Science of Empire: Scientific Knowledge, Civilization, and Colonial Rule in India* (Albany: State University of New York Press).

Barceloux, Donald G. (2008), *Medical Toxicology Ofnatural Substances. Foods, Fungi, Medicinal Herbs, Plants, Andvenomous Animals* (Hoboken, NJ, etc.: John Wiley & Sons), 1196 pp., ISBN: 047172761X, URL.

Bausi, Alessandro et al. (2015), *Comparative Oriental Manuscript Studies. An Introduction* (Hamburg: Tredition). DOI: 10.5281/ZENODO.46784.

Bendall, Cecil (1883), *Catalogue of the Buddhist Sanskrit, Manuscripts in The, University Library, Cambridge: With Introductory Notices and Illustrations of the Palaeography and Chronology of Nepal and Bengal* (Cambridge: University Press), ark:/13960/t03x8vz7b.

Bhaṭṭācārya, Candrakānta (1910–7) (ed.), सुश्रुतसंहिता प्रथमखण्डम् सूत्रस्थानात्मकम् हाराणचन्द्रचक्रवर्तिकविराजविरचितसुश्रुतार्थसन्दीपनभाष्य-समेतम्...चन्द्रकान्त भट्टाचार्य्य-प्रमुखैः संशोधितम् = *[The Suśrutasaṃhitā with the Commentary Suśrutārthasandīpanabhāṣya by Hārāṇacandra Cakravarti]* (Kalikātā: Satya Press); Edition "t" in HIML: IB, 312.

Bhattarai, Bidur (2020), *Dividing Texts. Conventions of Visual Text-Organisation in Nepalese and North Indian Manuscripts* (Studies in Manuscript Cultures; Berlin/Boston: de Gruyter), 388.

Birch, Jason, Wujastyk, Dominik, Klebanov, Andrey, Parameswaran, Madhu K., et al. (2021), 'Further Insight into the Role of Dhanvantari, the Physician to the Gods, in the Suśrutasaṃhitā', *Academia Letters*. DOI: 10.20935/AL2992.

Birch, Jason, Wujastyk, Dominik, Klebanov, Andrey, Rimal, Madhusudan, et al. (2021), 'Ḍalhaṇa and the Early 'Nepalese' Version of the Suśrutasaṃhitā'. DOI: 10.20935/al3733.

Bollée, Willem (2010), 'Remarks on the Cultural History of the Ear in India', in Nalini Balbir (ed.), *Svasti: Essays in Honour of Professor Hampa Nagarajaiah for His 75th Birthday* (Bangalore: K. S. Mudappa Smaraka Trust), 141–67, URL, accessed 23/01/2022.

Breton, P. (1826), 'On the Native Mode of Couching', *Transactions of the Medical and Physical Society of Calcutta*, 2: 341–82, ark:/13960/t3dz8nn5t, URL, accessed 02/06/2021.

Bronkhorst, Johannes (2016), *How the Brahmins Won: From Alexander to the Guptas* (Leiden: Brill). DOI: 10.1163/9789004315518.

—— (2021), 'Patañjali's Āryāvarta = Śuṅga realm?', *Academia Letters*. DOI: 10.20935/al291; Article 291.

Bronner, Yigal (2021) (ed.), 'The Pandit Project' (30 Sept.), URL.

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.

—— (2017), 'Textual Variants', in Marjorie Burghart, James Cummings, and Elena Pierazzo (eds.), *Digital Editing of Medieval Texts: A Textbook* (DEMM), URL, accessed 04/07/2021.

Burnell, Arthur Coke (1880), *A Classified Index to the Sanskrit Mss. in the Palace at Tanjore* (London: Trübner), ark:/13960/t4xh86j61; Bheḷasaṃhitā described on pp. 67 ff.

Carpue, J. C. (1816), *An Account of Two Successful Operations for Restoring a Lost Nose from the Integuements of the Forehead...Including Descriptions of the Indian and Italian Methods* (London: Longman et al.), ark:/13960/t2q57fn42, accessed 20/03/2019.

Cone, Margaret (2001), *A Dictionary of Pāli* (Oxford: The Pali Text Society), ISBN: 0 86013 394 x.

Cordier, P. (1903), 'Récentes découvertes de mss. médicaux sanscrits dans l'Inde (1898–1902)', *Muséon, Nouvelle Série*, 4: 321–52, ark:/13960/t26b2j457, accessed 02/01/2020; Reprinted in Roşu 1989: 539–70.

Coult, Ro. (1731), 'An Account of the Diseases of Bengall', in *Indian Science and Technology in the Eighteenth Century* (Impex India), 141 f., 276.

Crawford, D. G. (1930), *Roll of the Indian Medical Service, 1615–1930* (London, Calcutta, Simla: Thacker).

Das, Rahul Peter (2003), *The Origin of the Life of a Human Being. Conception and the Female According to Ancient Indian Medical and Sexological Literature* (Indian Medical Tradition; Delhi: Motilal Banarsidas), ISBN: 81-208-1998-5.

Dave, K. N. (1985), *Birds in Sanskrit Literature* (Delhi: Motilal Banarsidass), ISBN: 0-89581-676-8, ark:/13960/t2c94cv80.

Deshpande, Vijaya (1999), 'Indian Influences on Early Chinese Ophthalmology: Glaucoma As a Case Study', *Bulletin of the School of Oriental and African Studies*, 62: 306–22. DOI: 10.1017/S0041977X00016724.

Deshpande, Vijaya (2000), 'Ophthalmic Surgery: A Chapter in the History of Sino-indian Medical Contacts', *Bulletin of the School of Oriental and African Studies*, 63/3: 370–88, ISSN: 0041-977X. DOI: 10.1017/s0041977x00008454.

Dimitrov, Dragomir and Tamot, Kashinath (2007), 'Kaiser Shamsher, His Library and His Manuscript Collection', *Kaiser Shamsher, His Library and His Manuscript Collection*, 3 (Jan.): 26–36, URL.

Dutt, Uday Chand (1922), *The Materia Medica of the Hindus...with a Glossary of Indian Plants by George King. Revised Edition...by Binod Lall Sen and Ashutosh Sen and Pulin Krishna Sen* (Krishnadas Sanskrit Studies; 3rd edn., Calcutta: Madan Gopal Dass for the Adi-Ayurveda Machine Press), URL, accessed 04/10/2017; Reprinted Varanasi: Chowkhamba Saraswatibhavan, 1980.

Edgerton, Franklin (1939), 'The Epic Triṣṭubh and Its Hypermetric Varieties', *Journal of the American Oriental Society*, 59/2: 159–74. DOI: 10.2307/594060.

—— (1953), *Buddhist Hybrid Sanskrit Grammar and Dictionary. Vol. 2: Dictionary* (William Dwight Whitney Linguistic Series; New Haven: Yale University Press).

Elliot, Robert Henry (1918), *The Indian Operation of Couching for Cataract: Incorporating the Hunterian Lectures Delivered before the Royal College of Surgeons of England on February 19 and 21, 1917* (London: H. K. Lewis).

Emeneau, M. B. (1969), 'Sanskrit Syntactic Particles – "kila, khalu, nūnam"', *Indo-Iranian Journal*, 11/4: 241–68.

Falk, Harry (1991), 'Silver, Lead and Zinc in Early Indian Literature', *South Asian Studies*, 7/1: 111–7. DOI: 10.1080/02666030.1991.9628430.

Fan, Ka Wai (2005), 'Couching for Cataract and Sino-indian Medical Exchange Fromthe Sixth to the Twelfth Century Ad', *Clinical and Experimental Ophthalmology*: 188–90. DOI: 10.1111/j.1442-9071.2005.00978.x; Unaware of Deshpande 1999; 2000.

Fitzgerald, James L. (2009), 'A Preliminary Study of the 681 Triṣṭubh Passages of the Mahābhārata', in Robert P. Goldman and Muneo Tokunaga (eds.), *Epic Undertakings* (Papers of the 12th World Sanskrit Conference; Delhi: Motilal Banarsidass Publishe), 95–117.

Gaṇapatiśāstrī, T. (1920–5), *Āryamañjuśrīmūlakalpaḥ* (Trivandrum Sanskrit Series, 70; Anantaśayane: Rājakīyamudraṇayantrālaye), ark :/ 13960 / t4pk5sj0j.

Gode, P. K. and Karve, C. G. (1957–9) (eds.), *Revised and Enlarged Edition of Prin. V. S. Apte's the Practical Sanskrit-English Dictionary* (Poona: Prasad Prakashan), ark:/13960/t3gx47212, accessed 20/10/2017.

Gombrich, Richard (1979), ''He cooks softly': dverbs in Sanskrit grammar', *Bulletin of the School of Oriental and African Studies*, 42/2 (June): 244–56. DOI: 10.1017/s0041977x0014580x.

Gupta, Sri Madhusudana (1835–6) (ed.), *Āyur-veda-prakāśa [also Called Suśruta-saṃhitā] by Suśruta. the Suśruta, or System of Medicine, Taught by Dhanwantari, and Composed by His Disciple Suśruta*, 2 vols. (Calcutta: Education Press and Baptist Mission Press), ark:/13960/t6841qw6x.

Harimoto, Kengo (2011), 'In Search of the Oldest Nepalese Manuscript', *Rivista degli Studi Orientali*, 84/1–4: 85–106, ISSN: 0392-4866, URL, accessed 08/09/2019.

—— (2014), 'Nepalese Manuscripts of the Suśrutasaṃhitā', *Journal of Indian and Buddhist Studies (Indogaku Bukkyogaku Kenkyu)*, 62/3: 23–29 (1087-1093). DOI: 10.4259/ibk.62.3_1087, URL, accessed 08/09/2019.

—— (pre-published), '[Preliminary Edition of the Nepalese MSS of the Suśrutasaṃhitā, adhyāyas 1.1–3, 6.4]'; Unpublished document dated 2010.

Hayashi, Takao (2017), 'The Units of Time in Ancient and Medieval India', *History of Science in South Asia*, 5/1: 1–116. DOI: 10.18732/h2ht0h.

Hemarāja Śarman (1938) (ed.), काश्यपसंहिता (वृद्धजीवकीयं तन्त्रं वा) महर्षिणा मारीचकश्यपेनोपदिष्टा ... हेमराजशर्मणा लिखितेन विस्तृतेन उपोद्घातेन सहिता ... सत्यपाल भिषगा कृतया विद्योतिनी हिन्दीव्याख्यया ... समुल्लसिता (1st edn., Mumba: Nirṇaya-sāgara Press), URL, accessed 02/02/2018.

Hendley, T. Holbein (1895), *A Medico-topographical Account of Jeypore, Based on the Experience of Twenty Years' Service As a Residency Surgeon and Thirteen As Superintendent of Dispensaries at Jeypore, Rajputana* (Calcutta: Calcutta Central Press Company).

Hessler, Franciscus (1844–55), *Suśrutas Ayurvédas: Id Est Medicinae Systema a Venerabili D'hanvantare Demonstratum a Susruta Discipulo Compositum; Nunc Primum Ex Sanskrita in Latinum Sermonem Vertit, Introductionem, Annotationes Et Rerum Indice Franciscus Hessler* (Erlangen: Ferdinandum Enke), URL, accessed 04/11/2017.

Hoernle, A. F. Rudolf (1893–1912) (ed.), *The Bower Manuscript: Facsimile Leaves, Nagari Transcript, Romanised Transliteration and English Translation with Notes* (New Imperial Series, 22; Calcutta: Government of India and under the patronage of the Bengali Government, Archaeological Survey of India), ark:/13960/t05z1bg4q.

—— (1897), *Suśrutasaṃhitā = The Suçruta-Saṁhitā or the Hindū System of Medicine According to Suçruta Translated from the Original Sanskrit* (Bibliotheca Indica, 911; Calcutta: Asiatic Society), ark:/13960/t8pd1kw9r, accessed 03/01/2018; No more published; Hoernle does not state which edition he is translating, but it includes the "Dhanvantari phrase".

—— (1906*a*), 'Studies in Ancient Indian Medicine I: The Commentaries on Suśruta', *Journal of the Royal Asiatic Society of Great Britain and Ireland*: 283–302, URL, accessed 26/06/2019.

—— (1906*b*), 'Studies in Ancient Indian Medicine II: On Some Obscure Anatomical Terms', *Journal of the Royal Asiatic Society of Great Britain and Ireland*, 4: 915–41, URL, accessed 25/06/2019.

—— (1907*a*), 'Studies in Ancient Indian Medicine II: On Some Obscure Anatomical Terms (Continued from the the Journal, 1906, p. 941)', *Journal of the Royal Asiatic Society of Great Britain and Ireland*: 1–18, URL, accessed 25/06/2019.

—— (1907*b*), *Studies in the Medicine of Ancient India: Osteology or the Bones of the Human Body* (Oxford: Clarendon Press).

Hofer, Theresia (2007), 'Swami Laxmi Ram's Ayurvedic Pharmacy in Jaipur, India', *Wellcome History*, 34: 2–3, URL, accessed 01/07/2021.

Holwell, J. Z. (1767), *An Account of the Manner of Inoculating for the Small Pox in the East Indies With...Observations on The...Mode of Treating That Disease in Those Parts* (London: T. Becket & P. A. de Hondt), ark:/13960/t3ws9h63c.

Jack, David Morton (1884), 'A Thesis on Cataract in India: Its Pathology and Treatment', Wellcome Library, London, MS.3007, URL, accessed 02/06/2021.

Jośī, Veṇīmādhavaśāstrī and Jośī, Nārāyaṇa Harī (1968), *Āyurvedīya Mahākośaḥ arthāt Āyurvedīya Śabdakośaḥ Saṃskṛta–Saṃskṛta* (Muṃbaī: Mahārāṣṭra Rājya Sāhityta āṇi Saṃskṛti Maṃḍaḷa), URL.

Kangle, R. P. (1969), *The Kauṭilīya* Arthaśāstra (2nd edn., Delhi: Motilal Banarsidass), ISBN: 81-208-0042-7, ark:/13960/t3gz6qh1s, accessed 23/09/2021.

Keith, Arthur Berriedale (1908), review of A. F. Rudolf Hoernle (1907), 'Studies in Ancient Indian Medicine II: On Some Obscure Anatomical Terms (Continued from the the Journal, 1906, p. 941)', *Journal of the Royal Asiatic Society of Great Britain and Ireland*: 1–18, URL, accessed 25/06/2019, in *Zeitschrift Der Deutschen Morgenländischen Gesellschaft*, 1/62: 134–9, URL, accessed 17/04/2021.

Klebanov, Andrey (2010), 'The *Nepalese Version of the Suśrutasaṃhitā and Its Interrelation with Buddhism and the Buddhists', MA thesis (Hamburg: Hamburg University, Sept.), URL, accessed 08/09/2019.

—— (2021*a*), 'On the Textual History of the Suśrutasaṃhitā (1): A Study of Three Nepalese Manuscripts', to be published in *eJIM: Electronic Journal of Indian Medicine*, URL, accessed 09/09/2019.

—— (2021*b*), 'On the Textual History of the Suśrutasaṃhitā, (2): An Anonymous Commentary and its Identified Citations', in Toke Lindegaard Knudsen, Jacob Schmidt-Madsen, and Sara Speyer (eds.), *Body and Cosmos: Studies in Early Indian Medical and Astral Sciences in Honor of Kenneth G. Zysk* (Leiden, Boston: Brill), 110–39.

Kuist, James M. (1982), *The Nichols File of The Gentleman's Magazine* (Madison: University of Wisconsin Press), ISBN: 0-299-08480-9, ark :/ 13960 / t53g2ct2z.

Lariviere, Richard W. (2003), *The Nāradasmṛti. Critically Edited with an Introduction,annotated Translation, and Appendices* (2nd edn., Delhi: Motilal Banarsidass), ISBN: 8120818040; First edition: Philadelphia, 1989.

Leffler, Christopher T. et al. (2020), 'The History of Cataract Surgery: From Couching to Phacoemulsification', *Annals of Translational Medicine*, 8/22: 1551–97, ISSN: 2305-5847. DOI: 10.21037/atm-2019-rcs-04, URL, accessed 02/11/2020.

Lienhard, Siegfried (1978), 'On the Meaning and Use of the Word Indragopa', *Indologica taurinensia*, 6: 177–88, URL, accessed 06/02/2021; The indragopa is a 'red velvet mite'.

Longmate, Barak (1794), 'A Curious Chirurgical Operation', *The Gentleman's Magazine and Historical Chronicle*, 64.4 (Oct.): 883, 891, 892; I am grateful to the late John Symons of the Wellcome Library who identified the author 'B. L.' as the journalist Barak Longmate. See also Kuist 1982: 87.

Majno, Guido (1975), *The Healing Hand. Man and Wound in the Ancient World* (Cambridge, MA: Harvard University Press), URL, accessed 26/08/2021.

Malamoud, Charles (1996), 'Paths of the Knife: Carving up the Victim in Vedic Sacrifice', in *Cooking the World: Ritual and Thought in Ancient India. Translated from the French by David White* (Delhi, Bombay, etc.: Oxford University Press), 169–80.

Manucci, Niccolò (1907–8), *Storia Do Mogor or, Mogul India, 1653–1708 by Niccolao Manucci, Venetian; Translated with Introduction and Notes, by William Irvine* (The Indian Texts Series; London: J. Murray), URL, accessed 04/10/2021.

Masai, François (1950), 'Principes et conventions de l'édition diplomatique', *Scriptorium*, 4: 177–93. DOI: 10.3406/scrip.1950.2294.

Mayrhofer, Manfred (1953–72), *Kurzgefaßtes etymologisches Wörterbuch des Altindoarischen; a Concise Etymological Sanskrit Dictionary* (Heidelberg: Carl Winter, Universitätsverlag).

McHugh, James (2021), *An Unholy Brew: Alcohol in Indian History and Religions* (New York: Oxford University Press), 416 pp., ISBN: 9780199375936, URL.

Meulenbeld, Gerrit Jan (1974), *The Mādhavanidāna and Its Chief Commentary: Chapters 1–10. Introduction, Translation, and Notes* (Leiden: Brill), ISBN: 978-90-04-03892-9; Meulenbeld provided a supplement to his 1974 listing of plant identities as an appendix in Das 2003.

—— (1984), 'The Surveying of Sanskrit Medical Literature', in id. (ed.), *Proceedings of the International Workshop on Priorities in the Study of Indian Medicine* (Groningen: Forsten), 37–56.

—— (1989), 'The Search for Clues to the Chronology of Sanskrit Medical Texts As Illustrated by the History of Bhaṅgā (cannabis Sativa Linn.)', *Studien zur Indologie und Iranistik*, 15: 59–70.

—— (1992), 'The Characteristics of a Doṣa', *Journal of the European Āyurvedic Society*, 2/1: 1–5, URL, accessed 31/08/2021.

—— (2008), *The Mādhavanidāna with "Madhukośa," the Commentary by Vijayarakṣita and Śrīkaṇṭhadatta (Ch. 1-10). Introduction, Translation, and Notes* (Delhi: Motilal Banarsidass); Meulenbeld provided a supplement to his 1974 listing of plant identities as an appendix in Das 2003.

Meulenbeld, Gerrit Jan (2011), 'The Relationships between Doṣas and Dūṣyas: A Study on the Meaning(s) of the Root Murch-/mūrch', *eJournal of Indian Medicine*, 4/2: 35–135, URL, accessed 13/10/2017.

Miles, M. (1999), 'Personal Communication', Mar.; Letter of 4 March.

Moureau, Sébastien. (2015), 'The Apparatus Criticus', in Alessandro Bausi et al. (eds.), *Comparative Oriental Manuscript Studies: An Introduction* (Hamburg: Tredition), 348–52, ISBN: 978-3-7323-1768-4, URL, accessed 04/07/2021.

Mukhopādhyāya, Girindranāth (1913), *The Surgical Instruments of the Hindus, with a Comparative Study of the Surgical Instruments of the Greek, Roman, Arab, and the Modern Eouropean (*sic*) Surgeons* (Calcutta: Calcutta University), ark : 13960 / t1zd2pq29, accessed 29/01/2018; Vol.2: ark:/13960/t9r25qd8m. Reprinted as a single volume, New Delhi, 1987.

Nadkarni, K. M. (1954), *Dr. K. M. Nadkarni's Indian Materia Medica, with Ayurvedic, Unani-tibbi, Siddha, Allopathic, Homeopathic, Naturopathic & Home Remedies, Appendices & Indexes ... in Two Volumes*, ed. A. K. Nadkarni, 2 vols. (3 ed., revised by A. K. Nadkarni, Bombay: Popular Prakashan), ark:/13960/t6rz4h160.

—— (1982*a*), *Dr. K. M. Nadkarni's Indian Materia Medica, with Ayurvedic, Unani-tibbi, Siddha, Allopathic, Homeopathic, Naturopathic & Home Remedies, Appendices & Indexes ... in Two Volumes*, ed. A. K. Nadkarni, 2 vols. (3 ed., revised and enlarged by A. K. Nadkarni, Bombay: Popular Prakashan), ISBN: 8171541429, URL.

—— (1982*b*), *Dr. K. M. Nadkarni's Indian Materia Medica, with Ayurvedic, Unani-tibbi, Siddha, Allopathic, Homeopathic, Naturopathic & Home Remedies, Appendices & Indexes ... in Two Volumes*, ed. A. K. Nadkarni, 2 vols. (3 ed., revised and enlarged by A. K. Nadkarni, Bombay: Popular Prakashan), ISBN: 8171541429, URL.

Narayana, Ala and Thrigulla, Saketh Ram (2011), 'Tangible Evidences of Surgical Practice in Ancient India', *Journal of Indian Medical Heritage*, 16: 1–18, URL, accessed 02/06/2021.

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

Oberlies, Thomas (2003), *A Grammar of Epic Sanskrit* (Indian Philology and South Asian Studies, 5; Berlin: De Gruyter), ISBN: 9783110144482. DOI: 10.1515/9783110899344.

Olivelle, Patrick (2005), *Manu's Code of Law: A Critical Edition and Translation of the Manava-dharmasastra*, With the editorial assistance of Suman Olivelle (South Asia research; New York: Oxford University Press), ISBN: 0195171462.

—— (2013), *King, Governance, and Law in Ancient India: Kauṭilya's Arthaśāstra. a New Annotated Translation* (New York: Oxford University Press), ISBN: 9780199891825. DOI: 10.1093/acprof:osobl/9780199891825.003.0001.

Osbaldeston, Tess Anne and Wood, R. P. A. (2000), *Dioscorides. De Materia Medica. Being an Herbal with Many Other Medicinal Materials Written in Greek in the First Century of the Common Era. a New Indexed Version in Modern English* [Introductory Notes by R. P. Wood] (Johannesburg: IBIDIS Press), ISBN: 0-620-23435-0, URL.

Pandey, Anshuman (2012), 'Proposal to Encode the Newar Script in ISO/IEC 10646', URL.

Pass, Gregory (2003), *Descriptive Cataloging of Ancient, Medieval, Renaissance, and Early Modern Manuscripts* (Chicago: American Library Association), ISBN: 0-8389-8218-2, URL.

Pillay, V. V. (2010), 'Common Indian Poisonous Plants', in D. A. Warrell, T. M. Cox, and J. D. Firth (eds.), *Oxford Textbook of Medicine* (5th edn., Oxford University Press), 1371–5. DOI: 10.1093/med/9780199204854.003.090302.

—— (2013), *Modern Medical Toxicology* (New Delhi: Jaypee Brothers Pvt. Ltd), ISBN: 9789350259658.

Pillay, Vijay V. and Sasidharan, Anu (2019), 'Oleander and Datura Poisoning: An Update', *Indian Journal of Critical Care Medicine*, 23/Supplement 4: 5250–5. DOI: 10.5005/jp-journals-10071-23302.

Preisendanz, Karin (2007), 'The Initiation of the Medical Student in Early Classical Āyurveda: Caraka's Treatment in Context', in Birgit Kellner et al. (eds.), *Pramāṇakīrtiḥ. Papers Dedicated to Ernst Steinkellner on the Occasion of His 70th Birthday. Part 2*, ii, 2 vols. (Wiener Studien zur Tibetologie und Buddhismuskunde, 70.2; Wien: Arbeitskreis für Tibetische Und Buddhistische Studien Universität Wien), 629–68, ISBN: 9783902501097, URL.

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.

Rai, Saurav Kumar (2019), 'Invoking 'Hindu' Ayurveda: Communalisation of the Late Colonial Ayurvedic Discourse', *The Indian Economic & Social History Review*, 56/4: 411–26. DOI: 10.1177/0019464619873820; Online first.

Rama Rao, B. et al. (2005), *Sanskrit Medical Manuscripts in India* (New Delhi: Central Council for Research in Ayurveda & Siddha), ark:/13960/t88h7763b.

Rây, Priyadaranjan, Gupta, Hirendra Nath, and Roy, Mira (1980), *Suśruta Saṃhita (a Scientific Synopsis)* (New Delhi: Indian National Science Academy), ark:/13960/t64511t6v, accessed 13/09/2019.

Rhys Davids, Thomas William and Stede, William (1921–5), *The Pali Text Society's Pali-English Dictionary* (London: The Pali Text Society), URL.

Rimal, Madhusudana and Wujastyk, Dominik (2022), 'MS Kathmandu NAK 1/1146', Pandit Project (18 May), URL.

Roşu, Arion (1989), *Un demi-siècle de recherches āyurvédiques. Gustave Liétard et Palmyr Cordier: Travaux sur l'histoire de la médecine indienne* (Paris: Institut de Civilisation Indienne).

Saha, Mridula (2015), *The History of Indian Medicine Based on the Vedic Literature Satapatha Brahmana* (Kolkata: The Asiatic Society), ISBN: 978-9381574294.

Sastri, Hrishikesh and Gui, Siva Chandra (1895–1917), *A Descriptive Catalogue of Sanskrit Manuscripts in the Library of Calcutta Sanskrit College* (Calcutta: Baptist Mission Press).

Sastri, P. P. S. (1933), *A Descriptive Catalogue of the Sanskrit Manuscripts in the Tanjore Maharaja Serfoji's Sarasvati Mahal Library Tanjore: Natya, Sangita, Kamasastra, Vaidya & Jyotisa, nos. 10650 – 11737* (Srirangam: Sri Vani Vilas Press), ark:/13960/t3nw8bc12.

Śāstrī, Vardhamāna Pārśvanātha (1940) (ed.), उग्रादित्याचार्यकृत कल्याणकारक (राष्ट्रभाषानुवादसहित) = *The Kalyāṇa-kārakam of Ugrādityacharya, Edited with Introduction, Translation, Notes, Indexes and Dictionary* (Sakhārāma Nemacaṃda Graṃthamālā, 129; Solāpura: Seṭha Goviṃdajī Rāvajī Dośī), ark:/13960/t2q617g4d.

Scott, H. (1817), 'Some Remarks on the Arts of India, with Miscellaneous Observations on Various Subjects', *Journal of Science and the Arts*, 2: 67–72, ill. after 133, ark:/13960/t9870jt4g; Breton 1826: 358–363 cites Scott's description of cataract couching.

Sena, Gaṅgāprasād et al. (1886–93) (eds.), सुश्रुतसंहिता...दल्हनाचार्य्य-कृत-निवन्ध-संग्रह, चक्रपाणिदत्त-कृत-भानुमती-टीका...वङ्गानुवाद...इरेजि प्रतिशब्द (Calcutta: Maṇirāma Press); Edition "g" in HIML: IB, 311.

Sharma, Har Dutt (1939), *Descriptive Catalogue of the Government Collections of Manuscripts Deposited at the Bhandarkar Oriental Research Institute, Vol. XVI, Part I, Vaidyaka* (Descriptive Catalogue of Manuscripts in the Government Manuscripts Library, XVI.I; Pune: Bhandarkar Oriental Research Institute), ark:/13960/t0ms6rc70, accessed 23/10/2019.

Sharma, Priya Vrat (1972), *Indian Medicine in the Classical Age* (Varanasi: Chowkhamba Sanskrit Series Office).

—— (1975), *Āyurved Kā Vaijñānik Itihās* (Jayakṛṣṇadāsa Āyurveda Granthamālā; Vārāṇasī: Caukhambā Orientalia).

—— (1982), *Ḍalhaṇa and his Comments on Drugs* (Delhi: Munshiram Manoharlal).

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

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

Shastri, R. Shama (1920) (ed.), बोधायनगृह्यसूत्रम् *The Bodhāyana Grihyasutra* (Mysore: University of Mysore), ark:/13960/t2t492622.

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

Singhal, G. D. et al. (1972–82), *Diagnostic [and Other] Considerations in Ancient Indian Surgery* (Varanasi: Singhal Publications); A translation of the *Suśruta-saṃhitā* in 10v.

Sircar, Dinesh Chandra (1987), '6. Rākshaskhāli (Sundarban) Plate; Śaka 1118', *Epigraphia Indica (1953–54)*, 30: 42–3.

Sivarajan, V. V. and Balachandran, Indira (1994), *Ayurvedic Drugs and Their Plant Sources* (New Delhi, Bombay, Calcutta: Oxford & IBH Publishing).

Sleeman, W. H. (1893), *Rambles and Recollections of an Indian Official* (London: Constable), ark:/13960/t22c4bx7w, accessed 14/03/2018; V. 2 at http://n2t.net/ark:/13960/t2s52bq7w.

Smith, Brian K. (1994), *Classifying the Universe: The Ancient Indian* Varṇa *System and the Origins of Caste* (New York, Oxford: Oxford University Press), ISBN: 0-19-508498-5.

Spink, M. S. and Lewis, G. L. (1973) (eds.), *Albucasis on Surgery and Instruments: A Definitive Edition of the Arabic Text with English Translation and Commentary* (London: Wellcome Institute of the History of Medicine).

Srikantha Murthy, K. R. (2000–2), *Illustrated Suśruta Saṃhitā: Text, English Translation, Notes, Appendices and Index* (Jaikrishnadas Ayurveda Series, 102; 1st edn., Varanasi: Chaukhambha Orientalia).

Steingass, F. (1930), *A Comprehensive Persian-English Dictionary Including the Arabic Words and Phrases to Be Met with in Persian Literature* (London: Kegan Paul, Trench, Trubner).

Strauss, Bettina (1934), 'Das Giftbuch des Šānāq: eine Literaturgeschichtliche Untersuchung', *Quellen und Studien zur Geschichte der Naturwissenschaften und der Medizin*, 4/2: [89]–[152] followed by Arabic text.

Suvedī, K. S. and Tīvārī, N. (2000) (eds.), *Sauśrutanighaṇṭuḥ: granthādau vistṛtena granthavaiśiṣṭyaprakāśakenopodghātena avasāne ca dravyāṇām anekabhāṣānām āvalī- paryāyasaṅgrahābhyāṃ samalaṅkrtaḥ Suśrutasaṃhitāyāṃ prayuktānām auṣadhadravyāṇāṃ paryāya-guṇakarmavarṇātmako pūrvagranthaḥ* (Belajhuṇḍī, Ḍāṅ: Mahendrasaṃskṛtaviśvavidyālayaḥ).

Tavernier, Jean-Baptiste (1684), *Collections of Travels through Turky (*sic*), into Persia, and the East-Indies* (London: M. Pitt).

The Unicode Consortium (1991–2020), 'The Unicode Standard 13.0, NewaRange: 11400–1147F', URL, accessed 20/07/2021.

Thorburn, S. S. (1876), *Bannu; or Our Afghan Frontier* (London: Trübner & Co.), URL, accessed 10/09/2019; Reprinted Lahore: Niaz Ahmad, 1978.

Unschuld, Paul Ulrich (1984), *Medicine in China: A History of Ideas* (Berkeley: University of California Press), ISBN: 0520050231.

Valiathan, M. S. (2007), *The Legacy of Suśruta* (Hyderabad, Chennai, etc.: Orient Longman).

Velankar, H. D (1925–30), *Descriptive Catalogue of the Sanskṛta and Prākṛta Manuscripts in the Library of the Bombay Branch of the Royal Asiatic Society* (Bombay: Royal Asiatic Society, Bombay), ark:/13960/t53g00h0n; Biswas #0115.

Warrier, P. K., Nambiar, V. P. K., and Ramankutty, C. (1994–6) (eds.), *Indian Medicinal Plants: A Compendium of 500 Species. Vaidyaratnam P. S. Varier's Arya Vaidya Sala, Kottakal* (Madras: Orient Longman).

Watt, George (1889–96), *A Dictionary of the Economic Products of India* (Calcutta: Dept. Revenue and Agriculture, Government of India), URL, accessed 28/04/2021.

—— (1908), *The Commercial Products of India, Being an Abridgement of "the Dictionary of the Economic Products of India"* (London: John Murray), ark:/13960/t9t14xh3x.

Whitney, William Dwight (1885), *The Roots, Verb-forms, and Primary Derivatives of the Sanskrit Language. A Supplement to his Sanskrit Grammar* (Leipzig: Breitkopf and Härtel), ark:/13960/t3qv3p906.

Wilson, H. H. (1823), 'On the Medical and Surgical Sciences of the Hindus', *The Oriental Magazine and Calcutta Review*, 1: 207–12, 349–56, URL.

Wren, R. C. (1956), *Potter's New Cyclopaedia of Botanical Drugs and Preparations*, ed. R. W. Wren (Rustington, Sussex: Health Science Press), ark:/13960/t14n65c9g.

Wujastyk, Dagmar (2012), *Well-mannered Medicine: Medical Ethics and Etiquette in Classical Ayurveda* (New York: Oxford University Press). DOI: 10.1093/acprof:oso/9780199856268.001.0001.

—— (2019), 'Iron Tonics: Tracing the Development from Classical to Iatrochemical Formulations in Ayurveda', *HIMALAYA, the Journal of the Association for Nepal and Himalayan Studies*, 39/1, ISSN: 2471-3716, URL, accessed 23/07/2019.

Wujastyk, Dominik (1993), 'Indian Medicine', in W. F. Bynum and Roy Porter (eds.), *Companion Encyclopedia of the History of Medicine*, i (London: Routledge), chap. 33, 755–78, ISBN: 0-415-04771-4, URL.

Wujastyk, Dominik (2002), 'Cannabis in Traditional Indian Herbal Medicine', in Ana Salema (ed.), *Āyurveda at the Crossroads of Care and Cure. Proceedings of the Indo-European Seminar on Ayurveda held at Arrábida, Portugal, in November 2001* (Lisbon: Centro de História de Além-Mar, Universidade Nova de Lisboa), 45–73, ISBN: 972-98672-5-9, URL, accessed 27/05/2019.

—— (2003), *The Roots of Ayurveda: Selections from Sanskrit Medical Writings* (Penguin Classics; 3rd edn., London, New York, etc.: Penguin Group), ISBN: 0-140-44824-1.

—— (2004), 'Agni and Soma: A Universal Classification', *Studia Asiatica: International Journal for Asian Studies*, IV–V, ed. Eugen Ciurtin: 347–70, ISSN: 1582–9111, URL.

—— (2013), 'New Manuscript Evidence for the Textual and Cultural History of Early Classical Indian Medicine', in *Medical Texts and Manuscripts in Indian Cultural History*, ed. Dominik Wujastyk, Anthony Cerulli, and Karin Preisendanz (New Delhi: Manohar), 141–57, URL.

—— (2021), 'MS London BL H. T. Colebrooke 908', URL.

Yano, Michio (1986), 'A Comparative Study of *Sūtrasthānas*: Caraka, Suśruta, and Vāgbhaṭa', in Teizo Ogawa (ed.), *History of Traditional Medicine: Proceedings of the 1st and 2nd International Symposia on the Comparative History of Medicine—East and West* (Osaka: Division of Medical History, the Taniguchi Foundation), 325–44.

Zimmermann, F. (1983), 'Suśrutasamhita. Essay review.', *Bulletin of the History of Medicine*, 57/2: 291–3, ISSN: 00075140, URL.

Zimmermann, Francis (1999), *The Jungle and the Aroma of Meats* (2nd edn., Delhi: Motilal Banarsidass), ISBN: 8120816188.

Zysk, Kenneth G. (1984), 'An Annotated Bibliography of Translations into Western Languages of Principle Sanskrit Medical Treatises', *Clio Medica*, 19/3–4: 281–91.

—— (1985), *Religious Healing in the Veda: With Translations and Annotations of Medical Hymns from the Rgveda and the Atharvaveda and Renderings from the Corresponding Ritual Texts* (Transactions of the American Philosophical Society; Philadelphia: American Philosophical Society), ISBN: 0871697572.

—— (1986), 'The Evolution of Anatomical Knowledge in Ancient India with Special Reference to Cross-cultural Influences', *Journal of the American Oriental Society*, 106: 687–705. DOI: 10.2307/603532.

Zysk, Kenneth G. (2000), *Asceticism and Healing in Ancient India: Medicine in the Buddhist Monastery* (Indian Medical Tradition; 2nd edn., Delhi: Motilal Banarsidass); First published 1991. Reprint of 1998 edition.

Glossary

Glossary of Plants

beautyberry śyāmā → priyaṅgu. Callicarpa macrophylla, Vahl.. See AVS 1.334, NK #420 15

beggarweed Desmodium gangeticum (L.) DC (Dymock 1.428, GJM 602, NK #1192; ADPS 382, 414 and AVS 2.319, 4.366 are confusing) 15

black cardamom hareṇu. Amomum subulatum, Roxb.?. See PVS Caraka 2.734, AVS 1.128, NK #154 14, 15

cardamom elā. Elettaria cardamomum, Maton. See AVS 2.360, NK #924, Potter 66 15

cassia cinnamon patra. Cinnamomum tamala, (Buch.-Ham.) Nees. See AVS 2.84, NK # 15

cherry elavāluka. Prunus cerasus, L.?. See BVDB 58, NK #2037, Singh and Chunekar 1972: 58 15

cobra's saffron nāgapuṣpa. Mesua ferrea, L.. See NK #1595 15

costus kuṣṭha. Saussurea costus, Clarke. See NK #2239 15

country mallow balā. Sida cordifolia, L.. See ADPS 71, NK #2297 15

crape jasmine crape jasmine. Tabernaemontana divaricata (L.) R.Br. ex Roem. & Schultes. See GJM 557, AVS 5.232 15

deodar bhadradāru. Cedrus deodara, (Roxb.ex D.Don) G. Don. See AVS 41, NK #516 15

embelia viḍaṅga. Embelia ribes, Burm. f.. See ADPS 507, AVS 2.368, NK #929, Potter 113 15

hogweed punarnavā. Boerhaavia diffusa, L.. See ADPS 387, AVS 1.281, NK #363 14

Indian barberry dāruharidrā. Berberis aristata, DC.. See Dymock 1.65, NK #685, GJM 562, IGP 141 15

Indian madder mañjiṣṭhā. Rubia cordifolia, L.. See IGP, GIMP 215, Singh and Chunekar 1972: 289 15

Indian sarsaparilla sārivā. anantā (Hemidesmus indicus, (L.) R. Br.ADPS 434, AVS 3.141–5, NK #1210) and black creeper (pālindī. Ichnocarpus frutescens, (L.) R.Br. or Cryptolepis buchanani, Roemer & Schultes AVS 3.141, 3.145, 3.203, NK #1283, #1210, ADPS 434) 15

liquorice madhuka. Glycyrrhiza glabra, L.. See AVS 3.84, NK #1136 15

poison berry bṛhatī. Solanum violaceum, Ortega. See ADPS 100, NK #2329, AVS 5.151 15

rosha grass dhyāmaka. Cymbopogon martinii (Roxb.) Wats. See AVS 2.285, NK #177 15

sandalwood candana. Santalum album, L.. See ADPS 111, NK #2217 15

three heating spices śuṇṭhī (Dried ginger) Zingiber officinale, Roscoe. ADPS 50, NK #2658, AVS 5.435, IGP 1232, pippalī (long pepper) Piper longum, L.ADPS 374, NK #1928, and marica (black pepper) Piper nigrum, L.ADPS 294, NK #1929 14

water-lily utpala. Nymphaea stellata, Willd.. See GJM 528, IGP 790; Dutt 110, NK #1726 15

white clitoria sitā → śvetā? Clitoria ternatea, L.. See AVS 2.129, NK #621 15

yellow-berried nightshade kṣudrā. Solanum virginianum, L.. See ADPS 100, NK #2329, AVS 5.164 15

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 Studies. 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.

Todo list