

THE JOURNAL
OF THE INTERNATIONAL ASSOCIATION OF
BUDDHIST STUDIES

EDITOR-IN-CHIEF

A. K. Narain
University of Wisconsin, Madison, USA

EDITORS

L. M. Joshi
Punjabi University
Patiala, India

Alexander W. Macdonald
Université de Paris X
Nanterre, France

Bardwell Smith
Carleton College
Northfield, Minnesota, USA

Ernst Steinkellner
University of Vienna
Wien, Austria

Jikidō Takasaki
University of Tokyo
Tokyo, Japan

Robert Thurman
Amherst College
Amherst, Massachusetts, USA

**ERNST STEINKELLNER
WIEN**

Volume 5

1982

Number 1

CONTENTS

I. ARTICLES

1. Original Purity and the Focus of Early Yogācāra *by John P. Keenan* 7
2. The Dragon Girl and the Abbess of Mo-Shan: Gender and Status in the Ch'an Buddhist Tradition *by Miriam L. Levering* 19
3. The Life and Times of Paramārtha (499–569) *by Diana Y. Paul* 37
4. Studies in Traditional Indian Medicine in the Pāli Canon: Jīvaka and Āyurveda *by Kenneth G. Zysk* 70

II. SHORT PAPERS

1. Sa skya paṇḍita's Account of the bSam yas Debate: History as Polemic *by Roger Jackson* 89
2. The Text on the "Dhāraṇī Stones from Abhayagiriya": A Minor Contribution to the Study of Mahāyāna Literature in Ceylon *by Gregory Schopen* 100
3. A Report on Buddhism in the People's Republic of China *by Alan Sponberg* 109

III. BOOK REVIEWS AND NOTICES

1. Histoire du Cycle de la Naissance et de la Mort *by Yoshiro Imaeda* 118

2. Theravāda Meditation: The Buddhist Transformation by
Winston King 121
3. Chinese Buddhism: Aspects of Interaction and Reinterpretation by *W. Pachow* 124
4. Buddhism and Society in Southeast Asia by *Donald K. Swearer* 126
5. Tantra in Tibet and The Yoga of Tibet by *Tsong kha pa* 127

IV. PRESIDENTIAL ADDRESS

1. Asoka and Buddhism — A Reexamination by *A. L. Basham* 131

V. NOTES AND NEWS

1. A report on the 4th Conference of the IABS, University of Wisconsin, Madison, WI, U.S.A. August 7–9, 1981 144
2. Constitution and By-Laws of the International Association of Buddhist Studies 153

Contributors 160

Studies in Traditional Indian Medicine in the Pāli Canon: Jīvaka and *Āyurveda*

by *Kenneth G. Zysk*

The canonical and post canonical Buddhist literature preserved in Pāli and other Buddhist languages contains many references to diseases and to medical treatments. We will investigate one rather nicely compact episode found in the eighth chapter of the *Mahāvagga* of the *Vinaya Piṭaka*. It recounts six healings performed by the physician Jīvaka Komārabhacca¹ and is told in order to establish the circumstances for the propounding of the rules pertaining to the use and distribution of the robes worn by Buddhist monks. Versions, often with significant variants, are also found in the *Vinaya* portions of Buddhist works in Sinhalese,² Tibetan³ and in a *sūtra* in Chinese,⁴ reflecting the popularity of the story.

While there are several published articles drawing our attention to the medical importance of this tale,⁵ an intensive and thorough investigation of it in light of *āyurveda* is still wanting. Our purpose, therefore, will be to make a detailed examination of the purely medical sections of each of the healings, comparing them to the classical āyurvedic tradition of the *Caraka* and *Suśruta Saṃhitās*.

*1. A seven-year-old disease of the head (śiśābādha) suffered by a merchant's wife from Sāketa*⁶

Then Jīvaka Komārabhacca approached to where the merchant's wife was; having approached her [and] having observed her abnormality, he said this to her: "O lady, I have need of a handful⁷ of ghee." Then the merchant's wife ordered a handful of ghee to be given to Jīvaka. Jīvaka, then, decocting that handful of ghee with various medicines [and]

making the wife lie down on [her] back on a bed, administered [the decoction] through the nose. The ghee, administered through the nose, then, issued from the mouth [and] was spat out into a receptacle Now, as the story goes, Jīvaka Komārabhacca eradicated the seven-year-old disease of the head with just one nasal-treatment.⁸

Although the cause of this persistent disease of the head is not specified, the treatment which was administered quite clearly involved nasal-therapy (*natthukamma*), by which ghee decocted with a number of undefined medicines was poured into the nose of a patient lying supine on a bed. The liquid, we are told, was not swallowed, but spat out.

In classical āyurvedic medicine, there are either five or eleven types of diseases of the head, defined according to their special causes. Caraka mentions five, caused by wind, bile, phlegm, a combination of these and worms.⁹ Suśruta lists eleven: the five mentioned by Caraka in addition to those caused respectively by the wasting of the elements of the body (*kṣaya*),¹⁰ by *sūryāvarta*,¹¹ by severe pain in the neck, eyes, eyebrows and temples (*anantavāta*), by a splitting pain in the head (*ardhāvabhedaka*) and by extreme pain in the temples, leading to death (*śaṅkhaka*).¹²

Caraka states that the principal means of treating these diseases of the head is nasal-therapy (*nastahkarman*),¹³ which is said by Suśruta to be of two types, head-purgation (*śirovīrecana*) and lubrication (*snehana*), involving the use of medicines or oil cooked with medicines and administered through both nostrils.¹⁴ Caraka prescribes the following technique for the application of this medicated oil:

The physician who knows the correct medical prescription should administer the nasal-oil . . . to the patient who is lying down comfortably in a supine position on a well-covered couch and who has his head hanging down slightly and his feet a little elevated;¹⁵ . . . and after having pushed the nose up with the thumb of the left hand, he should then properly apply the nasal oil to both nostrils equally with the right hand, by means of a hollow tube or by means of cotton. . . .¹⁶

Suśruta includes another important point, not mentioned by Caraka: “The wise patient should never at any time swallow down the nasal-oil. The oil should be made to flow to the *śṛṅgātakas*¹⁷

and should come forth from the mouth; and on account of the danger of disorder to the *kapha*, the patient should spit it out without suppressing the urge (to do so).¹⁸

The method of treatment of diseases of the head outlined in the āyurvedic texts reflects rather closely that preserved in this Pāli episode.

II. A seven-year-old disease of the head (sīsābādha) suffered by a merchant from Rājagaha¹⁹

Now as the story goes, Jīvaka Komārabhacca made the householder-merchant lie down on the bed [and] bound him to it. Having cut away the skin²⁰ of the head [and] twisted open a suture [of the skull],²¹ he extracted two living creatures and showed them to the crowd of people, [saying:] “Do you see these living creatures, one small and one large . . . ?” . . . Then, he closed the suture, sewed back the skin of the head and applied ointment.²²

In the previous case, no cause was mentioned; but here two creatures living inside the skull are specified as causing the head-disease. Likewise, the treatment administered by Jīvaka is, rather, a surgical operation similar to that which is known as trepanation.

Among the causes of maladies of the head, the medical texts, as we have already noted, mention worms (*kṛmi*).²³ The treatment of such a morbid condition of the head, however, is quite different from that performed by Jīvaka.

Caraka prescribes the use of nasal-therapy, involving purgations of the head, in order to eradicate diseases of the head caused by worms.²⁴ Suśruta also specifies purgations of the head for such maladies and details the technique, as follows:

The [medical] treatment of a head being devoured by worms will now be mentioned: Indeed one should give blood in the nose. The creatures become stupified by that, and overjoyed with the smell of blood, they congregate [in the nasal-passages, etc.] from anywhere.²⁵ Their eradication from there [i.e. from the nasal-passages]²⁶ is to be accomplished by purgations of the skull or by [a nasal-therapy consisting of] seeds of the *hrasvaśriguka* plant mixed with *nīlī* (*Indigofera tinctoria*, Linn.).²⁷ One should treat [the patient] by means of vermi-

fuges and by *avapīda* nasal-therapies (i.e. nasal-drops) prepared with urine. [Likewise,] one should employ vermifuges and smoke-nasal-therapies combined with *pūtimatsya* (= *pūti-karañja*; *Caesalpinia crista*, Linn. = *C. bonducella*, Flem.) as well as various types of foods, vermifuges and drinks.²⁸

The treatment by a type of trepanation, therefore, represents a significant variant, not found in the earliest texts of the āyurvedic medical tradition.

*III. A rectal fistula (bhagandala) suffered by king Seniya Bimbisāra of Magadha, which stained his clothes with blood*²⁹

Then Jivaka Komārabhacca, promising the king's son, Abhaya, [that he would treat the king,] took up the medicine with the finger-nail [and] approached to where Seniya Bimbisāra of Magadha was; and having approached the king, he said: "Let us see your malady." Now as the story goes, Jivaka removed the king's rectal fistula with just one application of ointment.³⁰

The affliction from which the king suffered is quite clearly a suppurating rectal fistula. The treatment, performed by Jivaka, involved the application of a medicated salve to the fistula by means of a finger-nail.

In the āyurvedic tradition, Suśruta begins by enumerating five types of rectal fistula (*bhagandara*), caused respectively by wind, bile, phlegm, a combination (of the three) or external factors. He then proceeds to identify its locations as the perinaeum, the rectum or the bladder and concludes by delineating the difference between a rectal fistula (*bhagandara*) and a rectal pustule or boil (*pīḍaka*), saying that the former has an opening while the latter does not.³¹ It seems likely, therefore, that the description offered in the Pāli passage fits well the definition given by the āyurvedic authorities.

Although the account of Jivaka's treatment of the fistula does not parallel exactly the prescribed course of action outlined in the medical texts, there may be some subtle similarities.

Caraka states that the fistula should be treated initially by purgation, probing and lancing; and, after the tract has been

cleansed with what Suśruta calls an *eṣaṇī*, an application of caustic medicines for cauterisation should be made.³² Both commentators, Cakrapāṇidatta and Ḍalhaṇa, gloss *eṣaṇī* as *śalākā*. In the āyurvedic tradition there are numerous types of *śalākā*.³³ It is interesting to note, however, that Vāgbhaṭa refers to three types, used for the application of caustic medicines, whose ends resemble the nails of the small, ring and middle fingers.³⁴ In the Buddhist tradition, *śalākā* (Pāli: *salākā*) is considered to be a bamboo splinter with caustic medicines used in the treatment of boils and of wounds.³⁵ It seems possible, therefore, that in this account, Jīvaka's finger-nail could have aptly functioned as such an instrument used to apply medicines in the treatment of a rectal fistula.

IV. A knot in the bowels (antagaṇṭhābādha)³⁶ suffered by a merchant's son from Vārāṇasī

The knot is said to have been caused by the man's sporting activities, in the form of turning somersaults with a stick.³⁷ It hindered the proper digestion of the rice-milk he drank and the food he ate and disrupted the normal evacuation of faeces and urine, leaving him emaciated, wretched looking, ugly and pale, with his body covered with veins.³⁸

Jīvaka's treatment of this condition follows:

[Then,] making the people move back, [Jīvaka] encircled [the patient] with a curtain, bound [him] up to a post [and] situated his wife in front of [him]; splitting the outer skin of the abdomen, he extracted the knot in the bowels [and] showed it to the wife, [saying:] "Look at your husband's affliction" After having disentangled the knot in the bowels, replaced the bowels [and] sewn up the outer skin of the abdomen, he applied a medicated salve. Then as the story goes, shortly after that, the merchant's son from Vārāṇasī became well.³⁹

We learn that the merchant's son's affliction was the result of acrobatic activities with a stick, suggesting that he may have suffered a wound to the abdominal wall, from which a part of the bowels protruded. The treatment administered by Jīvaka was a form of laparotomy by which the abdominal wall was cut, the knot

removed and repaired, the incision sewn up and a salve applied.

In the classical āyurvedic treatises, there is no exact equivalent of the Pāli *antagaṇṭha*, which in Sanskrit one would expect to be *antragrantha* or *antragraṇṭhi*. Suśruta, however, describes a type of wound to the abdomen wall from which the unbroken small intestines have protruded. The treatment of such a condition is as follows: The intestines should be washed with milk, lubricated with ghee and gently placed back into their original position. Where the re-introduction of the intestines is made difficult because the wound is too large or too small, a small incision should be made according to the prescribed method; and the intestines should be replaced in their correct position. In all cases, the wound or incision should be sutured and a medicated oil, prepared with various vegetal products, should be applied to the skin to promote its healing.⁴⁰ Vāgbhaṭa mentions the affliction, *vraṇagraṇṭhi*, “wound-knot”, which, when located in the bowels, is said to be incurable.⁴¹

It may be suggested, therefore, that the description and course of treatment of the affliction *anatagaṇṭha*, offered in the Pāli, resembles the āyurvedic definition and cure of an abdominal wound or lesion, where a part of the small intestines has protruded from the perforated abdominal wall.

V. *Morbid pallor (paṇḍurogābāḍha) suffered by King Pajjota of Ujjeni*⁴²

The rather involved treatment follows:

The Jīvaka Komārabhacca . . . having gone to Ujjeni, approached to where King Pajjota was; [and] having approached him, he observed his abnormality [and] said this: ‘Give me some ghee! I will boil the ghee which the king shall drink.’ [The king replied:] “Indeed, good Jīvaka, you must do what you can in order to make me healthy without ghee. Ghee is loathsome to me⁴³ [and] disagreeable.” It then occurred to Jīvaka: To be sure, the disease of this king is of such a kind that he cannot be made healthy without ghee. Let me boil the ghee so that it has the (reddish-yellow) colour, the smell and the taste of an astringent decoction.⁴⁴ Jīvaka, then, boiled the ghee with various medicines [so that it] had the colour, the smell and the taste of an astringent decoction. Now, it occurred to Jīvaka: Indeed, when the ghee has been

drunk and digested by the king, he will be given to vomit. . . .⁴⁵ He made the king drink the ghee. . . .⁴⁶ Then, indeed, when King Pajjota had drunk and digested the ghee, he was given to vomit. . . . Then as the story goes, King Pajjota became well.⁴⁷

Although no symptoms are mentioned, it is clear that the king suffered from morbid pallor. His condition was eradicated by a rather surreptitious application of ghee, which Jīvaka knew to be the essential cure for the disease.

In the medical tradition, *pāṇḍuroga* is considered to be a generic term for diseases which turn the skin a pale colour.⁴⁸ There are either four, five or eight types,⁴⁹ of which *kāmalā* or jaundice, as we know it, is said to be a part.⁵⁰ For this reason, therefore, morbid pallor is perhaps the best translation of the Pāli *paṇḍuroga* and the Sanskrit *pāṇḍuroga*.⁵¹

Suśruta states that the principal cure for the condition of *pāṇḍuroga* is ghee;⁵² and he and Caraka prescribe many remedies containing ghee, none of which, however, appear to be of the astringent variety.⁵³

Jīvaka's knowledge of the treatment of the disease *paṇḍuroga* (*pāṇḍuroga*), therefore, seems to reflect, with very little variation, that which is presented in the āyurvedic treatises.

*VI. A condition where the body is filled with the bodily dosas (dosābhī-sanna), suffered by the Lord Buddha*⁵⁴

The treatment, we are told, required the drinking of a purgative.⁵⁵ The prescription that Jīvaka gave for it included: (1) The lubrication of the Buddha's body for a few days;⁵⁶ and (2) the use of a weak purgative:

It then occurred to Jīvaka Komārabhacca: It is not proper that I should give the Lord a coarse purgative. Having mixed three handfuls of lotuses⁵⁷ with various medicines, he approached to where the Lord was; and having approached him, he presented to him a handful of lotuses, [saying:] "O good one, may the Lord snuff up this first handful of lotuses. It will purge the Lord ten times." And a second time, he presented to the Lord a handful of lotuses, [saying:] "O good

one, may the Lord snuff up. . . . It will purge the Lord ten times.” And a third time, he presented to the Lord a handful of lotuses, [. . .] “. . . It will purge the Lord ten times; therefore, the Lord will be purged a total of thirty times: . . .” It then occurred to Jīvaka Komārabhacca. . . : Indeed, I administered a purgative to the Lord with a total of thirty times. [Since] the Tathāgata’s body is filled with the *dosas*, it will not be purged a total of thirty times; it will be purged [only] a total of twenty-nine times. Yet, the Lord, after having been purged, will perform ablutions; and when he has bathed, he will purge one time. Thus, the Lord will be purged a total of thirty times. . . . Then, Jīvaka Komārabhacca said this to the Lord: “Until, O good one, your body becomes normal, alms-food of soup will be sufficient.” Then, as the story goes, the Lord’s body soon became normal.⁵⁸

In this final account of Jīvaka’s healings, the Buddha is afflicted with the bodily *dosas* (Skt. *doṣa*), the treatment of which required that a purgative be taken in order to eliminate them. Since the Buddha may be considered to be a type of person with a delicate constitution, a mild purgative was administered. It involved lubrication, the inhalation of the fragrance of three individual handfuls of lotuses mixed with various medicines, and a bath, resulting in a purgation of thirty times. After that, the patient was instructed to eat only light food, until the body returned to its normal state.

Although the term *dosābhisanna*, “filled with the *dosas*,” does not allow us to determine the specific disease from which the Buddha suffered, we can broach a connection with the āyurvedic medical tradition through its prescribed treatment.

In his chapter on “the treatment of supervenient diseases cured by emetics and purgatives,”⁵⁹ Suśruta states that these are the principal remedies used to cleanse the system of all *doṣas*⁶⁰ and prescribes that when a purgative is administered the patient’s body should first be lubricated (*snigdha*) and sweated (*svinna*).⁶¹ In the case of kings or ones who have never been purged, he advises the use of mild purgatives, which he describes as being pleasant, with noticeable results(?) (*dr̥ṣṭaphala*), savoury, small in quantity but great in potency and presenting little risk of creating disorders.⁶² After the application of the emetic or purgative, the patient should be washed with tepid water;⁶³ and when he feels weak or thirsty, he should be given in small doses a diet of light or luke-warm *peyā*.⁶⁴



Jīvaka's course of treatment of a condition where the body is diagnosed as being filled with the morbid humours (*doṣas*), therefore, seems to follow that outlined in the *Suśruta Saṃhitā*. The use of lotuses mixed with medicines certainly fits Suśruta's definition of a mild purgative. Nowhere in the classical āyurvedic treatises, however, are lotuses mentioned in cases requiring mild purgation.⁶⁵ Likewise, the mention of a total of thirty (3 times 10) purgations with a mild purgative is not expressed in the medical texts.

Conclusions

The results of our investigation allow us to observe certain trends with respect to the āyurvedic medical ideas in the Buddhist tradition.

In general, the account of the cures preserved in the legend of the physician Jīvaka Komārabhacca reflects a basic āyurvedic foundation. This is supported to some extent in versions of the legend itself: Jīvaka's teacher is said to be a world-renowned physician who lived in Taxila⁶⁶ and who, in the Tibetan *Vimaya*, is said to be Ātreya,⁶⁷ whose words are actually supposed to be the *Caraka Saṃhitā*. Rather than adhering to the tradition of Ātreya, however, the evidence points to a closer connection with the *Suśruta Saṃhitā*, as most of the medical details in the comparative passages quoted have been derived from that text.

There is one treatment which simply is not found in the āyurvedic works: the cure of a disease of the head caused by creatures living in the skull by means of a type of trepanation does not occur in the classical medical literature. There is, however, evidence for such a surgical practice offered from archaeological remains: in at least one skull discovered at Timargarha in west Pakistan⁶⁸ and perhaps others from the area of the north-west of India,⁶⁹ there are definite signs of trepanation, suggesting that the practice was used, but was not included in the classical āyurvedic treatises.

Other differences, such as the use of lotuses as a mild purgative, indicate only minor variations from the medical tradition of *āyurveda* and may merely be fanciful. The case of a knot in the bowels suffered by a merchant's son poses a problem because there is no exact equivalent in Sanskrit for the Pāli *antagaṇṭha*. The underlying current of ideas, however, supports an āyurvedic basis.

The Pāli account of the physician Jīvaka, therefore, illustrates a well-established āyurvedic medical tradition and preserves at least one practice not found in classical *āyurveda*. If the fourth century B.C. date of the *Vinaya*, suggested by Frauwallner, is correct,⁷⁰ we can safely conclude that the crystallisation of the classical system of Indian medicine was already well under way by that time. Further research into the medical principles found in the Buddhist texts in Pāli and other languages would, however, allow us to draw more concrete conclusions concerning the evolution of āyurvedic medicine and the role that the Buddhists played in it.

NOTES

1. On the possible derivation of the name Komārabhacca from the Sanskrit, *kumārabhṛtya*, the medical science of paediatrics as well as the care of women during pregnancy, parturition, the puerperal period and lactation, see *Vin. Texts*, pt. 2, p. 174 n., Horner, vol. 4, p. 381 n.2 and Malalasekera, *Dictionary*, vol. 1., p. 957 n.2.

2. See Hardy, *A Manual of Buddhism*, pp. 237-249.

3. The Peking *Kanjur*, vol. 3, leaves 50-67; see also Schiefner, *Mélanges Asiatiques*, Tome VII (1879), pp. 472-514 and W.R.S. Ralston, trans., *Tibetan Tales*, pp. 75-109.

4. "Sūtra prononcé par le Buddha au sujet de l'Avadāna concernant 'Fille-de-Manguier' (Āmrpāli) et 'K' Yu' (Jīvaka)," No. 499 (Trip. XIV, 6, pp. 48r.-52v.) in *Cinq cents Contes et Apologues extraits du Tripitaka Chinois et traduits en Français par Édouard Chavannes*, Tome III, pp. 325-261 (also Tome IV, p. 246).

5. See in particular D.V. Reddy, "Jeevaka, a physician of the VI century B.C.," *Indian Journal of History of Medicine*, Vol. 3 (1958), pp. 37-49; G. Mukhopādhyāya, *The History of Indian Medicine*, vol. 3, pp. 681-744; and Mme Liacre de Saint-Firmin, *Médecine et légendes bouddhiques de l'Inde*, Paris, 1916.

6. MV 8.1.7: *tena kho pana samayena Sākete setṭhibhariyāya sattavassiko sīsābādho hoti*.

7. Buddhaghosa, at *Samantapāsādikā*, 8.1 (p. 1116) glosses: *ekahatthapūṭena*, "with the hollow of one handful"; cf. *Vin. Texts*, pt.2, p. 178n.1 and Horner, vol. 4, p. 384n.2.

8. MV 8.1.10-11,13: *atha kho Jīvako Komārabhacco yena setṭhibhariyā ten' upasamkamī, upasamkamitvā setṭhibhariyāya vikāraṃ sallakkhetvā setṭhibhariyaṃ etad avoca: pasatena me (N.). ayye sappinā attho 'ti. atha kho setṭhibhariyā Jīvakassa Komārabhaccassa pasatam sappiṃ dāpesi. atha kho Jīvako Komārabhacco tam pasatam sappiṃ nānābhesajehi nippacitvā setṭhibhariyaṃ mañcaka uttānaṃ nipajjāpetvā (B.: nipātetvā, "making to descend") natthuto adāsi. atha kho tam sappi natthuto dinnam mukhuto uggāñchi (R.: uggacchi). atha kho setṭhibhariyā patiggāhe nūttubhitvā (R.: nūttuhitvā) . . . atha kho Jīvako Komārabhacco setṭhibhariyāya sattavassikaṃ sīsābādham eken'eva natthukammena apakaddhi. At *Sumaṅgala-vilāsini* 1.1.27, Buddhagosa states the nasal-treatment consists of a mixture of oil (*telam yojetva natthukaranam*).*

9. SuSth. 17.6; 19.4.

10. The *Madhukośa* to MN 60.1 explains this as “by the wasting away of blood, marrow (or fat), etc.” (*ksayeneti asygrvasūdinām ksayaṇa*).

11. According to *Ḍalhaṇa* at SuUtt. 25.1–4, some consider *sūryāvarta* to be pain in the head caused by bile and wind, which increases during daylight hours and becomes calm at night (. . . “*tatra vātānugaṃ pittam cetaṃ śirasi tiṣṭhati, madhyāhne tejasā rkasya tad vivṛddhaṃ śirorujam. karoti pāitīkīṃ ghorāṃ saṃśāmyati dina-ksāye, astaṃ gate prabhāhīne sūrye vāyur vivardhate. pittam śāntim avapnoti tataḥ sāmyati vedanā, eṣa pittānilakṛtaḥ sūryāvartaviparyayaḥ*”. . .).

12. Utt. 25.2-4; see also AHUtt. 23, MN 60.1 and Jolly, *Medicin*, p. 118. On the latter four causes, cf. CaSiSth. 9.70–87.

13. SiSth. 9.88.

14. CiSth. 40.21; cf. also CaSiSth. 9.89–92, 116.

15. SiSth. 9.98–99: . . . *bhīṣak snehaṃ nastatḥ kuryād vidhānavit, . . . uttānasya śayānasya śayane svāstīṭe sukham, pralambaśirasatḥ kiñcit kiñcit pādommatasya ca*.

16. SiSth. 9.102–103: . . . *nāsāmunnamya vāmenāṅguṣṭhaparvanā, hastena dakṣiṇenātha kuryād ubhayataḥ samam. pranādyā picunā vā 'pi nastatḥsnehaṃ yathāvidhi, . . .* Cf. also SuCiSth. 40.25–27.

17. *Ḍalhaṇa* to SuCiSth. 40.30 explains *śṛṅgātaka* as “being the combination of the vessels which soothe the apertures of the nose and ear as well as the eye and the tongue” (*nāsākarnasrotokṣijhivātarpaṇīnām sirāṇām saṃnipātaḥ śṛṅgātakah*). This definition seems to point to the sinuses.

18. CiSth. 40.29–30: *snehanasyaṃ nopagilet kathaṃ cid api buddhimān. śṛṅgātakaṃ abhīplāvya nireti vadanād yathā; kaṭhotkleśabhayāc caivaṃ nuṣṭhived avidhārayan*. Cf. also CaSiSth. 9.103–107.

19. MV 8.1.16: *tena kho pana samayena Rājagahakassa setṭhissa sattavassika sīsābādho hoti*.

20. Cf. Buddhagosa at *Samantapāsādikā* 8.1 (p. 1117): *sīsacammaṃ āpanetvā*.

21. Buddhagosa (*ibid.*) glosses: “having opened the suture of the skull” (*sibbinim vivaritvā*).

22. MV 8.1.18: *atha kho Jīvako Komārabhacco setṭhim gahapatim mañcake nipajjāpetvā* (B.: *nipāletvā*, “having let fall”) *mañcake* (S.: *mañcakena*) *sambandhitvā sīsacchavim upphāletvā* (N.: *uppāletvā*, “having torn up”, S.: *phāletvā*, “having cut or split”) *sibbinim* (S.: *sibbanim*) *vināmetvā dve pāṇake niharitvā janassa* (N.: *mahājanassa*) *dassesi: passeyyātha* (R.: *passath' ayyo*, B.: *passathayye*, Si.: *passatha*) *ime dve pāṇake ekaṃ khuddakaṃ ekaṃ mahallakaṃ. . . , sibbinim sampāṭicchādetvā* (R.: *sampāṭipādetvā*, B.: *sampāṭipāletvā*) *sīsacchavim sibbetvā* (B.: *sibbitvā*) *ālepam adāsi*.

23. See in particular CaSūSth. 17.27–29, CiSth. 26.118, SuUtt. 25.10–11 and AHUtt. 23.12–15.

24. ViSth. 7.20 and CiSth. 26.183–187.

25. Following *Ḍalhaṇa* (to SuUtt. 26.27): . . . *samāyānti samāgacchanti, yatatato nāsāsrotatḥprabhṛtibhiḥ tatra cāgatānāṃ kṛmīṇāṃ kūrakādibhir nirharaṇaṃ kartavyam* (or from the 1915 edition: *samāyānti itastato nāsāsrotatḥprabhṛtiṣu, tatra. . .*).

26. This rendering is based on AHUtt. 24.15-16: *kṛmije soṇitāṃ nasyaṃ tena mūrccchanti janṭavaḥ, mattāḥ soṇitagandhena niryānti ghrāṇavaktrayoḥ. sutikṣṇanasyadhūmābhyāṃ kuryān nirharaṇaṃ tataḥ, . . .* *Ḍalhaṇa* (to SuUtt. 26.29), however, considers the vs. beginning with *teṣāṃ* to be a treatment for the eradication of those

worms which are inaccessible by the nasal-passages (*idānūṃ kūrcaḥkāḍibhir agamyaṇām kṛmūṇām nirharaṇārtham cikitsitam āha: teṣāṃ ity ādi*). Cf. also K.L. Bhishagrata, vol. 3, p. 137. See also H.K., p. 633.

27. Following Dalhaṇa. He also refers to Gayin, who offers the interpretation that the purgation of the skull is composed of the seeds of the *hrasvasigruka* plant, etc. (*mūrdhavirecanaiḥ. . . ; gayī tu vaksyamāṇāni hrasvasigrukabījāni śirovirecānadravyāni manyate. hrasvasigrukabījair ity ādi. . .*); see also SuUtt. 54.34-36 and cf. K.L. Bhishagrata, vol. 3, p. 137.

28. Utt. 26.26-30: *kṛmibhir bhakṣyamāṇasya vaksyate śirasah kriyā. nasye hi śoṇitam dadyāt tena mūrccanti jantavaḥ, mattāḥ śoṇitagandhena samāyānti yatataṭaḥ. teṣāṃ nirharaṇam kāryam tato mūrdhavirecanaiḥ, hrasvasigrukabījair vā kāmsyanīḥsamāyutaiḥ. kṛmighnair avapīḍaiś ca mātrapīṣṭair upācaret, pūlimatsyayutān dhūmān kṛmighnāmś ca prayojayet. bhōjanāni kṛmighnāni pānāni vivīdhāni ca*. Cf. also AUtt. 24.15-18.

29. MV 8.1.14: *tena kho pana samayena rañño Māgadhasa Seniyassa Bimbisārassa bhagandalābādho hoti, sātakā lohītena makkhīyanti* (Sī.: *makkhīyanti*).

30. MV 8.1.15: *evam deva 'ti kho Jīvako Komārabhacco Abhayassa rājakumārassa paṭisūnitvā nakhena bhesajjam ādāya yena rājā Māgadho Senīyo Bimbisāro ten' upasamkamī, upasamkamitvā rājānaṃ Māgadham Senīyaṃ Bimbisāraṃ etad avoca: ābādham te (N .) deva passamā 'ti. aha kho Jīvako Komārabhacco rañño Māgdhasa Seniyassa Bimbisārassa bhagandalābādham eken' eva ālepena apakaddhi*.

31. NiSth. 4.3: *vāṭapittaślesmasannipātāgan tunimittāḥ śataponakostragrīvaparīsrāvīśambūkāvartonnarmārgiṇo yathāsamkhyam pāñca bhagandarā bhavanti, te tu bhagandabastipradeśadāraṇāc ca "bhagandarā" ity ucyante, abhūmnāḥ pīḍakāḥ, binnās tu bhagandarāḥ*. Caraka defines *bhagandara* more generally: "For the rectal fistula should be [known as] pustules on the side of the rectum, which frequently ripen and suppurate [and as being caused] by worms, slight injury to the [tail-] bone, copulation, diarrhoea, etc., and excessive horse-back [riding] (CaCiSth.12.96: *kṛmyasthisūksmakṣaṇanavyāvāsyapravāhaṇādy(not, 'āny) utkatākāśvapīṣṭhaiḥ, gudasya pārśve pīḍakā bhṛśārtiḥ pakvaprabhinnā tu bhagandarāḥ syāt*). Cf. also SuNiSth. 4.10-13.

32. See CaCiSth. 12.97 and SuCiSth. 8.4. Cf. also AHUtt. 28.25-26, where Vāgbhaṭa merely prescribes the use of a surgical instrument (*śāstra*).

33. See Mukhopādhyāya, *Surgical Instruments of the Hindus*, pp. 155-174.

34. AHSūSth. 25.38: *aṣṭāṅgulā nimnamukhās tisraḥ kṣāruśudhakrame, kanīṇmadhyamānāminakhamaṇ asamair mukhaiḥ*. Cf. also Mukhopādhyāya, *Surgical Instruments*, vol. 1, p. 159.

35. For *salākā*, cf. *Miln* IV.1.33(112) and IV. 2.13(149). See also PTS-PED, p. 699 and cf. MWSED. p. 1059, col. 1.

36. Sī., however, reads perhaps more clearly: *antagaṇḍābādho*, "the affliction of a swelling in the bowels."

37. On the exact meaning of this, see especially *Vin. Texts*, pt. 2, pp. 184-85 n.1; and cf. Horner, vol. 4, p. 389 n.2.

38. MV 8.1.21: *tena kho pana samayena Bārāṇasēyyakassa setthiputassa mokkhakāya kilantassa antagaṇḍābādho hoti yena (Sī.: tena) yāgu pi pītā na sammā pariṇāmaṃ gacchati bhattam pi bhūtaṃ na sammā pariṇāmaṃ gacchati uccāro pi passāvo pi na paguṇo. so tena kiso hoti lūkho dubbaṇṇo uppaṇḍuppaṇḍukajāto dhamanisanthataḡatto*.

39. MV 8.1.22: *evam . . . Jīvako Komārabhacco . . . gantvā yena Bārāṇasēyyako setthiputto ten' upasamkamī, upasamkamitvā Bārāṇasēyyakassa setthiputtassa vikāraṃ sal-*

lakkhetvā janam ussāretvā tirokaraṇiṃ parikkhipitvā (B.: *parikkhipetvā*) *thambhe ubbandhitvā* (S. and Sī.: *upanibandhitvā*, "binding him on to") *bhāriyaṃ purato thapetvā udaracchaviṃ uppāletvā* (R.: *upphāletvā*, "cutting open") *antagāṇṭhiṃ nīharitvā bhāriyāya dassesi passa te sāmikassa ābādhaṃ, . . . antagāṇṭhiṃ vivivēhetvā antāni paṭipavesetvā udaracchaviṃ sibbetvā* (B.: *sibbitvā*) *ālepaṃ adāsi. atha kho Bārāṇasēyyako seṭṭhiputto na cirass' eva arogo ahoṣi.*

40. SuCiSth. 2.56-66; Caraka does not mention such a disease or treatment. Cf. NM 43.4

41. AHUtt. 29.12-14.

42. MV 8.1.23: *tena kho samayena Ujjeniyaṃ(N.) rañño Pajjotassa paṇḍurogā-bādho hoti.*

43. Buddhagosa (p. 1117) explains rather fancifully: "Surely this king is born of a scorpion; and ghee is medicine for the sake of warding off the poison of a scorpion. Therefore, it is loathsome to a scorpion" (*ayaṃ kira rājā vicchikassa jāto, vicchikavisaṭṭhātāya ca sappi bhesajjaṃ hoti vicchikānaṃ paṭikkūlaṃ tasmā evam āha*).

44. Cf. Horner, vol. 4, p. 391n.1.

45. Buddhagosa (p. 1117) glosses *uddekaṃ* as *uggāraṃ*.

46. Buddhagosa (p. 1117) elaborates: "Both making him drink the ghee and explaining the action of the food to the maidservants" (*sappiṃ ca pāyevā paricārīkānaṃ ca āhāravādhīṃ ācikkhitvā*).

47. MV 8.1.23-25: *evam . . . Jīvako Komārabhacco . . . Ujjenīṃ gantvā yena rājā Pajjoto ten' upasaṃkamaṃ, upasaṃkamanitvā rañño Pajjotassa vikāraṃ sallakkhetvā rājānaṃ Pajjotaṃ etad avoca: sappiṃ dehi* (B.) *sappiṃ deva nippacissāmi, taṃ devo pivissatīti. aṃ bhāṇe Jīvaka yaṃ te sakkā vinā sappinā arogaṃ kātum taṃ karohi, jegucchāṃ me sappi, paṭikkūlan* (B.: *paṭikūlaṃ*, Skt. *pratikūla*, "disagreeable") *ti. atha kho Jīvakassa Komārbhaccassa etad ahoṣi: imussa kho rañño tādiso ābādho na sakkā* (Sī.: *sakkā mayā*) *vinā sappinā arogaṃ kātum, yaṃ nūnānaṃ sappiṃ nippaceyyaṃ kasāvavaṇṇaṃ kasāvagandhaṃ kasāvavaraṇaṃ ti. atha kho Jīvako Komārabhacco nānābhesajjehi sappiṃ nippaci kasāvavaṇṇaṃ kasāvagandhaṃ kasāvavaraṇaṃ kasāvavaraṇaṃ. atha kho Jīvakassa Komārbhaccassa etad ahoṣi: imassa kho rañño sappi pītaṃ pariṇāmetaṃ uddekaṃ dassati . . . atha kho Jīvako Komārabhacco rājānaṃ Pajjotaṃ sappiṃ pāyevā . . . atha kho rañño Pajjotassa taṃ sappi pītaṃ pariṇāmetaṃ uddekaṃ adāsi . . . atha kho rājā Pajjoto arogo samāno. . .*

48. See in particular SuUtt. 44.3-4; cf. also AHNiSth. 13.1-4 and MN 8.2.

49. The older edition(1913) of SuUtt. 44.4 mentions four types of morbid pallor, the newer, following Dalhana, eight: those caused by the three *doṣas* plus the combination of those caused by the three *doṣas*, by their combination, by the consumption of earth, by the two kinds of jaundice, *kāmalā* and *kumbhākāmalā*, and by *halimaka*. CaSūSth. 19.4(CiSth.16.3), AHNiSth. 13.7 and MN 8.1 list five kinds: those being caused by the three *doṣas*, their combination and the consumption of earth.

50. See CaCiSth. 16.35-36, SuUtt. 44.5-6, AHNiSth. 13.15-16 and MN 8.16-23.

51. Cf. G.J. Meulenbeld, *The Mādhavanīdāna*, pp. 296-313 and R.F.G. Müller, "Wörterheft zu einigen Ausdrücken indischer Medizin," *MIO*, vol. 7(1961), p. 112.

52. Utt. 44.14; cf. also AHCiSth. 16.1.

53. CaCiSth. 16.47-55; 134-135; SuUtt. 44.15-20; cf. also AHCiSth. 16.

54. MV 8.1.30: *tena kho pana samayena bhagavato kāyo dosābhisanno hoti*. See also Horner, vol. 4, p. 394n.1.

55. MV 8.1.30: *icchati tathāgato virecanam pātun ti*.

56. MV 8.1.30: *tena hi bhante Ānanda bhagavato kāyaṃ katipāhaṃ sinehethāṃ'ti*. Buddhagosa (p. 1118) comments: "Now, is the body of the lord coarse? It is not coarse! Therefore, he said thus: 'Divine beings always place the divine-strength into the food of the lord; and now, the oily liquid moistens, everywhere, the *dosas*; it makes the vessels supple'" (. . . *kiṃ pana bhagavato kāyo lūkho. na lūkho. bhagavato hi āhāre sadā devatā dibbojaṃ pakkhipanti, sinehapānaṃ pana sabbattha dose temeti, sirā mudukā karoti, ten' āyaṃ evaṃ āha*).

57. Buddhagosa (p. 1118) explains: "One handful of lotuses is for the sake of removing the coarse *dosa*; one is for the sake of removing the middle *dosa*; and one is for the sake of removing the subtle *dosa*." (. . . *ekaṃ uppalahatthaṃ olārikado-saharaṇatthaṃ ekaṃ majjhimadosaharaṇatthaṃ ekaṃ sukhumadosaharaṇatthaṃ*).

58. MV 8.1.31-33; *atha kho Jīvakassa Komārabhaccassa etad ahoṣi: na kho me taṃ patirūpaṃ (N.: patirūpaṃ) yo 'haṃ bhagavato olārikaṃ virecanam dadeyyan (Sī.: dadeyyaṃ yan nūnāhaṃ) ti. tīṇi uppalahatthāni nānābhesajjehi paribhāvetvā (Sī.: paribhāvetvā tathāgatassa upanāmeyyaṃ) yena bhagavā ten' upasaṃkamaṃ, upasaṃkhamitvā ekaṃ uppalahatthaṃ bhagavato upanāmesi imaṃ bhante bhagavā paṭhamaṃ uppalahatthaṃ upasiṅghatu, idaṃ bhagavantaṃ dasakkhattuṃ virecessatīti. dutiyaṃ pi uppalahatthaṃ bhagavato upanāmesi . . . , bhante bhagavā . . . upasiṅghatu, idaṃ bhagavantaṃ dasakkhattuṃ virecessatīti. tatiyaṃ pi uppalahatthaṃ bhagavato upanāmesi . . . , idaṃ bhagavantaṃ dasakkhattuṃ virecessatīti, evaṃ bhagavato samatimsāya (B.: samattimsāya) virecanam bhavissatīti. . . . atha kho Jīvakassa Komārabhaccassa . . . etad ahoṣi: mayā kho bhagavato samatimsāya virecanam dīnaṃ. dosābhisanno tathāgatassa kāyo, na bhagavantaṃ samatimsakkhattuṃ virecessatī, ekūnatimsakkhattuṃ bhagavantaṃ virecessatī, api ca bhagavā viritto nahāyissatī, nahātaṃ bhagavantaṃ sakīṃ virecessatī, evaṃ bhagavato samatimsāya virecanam bhavissatīti atha kho Jīvako Komārabhacco bhagavantaṃ etad avoca: yāva bhante bhagavato kāyo pakatatto hoti, alaṃ yūsapiṇḍapātenā (S. reads perhaps preferably: yūsapiṇḍakena) 'ti. atha kho bhagavato kāyo na cirass' eva pakatatto ahoṣi.*

59. SuCiSth. 33: *vamanavirecanasādhyopadravacikitsatam*.

60. SuCiSth. 33.4.

61. SuCiSth. 33.5,19.

62. SuCiSth. 33.44-45; cf. CaSūSth. 15.17-25. Vāgbhata states that because it is mild and safe, the plant *caturāṅgula* especially should be used as a purgative for a child, for one who is old, for one who is injured, for one who is emaciated and for a very delicate man (AHKaSth. 2.31: *bāle vṛddhe kṣate kṣyṇe sukumāre ca mānave, yojyo mṛdvanaṇāpāyitvād viśeṣāc caturāṅgulah*).

63. SuCiSth. 33.11.

64. *Ibid.* and SuCiSth. 33.26. *preyā* is defined as thin gruel (See G.J. Meulenbeld, *The Mādhavanidāna*, pp. 476-477; cf. also U.C. Dutt, *Materia Medica of the Hindus*, p. 269).

65. See *ibid.*, pp. 110-112 and CaKaSth. 1.4-7.

66. MV 8.1.5-7.

67. See Ralston, trans., *Tibetan Tales*, pp. 93f.

68. See A.H. Dani, ed., "Timgargha and The Gandhara Grave Culture,"

Ancient Pakistan, vol. 3 (1967), p. 48, 100 and 240 and Wolfram Bernhard, "Human Skeletal Remains from the Cemetery of Timargarha," *ibid.*, pp. 368-369.

69. See A.K. Roy Chowdhury, "Trepanation in Ancient India," *Asiatic Society of Calcutta, Communications*, vol. 25 (1973), pp. 203-206; A.K. Sharma, "Kalibangan Human Skeletal Remains—an Osteoarchaeological approach," *JOIB*, vol. 19 (1969), pp. 109-114; and A.K. Sharma, "Neolithic human burials from Burzahom, Kashmir," *JOIB*, vol. 16 (1967), pp. 239-247.

70. Erick Frauwallner, *The Earliest Vinaya and the Beginnings of Buddhist Literature*, p. 67.

Selective Bibliography and Abbreviations

B. Burmese edition of the Pāli Tipiṭaka.

CiSth. *Cikitsāsthāna*.

JOIB Journal of the Oriental Institute, Baroda.

KaSth. *Kalpāsthāna*.

MIO Mitteilungen des Institut für Orientforschung.

N. Nālandā-Devanāgarī edition of the Pāli Tipiṭaka.

NiSth. *Nidānāsthāna*.

R. Romanised edition of the Pāli Tipiṭaka.

S. Sinhalese edition of the Pāli Tipiṭaka.

ŚāSth. *Śārīrāsthāna*.

SiSth. *Siddhāsthāna*.

Si. Saimese(Thai) edition of the Pāli Tipiṭaka.

SūSth. *Sūtrāsthāna*.

Utt. *Uttaratantra*.

ViSth. *Vimānāsthāna*.

Texts

AH *Aṣṭāṅghṛdayasaṃhitā* by Śrīmad Vāgbhaṭa. Edited by Śrī Jīvanādavidyāsāgarabhaṭṭācārya. Second edition. Calcutta, 1890.

Ca *The Carakasamhitā* by Agniveśa, revised by Caraka and Dṛḍhabala, with the *Āyurveda-dīpikā* commentary of Cakrapāṇidatta. Edited by Vaidya Jā-davjī Trikamjī Ācārya, Bombay: Nirṇaya Sāgar Press, 1941.

The Caraka Samhitā. 6 vols. Edited and published with translations in Hindi, Gujarati and English by Shree Gulabkunverba Ayurvedic Society, Jamnagar, India: Shree Gulabkunverba Ayurvedic Society, 1947. *Agniveśa Caraka Samhitā*. Vols. 1 and 2. Text with English translation and critical exposition based on Cakrapāṇidatta's *Āyurveda-dīpikā*, by Ram Karan Sharma and Vaidya Bhagawan Dash. Vārāṇasī: Chowkhamba Sanskrit Series Office, 1976-1977.

- MN *Mādhavanidāna* by Mādhavakara, with the commentary Madhukośa by Vijayarakṣita and Śrī Kaṇṭhadatta and extracts from Ātāṅkadarpaṇa by Vācaspati Vaidya. Edited by Vaidya Jādavjī Tirkamjī Ācārya. Bombay: Nirṇaya Sāgar Press, 1955.
- MV *The Vinaya Piṭakam. Vol. 1: The Mahāvagga*. Edited by Hermann Oldenberg. London: Luzac and Company, Ltd., 1964. *The Mahāvagga*. Edited by Bhikkhu J. Kaśyapa. Bihar: Pāli Publication Board, 1956 (Nālandā-Devanāgarī-Pāli-Series).
- Samantapāsādikā: Buddhaghosa's commentary on the Vinaya Piṭaka*. Vol. 5, Edited by J. Takakusa and Makoto Nagai, assisted by Kogen Mizuno. London: Luzac and Company, Ltd., 1966.
- The Sumaṅgala-vilāsinī, Buddhaghosa's commentary on the Dīgha Nikāya*. Part. 1. Edited by T.W. Rhys Davids and J. Estlin Carpenter. London: Luzac and Company, 1968.
- Su *The Suśrutasaṃhītā of Suśruta, with the Nibandhasaṅgraha commentary of Śrī Ḍalhaṇācārya*. Edited by Jādavajī Trikamjī Ācārya. Bombay: Nirṇaya Sāgar Press, 1915. *The Suśrutasaṃhītā of Suśruta, with the Nibandhasaṅgraha commentary of Śrī Ḍalhaṇācārya and the Nyāyacandrikāpañjikā of Śrī Gayadāsācārya on Nidānasthāna*. Edited by Jādavjī Trikamjī Ācārya and Nārayaṇa Rāma Ācārya "Kavyatirtha." Vārāṇasī: Chaukhambha Orientalia, 1980.

Secondary Sources

- Bernhard, Wolfram. "Human skeletal remains from the cemetery of Timargarha." *Ancient Pakistan*, Vol. 3 (1967), pp. 291-407.
- Bhishagratna, Kaviraj Kunjalal, trans. *The Sushruta Samhita*. 3 Vols. Varanasi: The Chowkhamba Sanskrit Series Office, 1963.
- Chavannes, Édouard, trans., "Sūtra prononcé par le Buddha au sujet de l'Avadāna concernant 'Fille-de-Manguier' (Āmrpāli) et 'K'l'- Yu' (Jīvaka)," in *Cinq cents Contes et Apologues extraits du Tripitaka Chinois*. Tome, III. Paris: Ernest Leroux, 1911; also Tome. IV. Paris: Imprimerie nationale, 1934.
- Dani, Ahmad Hasan, ed. "Timargarha and The Gandhara Grave Culture," *Ancient Pakistan*, Vol. 3 (1967), pp. 1-407.
- Dutt, Uday Chand. *The Materia Medica of the Hindus*, Calcutta, 1922.
- Frauwallner, Erick. *The Earliest Vinaya and the Beginnings of Buddhist Literature*. Roma: Is. M.E.O., 1956.
- Hardy, R. Spence, trans. *A Manual of Buddhism, in its modern development*; rpt. Varanasi: The Chowkhamba Sanskrit Series Office, 1967.
- H.K. Hilgenberg, Luise and Willibald Kirfel, trans. *Vāgbhata's Aṣṭāṅga-*

- hrdayasamhitā, ein altindisches Lehrbuch der Heilkunde.* Leiden: E.J. Brill, 1941.
- Horner, vol. 4 Horner, I.B. . , trans. *The Book of the Discipline (Vinaya-Piṭaka).* Vol IV (*Mahāvagga*). London: Luzac and Company, Ltd., 1951.
- Jolly, Julius, *Medicin.* Strassburg: Karl J. Trübner, 1901.
- Malalasekera, *Dictionary* Malalasekera, G.P. *Dictionary of Pāli Proper Names.* Vol.1 (A-Dh). London: John Murry (Publishers for the Government of India), 1937.
- Meulenbeld, G.J., trans *The Mādhavanidāna and its chief commentary*, chapters 1-10. Leiden: E.J. Brill, 1974.
- Miln.* Rhys Davids, trans. *The Questions of King Milinda.* 2 parts. 1890,1894; rpt. New York: Dover Publications, Inc., 1963.
- Muller, Reinhold F.G. "Wörterheft zu einigen Ausdrücken indischer Medizin," *MIO*, vol. 7 (1961), pp. 64-159.
- Mukhopādhyāya, Girindranāth. *The Surgical Instruments of the Hindus.* 2 vols. Calcutta: Calcutta University, 1913, 1914.
- . *The History of Indian Medicine.* 3 vols. 1923, 1926, 1929; rpt. New Delhi: Oriental Books Reprint Corp., 1974.
- MWSED Monier-Williams, Sir Monier. *A Sanskrit-English Dictionary.* 1899; rpt. Delhi: Motilal Banarsidass, 1974.
- PTS-PED Rhys Davids, T.W. and William Stede. *The Pāli Text Society's Pāli-English Dictionary.* London: The Pāli Text Society, 1972.
- Ralston, W.R.S., trans. *Tibetan Tales, derived from Indian Sources.* London: Kegan Paul, Trench and Trübner and Co Ltd., 1906.
- Reddy, D.V.S. "Jeevaka, a physician of the VI century B.C." *Indian Journal of History of Medicine*, Vol. 3 (1958), pp. 37-49.
- Vin. Texts* Rhys Davids and Hermann Oldenberg, trans. *Vinaya Texts.* Part.2. 1882; rpt. Delhi: Motilal Banarsidass, 1975.
- Roy Chowdhury, Amiya Kumar. "Trepanation in ancient India." *Asiatic Society of Calcutta, Communications.* Vol.25 (1973), pp. 203-206.
- Saint-Firmin, Mme Liacre de. *Médecine et légendes bouddiques de l'Inde.* Paris, 1916.
- Schiefner, A. "Der Prinz Dśivaka als König der Ärzte." *Mélanges asiatique tirés du Bulletin de l'Académie impériale des Sciences de St.-Petersbourg.* Tome.VIII (1879), pp. 472-514.
- Sharma, A.K. "Neolithic human burials from Burzahom, Kashmir." *JOIB.* Vol.16(3)(1967), pp. 239-242.
- . "Kalibangan human skeletal remains- an osteo-archaeological approach." *JOIB.* Vol.19(1969), pp. 109-114.