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SUMMARY

Interpretation of the Khotanese "Book of Zambasta", 4.103-4 is offered. The discussion tries to show that the passage in question deals with a process called *āśrayaparivṛtti*. The author of this passage seems to have been influenced by a theory based on the Lankāvatāra-Sūtra.

The search for clues to the chronology of Sanskrit medical texts, as illustrated by the history of *bhaṅgā* (Cannabis sativa Linn.)

As a rule, anyone who tries to establish a reliable chronology of Sanskrit texts is confronted with complex or even baffling problems, and the medical literature of India forms no exception.

As only in rare cases the dates of medical treatises are supplied by the authors themselves, available evidence of any kind has to be exploited to the full, in order to arrive at an approximate chronology. Many kinds of evidence can be used, such as the dates of the manuscripts, types of script, references to a royal patron, the genealogy of the author, the sources mentioned by him, quotations from earlier works, etc.

However, this paper will not deal with these types of clue; instead, we shall examine internal evidence which betrays the stage of development of the Indian medical system. Changes in the Sanskrit medical literature of various periods, whether large or small, progressive or regressive, can be used in an attempt to establish a chronology.

Unfortunately, so far only few studies have been devoted to the exposition of the development within the Indian medical system. Moreover, those interested in this field of research are confronted by another impediment: the lack of adequate dictionaries and indexes. Finally, the sheer bulk of Sanskrit medical literature poses almost insurmountable problems of its own. Nevertheless, the present state of our knowledge is already such as to encourage further research.

Since it is self-evident that no single scholar can read through the vast mass of Sanskrit literature, joint efforts are indispensable for the attainment of trustworthy results. The aim of this cooperation should be the discovery of chronological sequences that can be helpful in dating the texts, more or less like the guide fossils of geologists. The ultimate goal will perhaps be attained only in a rather remote future, after dictionaries of technical terms, plant names, formulas, etc., have been compiled.

For the time being, we should be satisfied with achieving more limited ends. This paper intends to make a minor contribution to our knowledge of the development of Indian medicine in the course of the ages, a contribution that may be useful for chronological purposes.

I shall restrict myself to an examination of the developments in the materia medica. In the course of time, quite considerable changes occurred in this field; not merely additions which can be regarded as progressive, but also changes consisting of loss of knowledge, which should be regarded as regressive.

The former category, with which I shall deal here, poses numerous problems. Firstly, it is necessary to emphasize that the appearance of a new name in the texts does not guarantee that a new medicinal substance has been introduced. Not infrequently new names are found which designate items already employed in the early texts. Secondly, some medical authors, for example Soghala, introduced a large number of new medicinal plants which, not being adopted in texts of later ages, are useless for our purpose.

Important for a chronology are those substances that appear, either singly or in groups, in a cluster of texts which may belong to the same period, and are adopted in a fairly large number of later treatises. An interesting group is formed by those items which are employed only rarely in the earlier stages, but are found more generally later. Not only the drug itself, but also the formulas in which it is used as an ingredient, and the spectrum of the indications for these formulas have to be studied in order to establish chronological sequences.

We shall now turn to the discussion of a substance added to the materia medica after the age of the classical *saṃhitās* of Caraka, Suśruta and Vāgbhaṭa.

The item I would like to discuss is *bhaṅgā*, one of the most distinctive Sanskrit names of hemp, *Cannabis sativa* Linn., which is well-known for the intoxicating properties of the resinous substance produced by the female plants.¹ The Indians were probably acquainted with hemp as a

1. The only treatise known so far that distinguishes between the male and female plants, and mentions the intoxicating properties of the latter, is the anonymous *Anandakanda* (15.335cd-336).

fibre-yielding crop from early times, although it is still a matter of dispute whether they knew about its medicinal action in Vedic times.²

The early medical *saṃhitās* do not mention *Cannabis*, in spite of assertions to the contrary.³

One of the problems in the study of the use of *Cannabis* in Indian medicine is connected with the habit of Sanskrit medical authors to employ a series of synonyms in the description of plants. In this case the synonym *viṣayā* is almost useless in tracing the history of *Cannabis* in India, since

2. See G. Watt, A dictionary of the economic products of India, II, 105-106; A. A. Macdonell and A. B. Keith, Vedic index names and subjects, II, 93.

The word *bhaṅgā* does not occur in Vedic texts. The *R̥gveda* (IX. 61, 13) uses *bhaṅga* as an epithet of *soma*. In the *Atharvaveda* *bhaṅga* is found twice; at VIII.8, 3 where it is employed in a simile, it may designate *Cannabis* (Whitney translated it as hemp; Dārila, however, in his commentary to *Kauśikasūtra* 16.14, has a different interpretation); it is one of five plants, headed by *soma*, in *Atharvaveda* XI.6, 15; here too it may mean hemp (Whitney's translation; Sāyaṇa, however, regards it as *śaṇa*).

Cannabis sativa has been regarded as the plant that yielded *soma* (see the references to the literature on this subject, together with a discussion, in R. Gordon Wasson, *Soma - Divine mushroom of immortality*, 128-129; 136; 139; 141; 145).

Pāṇini (V.2, 4) mentions *bhaṅgā* as an agrarian crop (L. Renou was of the opinion that *bhaṅgā*, hemp, is meant). Kātyāyana, the author of the *Vārttikas* on Pāṇini, was acquainted with the pollen of *bhaṅgā* (*vārttika* to Pāṇini V.2, 29).

3. G. Watt, op. cit., II, 105; W. Dymock, C. J. H. Warden and D. Hooper, *Pharmacographia Indica*, III, 320. Vaidya Bhagwan Dash (*Fundamentals of Ayurvedic medicine*, 142) states that *Cannabis* (called *viṣayā* in this case) is mentioned in the *Suśrutasamhitā* as one of the members of the group of plants with poisonous roots. This statement is not correct since *Suśruta* (*Kalpasthāna* 2.5, not *Kalpasthāna* 15.5, as referred to by Bhagwan Dash) enumerates a series of eight plants in a compound (ending in *-āni*) of which *viṣaya*, not *viṣayā*, is the last member. The identity of this *viṣaya* is unknown and it is improbable that *Cannabis* is meant, because of the roots of the latter are not described as poisonous. G. A. Grierson (*The hemp plant in Sanskrit and Hindi literature*, *The Indian Antiquary* 23, 1894, 260-262) was also of the opinion that *bhaṅgā* is found in the *Suśrutasamhitā*; the verse he refers to (*Uttaratantra* 11.5) contains a compound with *bhaṅga* as its last member; the word *bhaṅga* does not denote a plant here, but is used as an abbreviation of *patrabhaṅga*, i.e. a leafy branch or the leaves (of the trees mentioned in the compound).

this name is applied to a number of quite unrelated plants.⁴ Only when commentators give us additional, and reliable, information, or when the context enables us to decide, can we be sure whether *viṣayā* refers to hemp or another plant. Even the name *bhaṅgā* itself is not free from ambiguities because it is also used to designate two other fibre crops. Hemacandra says in his *Nighaṇṭuśeṣa*⁵ that *bhaṅgā* is a synonym for *śaṇa*, i.e. *Crotalaria juncea* Linn., a leguminous plant known as Indian hemp, and the *Kaiyadeva-nighaṇṭu*⁶ mentions *bhaṅgā* as one of the names of *śaṇapuṣpa* which designates one or more species of *Crotalaria*.⁷ The same holds true for *mātulānī* as a synonym of *bhaṅgā*; *mātulānī* is identical with *śaṇa* in the *Nighaṇṭuśeṣa*, while *Kaiyadeva* mentions it as a name for both *śaṇapuṣpa* and *Cannabis* (*bhaṅgikā*).⁸ Therefore *bhaṅgā* and *mātulānī* are ambiguous, being employed to designate not only *Cannabis*, but also *śaṇa* and *śaṇapuṣpa*.

In my view, this makes it uncertain that *Cannabis* is already referred to in the *Amarakoṣa*, the earliest lexicon listing *bhaṅgā* and *mātulānī* as the two names of a particular plant.⁹ Kṣīrasvāmin, the famous commentator on the *Amarakoṣa*, adds to this uncertainty by mentioning *śaṇa* as the third name of the plant, while later commentators tend to agree with him.¹⁰ The

4. *viṣayā* may, apart from *bhaṅgā*, designate *agnimantha* (e.g. *Śaḍrasanighaṇṭu* 4.23), *balā* (*Cakrapānidatta* to *Carakasamhitā*, *Cikitsāsthāna* 2-5.44), *dūrvā* (*Nighaṇṭuśeṣa* 378), *haritakī* (very often, e.g. *Madanapālānighaṇṭu* 1.20; *Śaḍrasanighaṇṭu* 6.15; *Ḍalhaṇa* to *Suśrutasaṃhitā*, *Uttara-tantra* 24.21 and 39.196), *tarkārī* (*Paryāyaratnamālā* 371), and *vacā* (*Paryāyaratnamālā* 59; *Bhaṭṭotpala's* commentary on *Bṛhatsaṃhitā* 47.39).

5. *Nighaṇṭuśeṣa* 397.

6. *Kaiyadevanighaṇṭu* 3.93cd-95ab).

7. *śaṇapuṣpī* = *Crotalaria verrucosa* Linn. (*Nadkarni*, I, p. 394; *Pharmacographia Indica*, I, 400; *Chopra's Glossary* or *C. sericea* Retz. = *C. spectabilis* Roth (*Nighaṇṭu-ādarśa*, I, p. 411).

8. *Kaiyadevanighaṇṭu* 1.1636 and 3.93cd-95ab.

9. *Amarakoṣa* 2.9, 20.

10. *Līṅgayasūrin* calls it a *śaṇaviśeṣa*, *Mallinātha* a *bhaṅgākhyadhānya-viśeṣa*, and *Bhānujī Dīkṣita* a *śaṇākhyasasyabheda*. The synonyms found in other lexica are of the same type: *Hemacandra's Abhidhānacintāmaṇi* 4.245: *śaṇa* = *bhaṅgā* = *mātulānī*; *Maṅkhakośa* 115: *bhaṅgā* = *śaṇa*; *Puruṣottama's Trikaṇḍaśeṣa* 3.65: *bhaṅgā* = *śaṇa*.

fact that the word *śaṇa*, although the name of a well-known and economically important plant, is not recorded in *Amarasimha's* lexicon, increases the chance that the author, when mentioning *bhaṅgā*, had in mind *Crotalaria juncea* and not *Cannabis sativa*. Therefore I disagree with P. V. Sharma, who suggested¹¹ that the problem can be solved the other way round, by assuming that the *śaṇa* of the commentators on the *Amarakoṣa* designates *Cannabis*.

A striking illustration of the difficulties encountered in the identification of plants called *bhaṅgā* in early texts is the occurrence of *bhaṅgā* in *Ravigupta's Siddhasāra*, a text dating from the middle of the seventh century. Two prescriptions of this treatise¹² mention *bhaṅgā*, but the context does not favour an interpretation of the term *bhaṅgā* as designating *Cannabis*; moreover, the fact that *bhaṅgā* does not figure in the *Siddhasāra-nighaṇṭu* points in the same direction.

Another rather early occurrence of the name *bhaṅgā* is found in *Ugrāditya's Kalyāṇakāraka*, an interesting medical treatise by a Jaina author who may have lived in the ninth century. *Ugrāditya* recommends the use of young shoots of the plant against disorders of the voice.¹³ There are no means to know for certain which plant the author had in mind.

Equally doubtful is the identification of *bhṛṅgī*, a plant mentioned in three recipes of the *Hārītasamhitā*.¹⁴ Although *bhṛṅgī* is attested as one of the names of *Cannabis* (see below), it cannot be taken for granted that this identification is correct for the *Hārītasamhitā*, a text of uncertain chronology, which probably belongs to the period between 800 and 1200 A.D. *Alix Raison*, who edited and translated the first section of this treatise, appears to be confident that *bhṛṅgī* means *Cannabis* in all three recipes. The *Hindī* translation of the edition I consulted, however, gives the names

11. *Ayurveda kā vaijñānika itihāsa*, 353.

12. *Siddhasāra* 5.135 (*bhaṅgā*) and 13.10 (*bhaṅga*). The editor and translator of the *Siddhasāra*, R. E. Emmerick, regards the term, in agreement with the Tibetan translation (*gso-ma*), as denoting *Cannabis*. In my view, leafy branches or the leaves (*bhaṅga* as an abbreviation of *patrabhaṅga*) are meant in the Sanskrit text (see note 3).

13. *Kalyāṇakāraka* 16.66.

14. *Hārītasamhitā* III.2, 123; 8.30; 9.48.

of three different plants as the equivalents of *bhr̥ṅgī*, namely *atīś*, *bhaṅgarā*, and *bhāṅg*. The Hindī translator, Ravidattaśāstrī, renders *bhr̥ṅgī* as *bhāṅg*, i.e. *bhaṅgā*, in Hārīta's formula of cyavanaprāśa only. It seems best to postpone any judgment on Hārīta's *bhr̥ṅgī* until a reliable text of this *saṃhitā* has been established, because it is well known that the text of this treatise is highly corrupt in all editions.

The earliest incontestable reference to Cannabis as a medicinal substance is found in Vaṅgasena's *Cikitsāsārasaṃgraha*,¹⁵ a work of the eleventh or, at the latest, twelfth century. Vaṅgasena mentions *bhaṅgā*, together with opium, as a drug with a type of action called *vyavāyīn*, i.e. a substance which pervades the whole body before being metabolized.¹⁶ The same author prescribes Cannabis, calling it *indrāśana* and *tribhuvanaviḥaya*, in two *rasāyana*-formulas.¹⁷

In my opinion, there can be no doubt that Cannabis was known to the author of the *Yogaratanmālā*, a Tantric work, written in the twelfth, or the earlier half of the thirteenth century, and ascribed to Nāgārjuna. This text recommends the use of the smoke of *mātulānī* as a drug which makes one's enemies feel possessed by evil spirits.¹⁸

Cannabis is also prescribed, at least according to P. V. Sharma,¹⁹ in Soḍhala's *Gadanigraha*, written about 1200. P. V. Sharma's statement needs confirmation by means of a reference to the text of the *Gadanigraha*, but it would not be surprising at all to find the plant there, since Soḍhala mentions it in his *Nighaṇṭu*.²⁰

15. Cakrapāṇi's *Śabdacandrikā* gives the following synonyms: *viḥayā*, *trai-lokyaviḥayā*, *bhaṅgā*, *jayā*, according to G. A. Grierson (see note 3). This would be the earliest reference, if the author should be identical with the Cakrapāṇidatta who wrote the well-known commentary on the *Carakasamhitā*.

16. Vaṅgasena, *dīpanapācanadravyalakṣaṇādhikāra* 19.

17. Vaṅgasena, *rasāyana* 143 (*tribhuvanaviḥaya*) and 407 (*indrāśana*).

18. *Yogaratanmālā* 69.

19. *Ayurveda kā vaijñānika itihāsa*, 353.

20. Soḍhalanighaṇṭu, I (*Nāmasaṃgraha*), 77 and 663; II (*Guṇasaṃgraha*), 58 and 569.

The next treatise in which Cannabis figures as a medicinal substance is the *Śārṅgadharasaṃhitā*, composed in the thirteenth century. Śārṅgadhara repeats the verse found in Vaṅgasena's work, which describes *bhaṅgā* as *vyavāyīn* in action,²¹ and moreover mentions it as an intoxicating drug,²² which confirms that *bhaṅgā* means Cannabis in his *saṃhitā*. The same author prescribes it in a formula against *grahaṇī* and other disorders.²³ Finally Śārṅgadhara recommends the use of *viḥayā*, explained as a synonym of *bhaṅgā* in this particular context by the commentators Aḍhamalla and Kāśīrāma, in another recipe, to be employed in *grahaṇī* as well.²⁴

Further developments of the indications for Cannabis in Indian medicine still have to be explored.²⁵ *Rasaśāstra*-texts²⁶ mention it rather frequently as one of the ingredients of *rasayogas*, to be prescribed against *grahaṇī*²⁷ and various other diseases.

Among the *Nighaṇṭus* and *Dravyaguṇa*-texts which mention Cannabis, the earliest ones are the *Mādhavadravyaguṇa*,²⁸ to be dated in the period 1100-1250, and the *Soḍhalanighaṇṭu*,²⁹ dating from about 1200. The former calls it *bhaṅgā*, the latter *bhr̥ṅgī*. The plant is described as *bhaṅgī* in

21. *Śārṅgadharasaṃhitā* I.4, 19cd-20ab.

22. I.7, 203.

23. II.6, 72.

24. II.12, 256.

25. The therapeutic indications of Cannabis and 51 formulas containing it have been collected by Vaidya Bhagwan Dash (*Fundamentals of Ayurvedic medicine*, 144-146 and 154-156).

26. The *Anandakanda* (assigned to the tenth century by Bhagwan Dash, *Fundamentals*, 142, but to the tenth-thirteenth century of the Vikrama era by its editor, Rādhākṛṣṇa Śāstrī) contains an elaborate description of Cannabis, its preparations, uses, and effects (15.313-499). This text employs the plant for *rasāyana* and *vājīkaraṇa* purposes; it also describes overuse and its treatment (15.485-499). See on Cannabis in the *Anandakanda*: Vaidya Bhagwan Dash, *Fundamentals of Ayurvedic medicine*, 142-144.

27. E.g. *Rasayogasāgara*, Kakārādi nos. 513 (*viḥayā*), 517 (*jayā*), 529 (*viḥayā*), 535 (*bhaṅgā*).

28. *Mādhavadravyaguṇa* 1.63.

29. See note 20.

in the Dhanvantarinighaṇṭu,³⁰ dating from the period 1000-1100, as *bhaṅgā* in the Madanapālanighaṇṭu,³¹ written in 1375, as *bhaṅgī* and *bhṛṅgī* in the Śaḍrasanighaṇṭu,³² assigned to the early fifteenth century, and as *bhaṅgikā* in the Kaiyadevanighaṇṭu,³³ dating from the same period. The name *gañjā* appears for the first time in the sixteenth century, in the Bhāvaprakāśanighaṇṭu³⁴ and Ṭoḍara's Ayurvedasaukhya,³⁵ but related names are recorded earlier: *gañjākinī* is one of the synonyms occurring in the Dhanvantarinighaṇṭu, while *gañjāyikā* is found in the Kaiyadevanighaṇṭu.

Some names of Cannabis,³⁶ which are not mentioned in the Nighaṇṭus, are apparently favourites in Rasaśāstra-texts and Tantric literature.³⁷ These names, *trijagajjetri*,³⁸ *trailokyaviṇṇayā*,³⁹ *śakrāśana*,⁴⁰ etc., begin

30. Dhanvantarinighaṇṭu 1.130-131.

31. Madanapālanighaṇṭu 1.333.

32. Śaḍrasanighaṇṭu 4.74.

33. Kaiyadevanighaṇṭu 1.1636cd-1637.

34. Bhāvaprakāśanighaṇṭu, haritakyādivarga 233. The name *gañjā* is also found in the Anandakanda (15.337 and 340). According to Bhagwan Dash (Fundamentals, 153, note 16), the product obtained from the male and the pollinated female plants is known as *bhaṅgā*, whereas that from the unpollinated female plants is called *gañjā*. Dymock, Warden and Hooper (Pharmacographia Indica, III, 330-331) mention that the dried leaves are called *bhaṅg*, whereas *gañjā* is the name given to the flowering tops of the female plant.

35. Bhagwan Dash and Lalitesh Kashyap, Materia Medica of Ayurveda based on Ayurveda Saukhyaṃ of Ṭoḍarānanda, 31.150ab.

36. Bhagwan Dash has listed 43 synonyms of *bhaṅgā* (Fundamentals, 152, note 9), partially taken from the Anandakanda (15.337-338).

37. A Tantric text that prescribes Cannabis is the Śrīkālinityārcana (Bhagwan Dash, Fundamentals, 151, note 4; 153, note 13). See also P. V. Sharma's article, Tantrik influence on Sarngadhara (Ancient Science of Life 3,3, January 1984, 129-131) for some references to Cannabis in Tantric literature.

38. Rasayogasāgara, Pakārādi no. 559.

39. Rasayogasāgara, Cakārādi no. 258; Pakārādi no. 118. Kāmaratna 6.28.

40. Rasayogasāgara, Kakārādi no. 540.

to be adopted by authors of medical treatises from the sixteenth century onwards.⁴¹ It should be remembered, though, that Vaṅgasena is an exception to this rule since we have seen that he uses the names *indrāśana* and *tribhuvanaviṇṇaya* in some *rasāyana*-formulas.⁴²

In summary, it can be stated that the use of Cannabis is attested in Indian medicine since the eleventh or twelfth century. Provisionally, texts describing or prescribing it should not be assigned to earlier periods unless convincing proof to the contrary can be adduced. Nevertheless, a thorough research should be carried out in order to establish more accurately the lower chronological limit of the medicinal use of this plant. The names *bhaṅgā*, *bhaṅgī*, etc., *mātulānī*, and *viṇṇayā* are commonly employed in medieval texts while later, from the sixteenth century onwards, *gañjā* is added to the synonyms, although it did not become a current name in prescriptions. Rasaśāstra- and Tantric texts are characterized by their preference for a peculiar set of names such as *trailokyaviṇṇayā* and *śakrāśana*.

More research is needed on the disorders against which Cannabis was prescribed during the various periods of the history of Indian medicine, and on the development of the compound medicines containing Cannabis as one of their ingredients. The use of the plant by Indian physicians should be compared with its uses in Islamic medicine, with a view to investigate to what degree the latter system determined the range of indications in Indian medicine.

41. Ṭoḍara's Ayurvedasaukhya (ed. Bhagwan Dash and Lalitesh Kashyap, Part two), *atisāra* 220, *grahāṇī* 130 and 165 (*śakrāśana*); Harṣakīrti's *Yogacintāmaṇi*, p. 26 (*śakrāśana*).

42. See note 17.

43. Vernacular poets refer to Cannabis as a substance used by warriors and Śiva-worshippers; a Rājput poet composed a song in praise of *bhaṅg* (see G. A. Grierson's article).

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Thomas Oberlies

König Somas Kriegszug - Eine Untersuchung zur
Kompositionstechnik der Pavamāna-Hymnen¹

Meinem verehrten Lehrer
P. Thieme zum 84. Geburtstag
in Dankbarkeit gewidmet

1.1. Die Erklärung von Form und Inhalt der Hymnen des 9. Liederkreises des Rgveda bereitete den Vedologen, die sich daran versuchten, erhebliche Schwierigkeiten. Angesichts der verspielt anmutenden Diktion, die durch endlose Wiederholungen und einen schier unglaublichen Bilderreichtum geprägt ist, und der auf den ersten Blick chaotisch anmutenden Komposition² dieser Hymnen empfanden doch sehr viele Veda-forscher, was Oldenberg mit der ihm eigenen Direktheit ausgesprochen hat: "Ein formloses Gewirr von Bildern und mythischen Phantasmen."³ Es ist nun aber gegen Oldenbergs Kritik der Formlosigkeit einzuwenden, daß ein Formkriterium doch offen zu Tage liegt. Denn alle Hymnen - bezeichnenderweise mit Ausnahme der Anhangslieder 9.112-4⁴ - weisen doch die gleiche Grundstruktur auf: um den Hymnennukleus, der in der Schilderung des rituellen Vorganges der Somaläuterung besteht, sind in verschiedenen Schichten Bilder gruppiert. Prinzipiell lassen sich

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1. Für zahlreiche Verbesserungsvorschläge bin ich Prof. Dr. Wezler und Dr. Werba (Wien) zu großem Dank verpflichtet.
 2. Dem Vorschlag von Lentz (1960.95) folgend vermeide ich in der hier vorgelegten Arbeit "den mehrdeutigen Begriff Stil" und spreche nur von der Komposition bzw. dem kompositorischen Gefüge der Pavamāna-Hymnen. Da hier nur ein erster Versuch unternommen wird, das Problem der Kompositionstechnik der Dichter des 9. Liederkreises anzugehen, werde ich jedoch die Terminologie, die Lentz und H.-P. Schmidt in ihren Untersuchungen des Aufbaus der ganz anders gearteten Gāthās entwickelt haben, nicht verwenden.
 3. Oldenberg 1917.175.
 4. Doch man beachte jeweils den Refrain (īndrāyendo pári srava).