A Translation of the New Edition of the *Suśrutasaṃhitā*

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Abstract

The Suśruta Project is producing a new Sanskrit text edition of the *Suśrutasaṃhitā* based on the early Nepalese manuscripts.[1] As we gradually transcribe and edit the manuscripts, we are producing this new translation of the classic work.

1 MS Kathmandu KL 699, MS Kathmandu NAK 1-1079, and MS Kathmandu NAK 5-333.

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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.[100]

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.[101] 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.[102]

Translation

1 And now I shall explain what should be known about stationary poisons.[103]

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,

100 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).

101 See Wujastyk 2003: 80–81.

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

103 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],[104]
  2. sweet-scented oleander (*aśvamāraka*)[ii],[105]
  3. jequirity (*guñjā*)[iii],[106]
  4. aconite (*subhaṅgurā*)[iv],[107]
  5. *karaṭā*,[108] and ending with
  6. leadwort (*vidyutśikhā* → *agni- or rakta-śikhā?*)[v],[109]
  7. 'endless' (*ananta*)[vi], and
  8. *vijayā*,[110]
- 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.

104 Liquorice eaten in excess can be poisonous.

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

106 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.

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

108 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.

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

110 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],[111],
    - 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

111 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];[112]
- the three milky sap (*kṣīra*)-poisons are:
    - purple calotropis (*kumudaghnī* → *arka?*)[xxxv],[113]
    - oleander spurge (*snuhī*)[xxxvi], and
    - 'web-milk' (*jālakṣīri*)[xxxvii];
- the two element (*dhātu*)-poisons are:
    - 'foam-stone' (*phenāśma*)[xxxviii], and

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

113 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],[114]
- the thirteen tuber-poisons are:
    - jequirity (*kālakūṭa*)[xl],[115]
    - 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

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

115 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].[116]

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*).[117]
The milky sap (*kṣīra*)-poisons make one froth at the mouth, cause loose stool, and make the tongue feel heavy.[118] 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.

116 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.

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

118 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*),[119] 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.[120]

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*).[121]

15b With great aconite (*mahāviṣa*) one's limbs grow weak, there is a burning feeling and swelling of the belly.[122]

-> ativiṣa

16a With puṇḍarīka (*puṇḍarīka*), one's eyes go red, and one's belly becomes distended.[123]

16b With mūlaka (*mūlaka*), one's body is drained of colour and the limbs are paralysed.[124]

Look up the ca. reference.

119 *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.

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

121 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.

122 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.

123 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.

124 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

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.[125]

17b With atis root (*śṛṅgīviṣa*)[lviii], one gets violent knots (*granthi*) and stabbing pains in the heart.[126]

18a With markaṭa (*monkey*), one leaps up, laughs, and bites.[127]

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.[128]

22 Because it is fast-acting it kills quickly, and because of its pervasiveness it

poison is unidentified.

125 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.

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

127 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.

128 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.

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

affects one's whole physical constitution (*prakṛti*).[129] Because of its expansiveness it enters into the humour (*doṣa*)s, bodily constiuents (*dhātu*)s, and even the impurities. Because it is limpid it overflows, and because it is light it is difficult to treat. Because it is indigestible it is hard to eliminate. Therefore, it causes suffering for a long time.

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

Slow-acting poison

25cd–26 A poison that is old or destroyed by anti-toxic medicines, or else dried up by blazing fire, wind, or sunshine, or which has just lost its qualities by itself,[130] becomes a slow-acting poison (*dūṣīviṣa*).[131] 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.[132]

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.[133] 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

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

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

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

132 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.

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

(*aṅgamarda*).[134] 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*),[135] dwindling away (*kṣaya*) of flesh, swelling of the feet, hands, and face, the fever called *pralepaka*, vomiting and diarrhoea.[136] 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 (*parśvabheda*), all his humours are irritated, and he also has a pain in his intestines (*pakvādhāna*).

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

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

135 The last ailment could perhaps be ringworm.

136 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

39b In the seventh, there are breaks in his shoulders, back and loins, and he stops breathing.[137]

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, he should drink a medical antidote mixed with oil. [138]

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 is the same as for diarrhoea. And in the seventh, he should have medicated powder blown up his nose, and after having a 'crow's foot (*kākapada*)' cut made on his head, he should have a piece of bloody meat put on it.[139]

44 In the intervals between each shock, assuming that the above actions have been performed, one should give the patient cold porridge together with ghee and honey, to take away the poison.

45–46 Both kinds of poison are destroyed by a porridge prepared with the stewed juice (*niṣkvātha*) of the following: luffa (*koṣātakya*)[lx], migraine tree (*ag-*

137 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).

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

139 Suśruta explains the term *avapīḍa* 'medicated nasal powder' as the procedure either of administering nasal drops (*avapīḍa*), or blowing medicated powder into the nose (4.40.44–46): it is particularly recommended for unconscious or incapable patients. The 'crow's-foot' procedure is also recommended later in the 'Section on Procedures' (5.5.24a) in cases of snakebite. It is also described by Caraka (see p. **??** below).

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

lx Luffa cylindrica, (L.) M. J. Roem. or L. acutangula, (L.) Roxb.; see ADPS 252, NK #1514 etc.

nimantha)[lxi], velvet-leaf (*pāṭhā*)[lxii], 'sun-creeper' (*sūryavallī* → *jīvantī?*)[lxiii], heart-leaved moonseed (*amṛtā*)[lxiv], myrobalan (*abhayā*)[lxv]s, siris (*śirīṣa*)[lxvi], white siris (*kiṇihī*)[lxvii], selu plum (*śelu*)[lxviii], white clitoria (*giryāhvā*)[lxix], the two kinds of turmeric (*rajanī*)[lxx], the two hogweed (*punarnavā*)[lxxi]s (red and white), black cardamom (*hareṇu*)[lxxii], the three pungent spices (*trikaṭu*) (dried ginger (*śuṇṭhī*)[lxxiii], long pepper (*pippalī*)[lxxiv], and black pepper (*marica*)[lxxv]), the two Indian sarsaparillas (*sārive*) (country sarsaparilla (*anantā*)[lxxvi] and black creeper (*pālindī*)[lxxvii]) and country mallow (*balā*)[lxxviii].

47–49 The 'invincible' ghee

There is a famous ghee called 'Invincible' (*ajeya*). It rapidly destroys all poisons and 'always conquers'. It is made with a mash (*kalka*) of the following plants: liquorice (*madhuka*)[lxxix], Indian rosebay (*tagara*)[lxxx], costus (*kuṣṭha*)[lxxxi], deodar (*bhadradāru*)[lxxxii], black cardamom (*hareṇu*)[lxxxiii],

lxi Premna corymbosa, Rottl.; see IMP 1927, ADPS 21, NK #2025, AVS 4.348; GJM 523: = P. integrifolia/serratifolia, L.

lxii Cissampelos pariera, L.; see ADPS 366, NK #592, GJM 573, IMP 1.95; cf. AVS 2.277

lxiii Holostemma ada-kodien, Schultes; see ADPS 195, AVS 3.167, NK #1242, IMP 3.1619

lxiv Tinospora cordifolia, (Willd.) Hook.f. & Thoms.?; see ADPS 38, NK #2472 & 624, Dastur #229

lxv Terminalia chebula, Retz.; see ADPS 172, NK #2451, Potter 214

lxvi Albizia lebbeck, Benth.; see AVS 1.81, NK #91

lxvii Albizia procera, (Roxb.) Benth.; see GVDB 98, NK #93

lxviii Cordia myxa, L. non Forssk.; see GJM 529 (2), IGP 291b, cf. IMP 3.1677f; cf. AVS 2.180 (C. dichotoma, Forst.f.), NK #672 (C. latifolia, Roxb.)

lxix Clitoria ternatea, L.; see AVS 2.129, NK #621

lxx Curcuma longa, L.; see ADPS 169, AVS 2.259, NK #750

lxxi Boerhaavia diffusa, L.; see ADPS 387, AVS 1.281, NK #363

lxxii Amomum subulatum, Roxb.?; see PVS Caraka 2.734, AVS 1.128, NK #154

lxxiii Zingiber officinale, Roscoe.; see ADPS 50, NK #2658, AVS 5.435, IGP 1232

lxxiv Piper longum, L.; see ADPS 374, NK #1928

lxxv Piper nigrum, L.; see ADPS 294, NK #1929

lxxvi Hemidesmus indicus, (L.) R. Br.; see ADPS 434, AVS 3.141–5, NK #1210

lxxvii Ichnocarpus frutescens, (L.) R.Br. or Cryptolepis buchanani, Roemer & Schultes; see AVS 3.141, 3.145, 3.203, NK #1283, #1210, ADPS 434

lxxviii Sida cordifolia, L.; see ADPS 71, NK #2297

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

lxxx Tabernaemontana divaricata (L.) R.Br. ex Roem. & Schultes.; see GJM 557, AVS 5.232

lxxxi Saussurea costus, Clarke; see NK #2239

lxxxii Cedrus deodara, (Roxb.ex D.Don) G. Don; see AVS 41, NK #516

lxxxiii Amomum subulatum, Roxb.?; see PVS Caraka 2.734, AVS 1.128, NK #154

Alexandrian laurel (*punnāga*)[lxxxiv], cherry (*elavāluka*)[lxxxv], cobra's saffron (*nāgapuṣpa*)[lxxxvi], water-lily (*utpala*)[lxxxvii], white clitoria (*sitā* → *śvetā?*)[lxxxviii], embelia (*viḍaṅga*)[lxxxix], sandalwood (*candana*)[xc], cassia cinnamon (*patra*)[xci], 'going-to-my-darling' (*priyaṅgu*)[xcii], rosha grass (*dhyāmaka*)[xciii], the two turmerics (ordinary turmeric (*rajanī*)[xciv] and Indian barberry (*dāruharidrā*)[xcv]), the two Indian nightshade (*bṛhatī*)s (poison berry (*bṛhatī*)[xcvi] and yellow-berried nightshade (*kṣudrā*)[xcvii]), the two Indian sarsaparillas (*sārive*) (country sarsaparilla (*anantā*)[xcviii] and black creeper (*pālindī*)[xcix]), beggarweed (*sthirā* → *śālaparṇī*)[c], and 'spotted-leaf' (*sahā* → *pṛśniparṇī*)[ci].

50–52 Curing the 'slow-acting' poison

Someone suffering from 'slow-acting poison (*dūṣīviṣa*)' should be well sweated, and purged both top and bottom. Then he should in all cases be made to drink the following antidote which removes 'slow-acting poison': Take long pepper (*pippalī*)[cii], rosha grass (*dhyāmaka*)[ciii], spikenard

lxxxiv Calophyllum inophyllum, L.; see AVS 1.338, NK #425
lxxxv Prunus cerasus, L.?; see BVDB 58, NK #2037
lxxxvi Mesua ferrea, L.; see NK #1595
lxxxvii Nymphaea stellata, Willd.; see GJM 528, IGP 790; Dutt 110, NK #1726
lxxxviii Clitoria ternatea, L.; see AVS 2.129, NK #621
lxxxix Embelia ribes, Burm. f.; see ADPS 507, AVS 2.368, NK #929, Potter 113
xc Santalum album, L.; see ADPS 111, NK #2217
xci Cinnamomum tamala, (Buch.-Ham.) Nees; see AVS 2.84, NK #
xcii Callicarpa macrophylla, Vahl.; see AVS 1.334, NK #420
xciii Cymbopogon martinii (Roxb.) Wats; see AVS 2.285, NK #177
xciv Curcuma longa, L.; see ADPS 169, AVS 2.259, NK #750
xcv Berberis aristata, DC.; see Dymock 1.65, NK #685, GJM 562, IGP 141
xcvi Solanum violaceum, Ortega; see ADPS 100, NK #2329, AVS 5.151
xcvii Solanum virginianum, L.; see ADPS 100, NK #2329, AVS 5.164
xcviii Hemidesmus indicus, (L.) R. Br.; see ADPS 434, AVS 3.141–5, NK #1210
xcix Ichnocarpus frutescens, (L.) R.Br. or Cryptolepis buchanani, Roemer & Schultes; see AVS 3.141, 3.145, 3.203, NK #1283, #1210, ADPS 434
c Desmodium gangeticum (L.) DC; see Dymock 1.428, GJM 602, NK #1192; ADPS 382, 414 and AVS 2.319, 4.366 are confusing
ci Uraria lagopoides, DC; see GJM 577, Dymock 1.426, IMP 1.750ff., NK #2542; ADPS 382, AVS 2.319 4.366 are confusing
cii Piper longum, L.; see ADPS 374, NK #1928
ciii Cymbopogon martinii (Roxb.) Wats; see AVS 2.285, NK #177

(*māṃsī*)[civ], lodh tree (*śāvara* → *lodhra*)[cv], nutgrass (*paripelava* → *plava* → *mustā?*)[cvi], soda crystals (*suvarcikā* → *suvarjikā*)[cvii], cardamom (*sūkṣmailā*)[cviii], 'scented pavonia' (*toya* → *bālaka*)[cix], 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*.

civ Nardostachys grandiflora, DC.; see NK #1691
cv Symplocos racemosa, Roxb.; see ADPS 279, NK #2420
cvi Cyperus rotundus, L.; see ADPS 316, AVS 2.296, NK #782
cvii Sodium carbonate; see NK 2, p. 101
cviii Elettaria cardamomum, Maton; see AVS 2.360, NK #924, Potter 66
cix Pavonia odorata, Willd.; see ADPS 498, NK #1822

Abbreviations

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Glossary

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