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For Printing

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.

 $_{\rm 1}$ $\,$ MS Kathmandu KL 699, MS Kathmandu NAK 1-1079, and MS Kathmandu NAK 5-333.

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Kalpasthāna, adhyāya 2

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, Dalhana, 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

Dalhaṇa 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. 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.
- Traditionally, the ten are: root, leaf, fruit, flower, bark, milky sap $(k \circ \bar{\imath} r a)$, pith $(s \bar{\imath} r a)$, resin $(n i r y \bar{\imath} s a)$, the elements $(d h \bar{\imath} t u)$, 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 $(gu\tilde{n}j\bar{a})^{iii}$, ¹⁰⁶
 - 4. aconite (subhangurā)iv, 107
 - 5. *karaṭā*, 108 and ending with
 - 6. leadwort (vidyutśi $kh\bar{a} \rightarrow agni$ or rakta-śi $kh\bar{a}$?) $^{\rm v}$, 109
 - 7. 'endless' (ananta)vi, and
 - 8. *vijayā*, 110
- the leaf-poisons include:
 - 'poison-leaf' (viṣapatrikā)^{vii},

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 bhangurā without the prefix su-"good."
- 108 This poisonous root cannot at present be identified. Similar-sounding candidates include <code>karkaṭaka</code>, <code>karaghāṭa</code> (emetic nut), and <code>karahāṭa</code>, 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 <code>karaṭa</code> (mn.) with safflower (<code>Carthamus tinctorius</code>, 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.
- 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 $\rightarrow bhangura = ativiṣ\bar{a}$? Aconitum ferox, Wall. ex Ser.; see NK #38
- v Plumbago zeylanica (or rosea?), L.; see NK #1966, 1967
- vi ?; see ?
- vii unknown; see?

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

Note about Gayī's edi-

- 'drum-giver' (lambaradā) viii,
- thorn apple (karambha)^{ix}, and
- 'big thorn apple' (*mahākarambha*)^x;
- the fruits of items like: jequirity $(gu\tilde{n}j\bar{a})^{xi}$, rūṣkara $()^{xii}$, viṣa $()^{xii}$, and vedikā $()^{xiv}$, are
 - kumudavati (kumadavati)**,
 - renuka (?)^{xvi},
 - kurūkaka (?)^{xvii}
 - 'little bamboo' (*venuka*)^{xviii}, 111,
 - thorn apple (*karambha*)^{xix},
 - 'big thorn apple' (mahākarambha)xx,
 - 'pleaser' (nandanā)*xi,
 - 'crow' (kāka)^{xxii},
- the flower-poisons include those of:
 - rattan (vetra)^{xxiii},
 - wild chinchona (*kādamba*)^{xxiv},
 - black pepper $(vall\bar{\imath}ja \rightarrow marica)^{xxv}$,
 - thorn apple (*karambha*)^{xxvi}, and

111 Not poisonous.

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viii unknown; see?
    Datura metel, L.; see AVS 2.305 (cf. Abhidhānamañjarī), NK #796 ff., Potter 292 f., ADPS 132.
    Datura metel, L.?; see AVS 2.305 (cf. Abhidhānamañjarī), NK #796 ff., Potter 292 f., ADPS 132.
    ; see
хi
xii ; see
xiii; see
xiv; see
xv unknown; see?
xvi ?; see Piper aurantiacum Wall. (NK: #1924) is not poisonous.
xvii?; see?
xviiiBambusa 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?
xxiiiCalamus rotang, L.; see AVS 1.330, NK #413
xxivAnthocephalus cadamba, Miq.; see NK #204
xxv Piper nigrum, L.?; see NK #1929; Rā.6.115, Dha.4.85, Dha.2.88
xxviDatura metel, L.; see AVS 2.305 (cf. Abhidhānamañjarī), NK #796 ff., Potter 292 f., ADPS 132.
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- big thorn apple (*mahākarambha*)^{xxvii};
- the seven bark, pith $(s\bar{a}ra)$ and resin $(niry\bar{a}sa)$ poisons are:
 - 'gutboiler' (antrapācaka) xxviii,
 - 'blade' (kartarīya)^{xxix},
 - wild mustard (saurīyaka)**xx,
 - emetic nut $(karagh\bar{a}_{\dagger}a \rightarrow karah\bar{a}_{\dagger}a? \rightarrow madana)^{xxxi}$,
 - thorn apple (*karambha*)^{xxxii},
 - wild asparagus ($nandana \rightarrow bahuputr\bar{a}$?) xxxiii , and
 - munj grass (*nārācaka*)^{xxxiv};¹¹²
- the three milky sap ($k \bar{s} \bar{t} r a$)-poisons are:
 - purple calotropis ($kumudaghn\bar{\imath} \rightarrow arka?$)**XXV, 113
 - oleander spurge (snuhī)xxxvi, and
 - 'web-milk' (*jālakṣīri*)^{xxxvii};
- the two element ($dh\bar{a}tu$)-poisons are:
 - 'foam-stone' (phenāśma)xxxviii, and

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xxviiDatura metel, L.?; see AVS 2.305 (cf. Abhidhānamañjarī), NK #796 ff., Potter 292 f., ADPS 132. xxviiinknown; see ? xxixunknown; see ? xxx Cleome viscosa, L.? (cf. Rā.4.144); see AVS 2.116, NK #615 xxxiRandia dumetorum, Lamk.; see NK #2091 xxxiDatura metel, L.; see AVS 2.305 (cf. Abhidhānamañjarī), NK #796 ff., Potter 292 f., ADPS 132. xxxiiAsparagus racemosus, Willd.; see ADPS 441, AVS 1.218, NK #264, IGP 103, IMP 4.2499ff., Dymock 482ff. xxxiiSaccharum bengalense, Retz.?; see NK #2184 xxxviCalotropis gigantea, (L.) R. Br.; see ADPS 52, AVS 1.341, NK #427, Potter 63 xxxviEuphorbia neriifolia, L., or E. antiquorum, L.; see ADPS 448, AVS (2.388), 3.1, NK #988, IGP 457b xxxviinknown; see ? xxxviinknown; see ?
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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.

- orpiment (haritāla)xxxix;114
- the thirteen tuber-poisons are:
 - jequirity $(k\bar{a}lak\bar{u}ta)^{xl}$, 115
 - wolfsbane (vatsanābha)^{xli}
 - Indian mustard (sarṣapa)*lii,
 - leadwort $(p\bar{a}laka \rightarrow citraka)^{xliii}$
 - 'muddy' (kardama)xliv, the
 - 'Virāṭa's plant' (vairāṭaka)xlv,
 - nutgrass (mustaka)^{xlvi}
 - atis root (śṛṅgīviṣa)^{xlvii},
 - sacred lotus (*prapuṇḍarīka*)^{xlviii},
 - radish $(m\bar{u}laka)^{xlix}$,
 - 'alas, alas' (hālāhala)¹,
 - 'big poison' (*mahāviṣa*)^{li}, and

The *Rajanighanṭuparisiṣṭa* (9.35) gives *kalakuṭaka* as a synonym for *karaskara*, or *Strychnos nux-vomica*, L., whose seeds are notoriously poisonous.

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xxxi&rsenii trisulphidum; see NK v. 2, p. 20 ff.
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¹¹⁴ Dutt (1922: 38–42) conjectured that 'foam-stone' may be impure white arsenic obtained by roasting orpiment.

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*

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

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

xlviiNelumbo nucifera, Gaertn.; see Dutt 110, NK #1698

xlix Raphanus sativus, L.; see NK #2098

l unknown; see Cf. Sodhalanighantu p.43 (sub bola) = stomaka = vatsanābha

li unknown; see?

• galls (karkata)^{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 ($\bar{a}dhm\bar{a}na$) and sleep ($sv\bar{a}pa$). The consumption of poisons from bark, pith ($s\bar{a}ra$) and resin ($niry\bar{a}sa$) will cause foul breath, hoarseness ($p\bar{a}rusya$), a headache, and a discharge of phlegm (kapha). 117

The milky sap $(k \bar{s} \bar{t} r a)$ -poisons make one froth at the mouth, cause loose stool, and make the tongue feel heavy. The element $(dh \bar{a} t u)$ -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), Palhaṇa glosses hoarseness (pāruṣya) as vāgrūkṣatā, "a rough, dry voice."

¹¹⁸ At 6.54.10 (Su 1938: 773), Dalhaṇa glosses loose stool (viḍbheda) as dravapurīṣatā, "having liquid stool."

lii Rhus succedanea, L.; see NK #2136

With jequirity $(k\bar{a}lak\bar{u}ta)^{lii}$, there is numbness and very severe trembling. With wolfsbane $(vatsan\bar{a}bha)^{liv}$, there is rigidity of the neck, and the faeces, and urine become yellow.

With sārṣapa ($s\bar{a}rṣapa$),¹¹⁹ the wind becomes defective ($v\bar{a}tavaigunya$), there is constipation ($\bar{a}n\bar{a}ha$), and lumps (granthi) start to appear. With leadwort ($p\bar{a}laka \rightarrow citraka$)^{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

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

-> ativișa

- 16a With puṇḍarīka (puṇḍarīka), one's eyes go red, and one's belly becomes distended. 123
- 16b With mūlaka ($m\bar{u}laka$), 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 *Rājanighantu* (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 <code>pundarīka</code> 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 <code>Carakasam-hitāci.23.12</code>.
- 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
- With atis root $(\acute{s}r\acute{n}g\bar{\imath}visa)^{lviii}$, one gets violent knots (granthi) and stabbing pains in the heart. 126
- 18a With markata (*monkey*), one leaps up, laughs, and bites. 127
- 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 (sūksma),
- fast-acting,
- pervasive (vyavāyin),
- expansive (vikāsin),
- limpid (viśada),
- light, and
- indigestible.
- 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
- Because it is fast-acting it kills quickly, and because of its pervasiveness it

- 125 Identification of $h\bar{a}l\bar{a}hala$ is uncertain. It may simply be a mythical poison, or its specific identity may have been lost over the centuries. Late nighantus identify it as $stomaka = vatsan\bar{a}bha$, i.e., Aconitum napellus, L. (Sodhalanighantu p.43). Dalhana 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 Palhana 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

poison is unidentified.

affects one's whole physical constitution (prakrti).¹²⁹ Because of its expansiveness it enters into the humour (doṣa)s, bodily constituents ($dh\bar{a}tu$)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.

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

- 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, becomes a slow-acting poison $(d\bar{u}_{\bar{s}\bar{i}}vi_{\bar{s}}a)^{131}$ 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
 - 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 Dalhana on 5.2.22 (Su 1938: 565) explained this as "takes the form of pervading the whole body (akhiladehavyāptirūpam)."

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

¹³¹ Dalhana 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.

- These various disorders are of many different types: one poison may produce madness, while another one may cause constipation (\$\bar{a}n\bar{a}ha), and yet another may ruin the semen. One may cause emaciation, while another pallid skin disease (\$kuṣṭha).
- Something is "corrupted" by repetitively keeping to bad locations, times, foods, and sleeping in the daytime. Or, traditionally, "corrupting poison" (slow-acting poison ($d\bar{u}$ \dot{s} \bar{i} -vi \dot{s} a)) is so called because it may corrupt ($d\bar{u}$ \dot{s} ayet) the body tissue ($dh\bar{a}tu$)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.

- In the second, he trembles, feels exhausted, has a burning feeling, as well as a sore throat. When the poison reaches the stomach ($\bar{a}m\bar{a}\dot{s}aya$), it causes pain in the chest (hrd).
- In the third,his palate goes dry, he gets violent pain ($\sin \bar{u}$) in the stomach ($\sin \bar{u}$), and his eyes become weak, swollen and yellow.
- In the fourth shock, it causes the intestines and stomach to be exhausted $(s\bar{a}da)$, he gets hiccups, a cough, a rumbling in the gut (antra), and his head becomes heavy too.
- 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 Dalhana 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 Dalhana, 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.
- In the second, he should make the man who has vomited and been purged drink as before;
- on the third, drink an antidote and a beneficial nasal medicine (*nasya*) as well as an eye salve (*añjana*).
- In the fourth, the physician should make him drink an antidote that is salt with a little oil. 138
- In the fifth, he should be prescribed the antidote together with a decoction $(kv\bar{a}tha)$ of honey and liquorice $(madhuka)^{lix}$.
- In the sixth, the cure (*siddhi*) is the same as for diarrhoea. And in the seventh, he perishes. 139
- 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.

Another difference at this point is that the Nepalese version also does not support the vulgate's passage on the crow's foot ($k\bar{a}kapada$) 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 *Suśrutasamhitā* from the *Carakasamhitā* (6.23.66 (Ca. 1941: 574)).

¹³⁷ Here at 5.2.24 (Su 1938: 566) Dalhaṇa 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) Dalhana noted that sindhu can be interpreted as salt (saindhava).

¹³⁹ 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 अवसी-देत् to the vulgate's अवपीडश्. The vulgate version is hard to construe, and we see Dalhana 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.

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

Both kinds of poison are destroyed by a porridge prepared with the stewed juice $(ni \not skv\bar atha)$ of the following: luffa $(ko \not satakya)^{lx}$, migraine tree $(agnimantha)^{lxi}$, velvet-leaf $(p\bar ath\bar a)^{lxii}$, 'sun-creeper' $(s\bar uryavall\bar\iota \to j\bar\iota vant\bar\iota?)^{lxiii}$, heart-leaved moonseed $(amrt\bar a)^{lxiv}$, myrobalan $(abhay\bar a)^{lxv}$ s, siris $(\dot sir\bar\iota \dot sa)^{lxvi}$, white siris $(kinih\bar\iota)^{lxvii}$, selu plum $(\dot selu)^{lxviii}$, white clitoria $(giry\bar ahv\bar a)^{lxix}$, the two kinds of turmeric $(rajan\bar\iota)^{lxx}$, the two hogweed $(punarnav\bar a)^{lxxi}$ s (red and white), black cardamom $(harenu)^{lxxii}$, the three pungent spices $(trikat\iota u)$ (dried ginger $(\dot sunth\bar\iota)^{lxxiii}$, long pepper $(pippal\bar\iota)^{lxxiv}$, and black pepper $(marica)^{lxxv}$), the two Indian sarsaparillas $(s\bar arive)$ (country sarsaparilla $(anant\bar a)^{lxxvi}$ and black creeper $(p\bar alind\bar\iota)^{lxxvii}$) and country mallow $(bal\bar a)^{lxxviii}$.

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},

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

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

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

lxviiCordia 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

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

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

lxxivPiper longum, L.; see ADPS 374, NK #1928

lxxvPiper nigrum, L.; see ADPS 294, NK #1929

lxxvHemidesmus indicus, (L.) R. Br.; see ADPS 434, AVS 3.141-5, NK #1210

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

lxxv8ida cordifolia, L.; see ADPS 71, NK #2297

lxxixGlycyrrhiza glabra, L.; see AVS 3.84, NK #1136

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

costus $(kuṣṭha)^{lxxxi}$, deodar $(bhadrad\bar{a}ru)^{lxxxii}$, black cardamom $(hareṇu)^{lxxxiii}$, Alexandrian laurel $(punn\bar{a}ga)^{lxxxiv}$, cherry $(elav\bar{a}luka)^{lxxxv}$, cobra's saffron $(n\bar{a}gapuṣpa)^{lxxxvi}$, water-lily $(utpala)^{lxxxvii}$, white clitoria $(sit\bar{a} \to \acute{s}vet\bar{a}?)^{lxxxviii}$, embelia $(vidanga)^{lxxxix}$, sandalwood $(candana)^{xc}$, cassia cinnamon $(patra)^{xci}$, 'going-to-my-darling' $(priyangu)^{xcii}$, rosha grass $(dhy\bar{a}maka)^{xciii}$, the two turmerics (ordinary turmeric $(rajan\bar{\imath})^{xciv}$ and Indian barberry $(d\bar{a}ruharidr\bar{a})^{xcv}$), the two Indian nightshade $(brhat\bar{\imath})$ s (poison berry $(brhat\bar{\imath})^{xcvi}$ and yellowberried nightshade $(kṣudr\bar{a})^{xcvii}$), the two Indian sarsaparillas $(s\bar{a}rive)$ (country sarsaparilla $(anant\bar{a})^{xcviii}$ and black creeper $(p\bar{a}lind\bar{\imath})^{xcix}$), beggarweed $(sthir\bar{a} \to \acute{s}\bar{a}laparn\bar{\imath})^c$, and 'spotted-leaf' $(sah\bar{a} \to pr\acute{s}niparn\bar{\imath})^{ci}$.

50-52 Curing the 'slow-acting' poison

Someone suffering from 'slow-acting poison ($d\bar{u}$ $s\bar{t}visa$)' 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':

lxxxSaussurea costus, Clarke; see NK #2239
lxxxCedrus deodara, (Roxb.ex D.Don) G. Don; see AVS 41, NK #516
lxxxinimomum subulatum, Roxb.?; see PVS Caraka 2.734, AVS 1.128, NK #154
lxxxinimomum inophyllum, L.; see AVS 1.338, NK #425
lxxxInuus cerasus, L.?; see BVDB 58, NK #2037
lxxxiniesua ferrea, L.; see NK #1595
lxxxinimomum subulatum, Roxb.?; see GJM 528, IGP 790; Dutt 110, NK #1726
lxxxinimomum subulatum, Roxb.?; see GJM 528, IGP 790; Dutt 110, NK #1726
lxxxinimomum subulatum, Roxb.?; see AVS 2.129, NK #621

lxxxEmbelia 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

xciiiCymbopogon 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

xcviSolanum virginianum, L.; see ADPS 100, NK #2329, AVS 5.164

xcvi**l**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 1.75off., NK #2542; ADPS 382, AVS 2.319 4.366 are confusing

Take long pepper $(pippal\bar{\iota})^{cii}$, rosha grass $(dhy\bar{a}maka)^{ciii}$, spikenard $(m\bar{a}ms\bar{\iota})^{civ}$, lodh tree $(s\bar{a}vara \rightarrow lodhra)^{cv}$, nutgrass $(paripelava \rightarrow plava \rightarrow must\bar{a}?)^{cvi}$, soda crystals $(suvarcik\bar{a} \rightarrow suvarjik\bar{a})^{cvii}$, cardamom $(s\bar{u}ksmail\bar{a})^{cviii}$, 'scented pavonia' $(toya \rightarrow b\bar{a}laka)^{cix}$, and 'gold-chalk' ochre (kanakagairika). This antitoxin, taken with honey, eliminates 'slow-acting poison'. It is called 'slow-acting poison antidote $(d\bar{u}s\bar{\imath}vis\bar{a}ri)$ ', and there is no situation where it is not recommended.

- 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.
 - 'Slow-acting poison' is curable ($s\bar{a}dhya$) if caught immediately; it is treatable ($y\bar{a}pya$) if it is of a year's standing; but it cannot be cured in someone who has unhealthy habits or who is weak ($k\bar{s}\bar{\imath}na$).

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

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

ciii Cymbopogon martinii (Roxb.) Wats; see AVS 2.285, NK #177

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

cviiiElettaria 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

'gold-chalk' ochre	- dhātu: 43	- rūkṣa: 41			
- kanakagairika: 47	bṛhatī	dūṣī-viṣa			
'invincible'	- indian nightshade:	- slow-acting poison:			
- ajeya: 45	46	43			
	bruising of the limbs	dūṣīviṣa			
Aconite	- aṅgamarda: 43	- slow-acting poison:			
- hālāhala: 41	0	46			
ādhmāna	chest	dūṣīviṣāri			
- distension: 39	- hṛd: 43	- slow-acting poison			
agada	chyle	antidote: 47			
- antidote: 44	- rasa: 42	duşyodara			
ajeya	constipation	- contamination			
- 'invincible': 45	- ānāha: 40, 43, 47	dropsy: 42			
akhiladehavyāptirūpam	contamination dropsy	dwindling away			
- takes the form of	- dușyodara: 42	- kṣaya: 43			
pervading the whole	crow's foot	13			
body: 42	- kākapada: 44	element			
āmāśaya	curable	- dhātu: 34, 37, 39			
- stomach: 42f	- sādhya: 47	expansive			
ānāha	cure	- vikāsin: 41			
- constipation: 40, 43,	- siddhi: 44	eye salve			
47		- añjana: 44			
aṅgamarda	dark colour				
- bruising of the	- dhyāma: 41	granthi			
limbs: 43	decoction	- knots: 41			
añjana	- kvātha: 44	- lumps: 40			
- eye salve: 44	delirium	great aconite			
annamada	- moha: 39	- mahāviṣa: 40			
- intoxication from	dhātu	great poison			
food: 43	bodily constiuents:	- mahāviṣa: 40			
antidote	42	guṇa			
- agada: 44	- body tissue: 43	- qualities: 41			
antra	- element: 34, 37, 39	gut			
- gut: 43	dhyāma	- antra: 43			
arocaka	- dark colour: 41				
-loss of appetite: 43	discharge	hālāhala			
	- praseka: 40	- Aconite: 41			
be exhausted	disjunction	harṣa			
- sāda: 43	- viśleṣa: 42	- horripilation: 42			
bellyache	distension	hoarseness			
- jaṭhara: 47	- ādhmāna: 39	- pāruṣya: 39			
bodily constiuents	doșa	horripilation			
- dhātu: 42	-humour: 42	- harṣa: 42			
body tissue	dry	hṛd			

- chest: 43	- viśada: 41	- śūla: 43
humour	liṅga	pakvādhāna
- doṣa: 42	- symptoms: 42	- intestines: 43
	loose stool	pakvāśaya
indian nightshade	- viḍbheda: 39	- intestines: 42
- <i>bṛhatī</i> : 46	loss of appetite	pallid skin disease
indian sarsaparillas	- arocaka: 43	- kuṣṭha: 43
- sārive: 45f	lumps	parśvabheda
intestines	- granthi: 40	- ribs crack: 43
- pakvādhāna: 43	-	pāruṣya
- pakvāśaya: 42	mahāviṣa	- hoarseness: 39
intoxication from food	- great aconite: 40	pervasive
- annamada: 43	- great poison: 40	- vyavāyin: 41
	maṇḍala	phlegm
jaṅgama	- round blotches: 43	- kapha: 39, 42f
- mobile: 34	markaṭa	pith
jaṭhara	- monkey: 41	- sāra: 34, 37, 39
- bellyache: 47	mash	pralāpa
	- kalka: 45	- ranting: 39
kākapada	milky sap	praseka
- crow's foot: 44	- kṣīra: 34, 37, 39	- discharge: 40
kalka	mobile	puṇḍarīka
- mash: 45	- jaṅgama: 34	- puṇḍarīka: 40
kanakagairika	moha	puṇḍarīka
- 'gold-chalk' ochre:	- delirium: 39	- puṇḍarīka: 40
47	monkey	- puijūarika. 40
kapha	- markaṭa: 41	qualities
-phlegm: 39, 42f	mūlaka	qualities
knots	- mūlaka: 40	- guṇa: 41
- granthi: 41	mūlaka	
koṭha	- mūlaka: 40	rājimat
- skin disease: 43	mustaka	- striped snake: 44
kṣaya	- mustaka: 40	ranting
- dwindling away: 43	mustaka	- pralāpa: 39
kṣīṇa	- mustaka: 40	rarified
- weak: 47		- sūkṣma: 41
kṣīra	nasal medicine	rasa
- milky sap: 34, 37,	- nasya: 44	- chyle: 42
39	nasya	resin
kuṣṭha	- nasal medicine: 44	- niryāsa: 34, 37, 39
- pallid skin disease:	niryāsa	ribs crack
43	- resin: 34, 37, 39	- parśvabheda: 43
kvātha	niṣkvātha	round blotches
- decoction: 44	- stewed juice: 45	- maṇḍala: 43
		rūkṣa
limpid	pain	- dry: 41

sāda	- dūṣīviṣa: 46	treatable
- be exhausted: 43	stationary	- yāpya: 47
sādhya	- sthāvara: 34	trikaţu
- curable: 47	stewed juice	- three pungent
saindhava	- niṣkvātha: 45	spices: 45
- salt: 44	sthāvara	
salt	- stationary: 34	udveṣṭana
- saindhava: 44	stomach	- writhing: 39
sāra	- āmāśaya: 42f	upadrava
- pith: 34, 37, 39	striped snake	- side-effect: 47
sārive	- rājimat: 44	
- indian sarsaparillas:	sūkṣma	viḍbheda
45f	- rarified: 41	-loose stool: 39
sārṣapa	śūla	vikāsin
- sārṣapa: 40	- pain: 43	- expansive: 41
		viśada
sārṣapa - sārṣapa: 40	svāpa - sleep: 39	- limpid: 41
siddhi	śvāsa	viśleṣa
	- wheezing: 39	- disjunction: 42
- cure: 44 side-effect		vyavāyin
	symptoms	- pervasive: 41
- upadrava: 47	- linga: 42	
skin disease	takes the form of	weak
- koṭha: 43		- kṣīṇa: 47
sleep	pervading the whole	wheezing
- svāpa: 39	body	- śvāsa: 39
slow-acting poison	11:1 11:	writhing
antidote	akhiladehavyāptirūpam:	- udveṣṭana: 39
- dūṣīviṣāri: 47	42	_
slow-acting poison	three pungent spices	yāpya
- dūṣī-viṣa: 43	- trikaṭu: 45	- treatable: 47

Todo list

añjana	20
Cf. Arthaśāstra 1.21.8.	25
I'm still unhappy about this verse.	28
Mention this in the introduction as an example of the scribe knowing	
the vulgate	28
fn about sadyas+	28
Bear's bile instead of deer's bile.	29
punarṇṇavā in the N & K MSS	30
śrita for śṛta	30
explain more	31
Medical difference from Sharma.	31
example where the vulgate clarifies that these should be used separ-	
ately; appears to be a gloss inserted into the vulgate text	31
The two uses of prāpta are hard to translate. prāptā $ otan + k$ ṣipram is an	
example of the vulgate banalizing the Sanskrit text to make sense of	
a difficult passage.	32
$\sqrt{\text{vyadh not }\sqrt{\text{vedh (also elsewhere and for the ears)}}$, causative optative.	32
opposite of the vulgate Same as As 1.8.89 (As 1980: 79)	32
Medical difference.	32
Expected (Pillay 2010):	
Croton tiglium, L. = Naepala, Jayapala, kanakaphala, titteriphala (NL	
#720); Calotropis spp.;	
Citrullus colocynthus (colocynth);	
Ricinus communis (castor);	35
Note about Gayī's edition	35
-> ativiṣa	40
Look up the ca. reference.	40
where is cutting with a knife related to removing bile or phlegm	33
maṣī burned charcoal. Find refs.	33
find ref	39
Check out these refs	40
or a dual?	44

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