

# The Evidence for Hospitals in Early India

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Volume 10, 2022

URI: <https://id.erudit.org/iderudit/1087981ar>

DOI: <https://doi.org/10.18732/hssa70>

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Publisher(s)

University of Alberta Library

ISSN

2369-775X (digital)

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Cite this article

Wujastyk, D. (2022). The Evidence for Hospitals in Early India. *History of Science in South Asia*, 10, 1–43. <https://doi.org/10.18732/hssa70>

Article abstract

The article surveys the history of South Asian literature and epigraphy for reliable evidence regarding the existence of early hospitals. It explores the reasons that may account for the exclusion of South Asian data from international scholarship on the history of hospitals. The widely-repeated idea that King Aśoka built hospitals is refuted. Nevertheless, hospitals may be very early in India. It is suggested that scholarly medical literature on the building and equipping of a hospital was transmitted to Baghdad in the late eighth century and influenced the construction of early Islamic hospitals.

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# History of Science in South Asia

*A journal for the history of all forms of scientific thought and action, ancient and modern, in all regions of South Asia*

## The Evidence for Hospitals in Early India

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MLA style citation form: Dominik Wujastyk. "The Evidence for Hospitals in Early India." *History of Science in South Asia*, 10 (2022): 1–43. DOI: 10.18732/hssa70.

Online version available at: <http://hssa-journal.org>

## HISTORY OF SCIENCE IN SOUTH ASIA

A journal for the history of all forms of scientific thought and action, ancient and modern, in all regions of South Asia, published online at <http://hssa-journal.org>

ISSN 2369-775X

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# The Evidence for Hospitals in Early India

Dominik Wujastyk

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## 1 INTRODUCTION

IN 1999, Guenter Risse published his magisterial history of hospitals, *Mending Bodies, Saving Souls*. The work was rapturously received amongst medical historians, and deservedly so.<sup>1</sup> It remains a landmark contribution to the history of hospital institutions. What are we to conclude, therefore, from the fact that Risse's study is silent about the history of hospitals in East, South-East and South Asia? The words "Asia," "India" and "China" do not appear in the index, and the story of the hospital is presented as a Christian, and mainly Eurocentric, phenomenon. Turkey is treated not as a component of Western Asia but, under the Greek name Anatolia, "The Rising," it is implicitly assimilated to Byzantine and Christian culture. Risse *does* in fact mention India, in the context of being part of the caravan route that passed through Edessa in the early centuries CE.<sup>2</sup> The establishment of the *bīmāristān* of Baghdād in the early 790s under Caliph Hārūn Ar-Rašīd is said by Risse possibly to be "initially oriented" towards Persian and Hindu therapeutics. But this interesting suggestion is not pursued.<sup>3</sup>

I have used Risse's book, which is excellent in so many ways, to illustrate a blind spot that has been pervasive in the study of hospital history.<sup>4</sup> I wish to

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<sup>1</sup> E.g., Labisch (2001:182): "Risse's great book has already achieved the status of a standard, and it surely will reach the status of a classic, which it well deserves." Some reviews are rather effusive. Jones (2001: 404, 405): "a tour de force which matches considerable intellectual and historiographical ambition with humane and punctilious scholarship," an "erudite and compelling study [that is] memorable and often moving."

<sup>2</sup> Risse 1999:70. But we have long known from Isidore of Charax's *Parthian Stations*

that a caravan route between Antioch and Kandahar was already known in the reign of Augustus (Schoff 1914). See further Wujastyk 2016.

<sup>3</sup> Risse 1999:125. Shefer-Mossensohn and Hershkovitz (2013) have since explored this topic in the light of the discoveries of van Bladel (2011). See further below.

<sup>4</sup> Other prominent examples include Granshaw (1993), Miller (1997), and Nutton (2004) and other otherwise distinguished studies.

draw two points from this lacuna in the standard treatments of hospital history. First, that it is to be regretted that the history of hospitals in Asia has even now not benefitted from the formidable historical skills of so many distinguished scholars. Second, that this subject will therefore richly and rapidly repay research effort.

I am by no means the first to wish to extend the boundaries of the discussion of hospital history. Indeed, one obvious historiographical trend in hospital history has been the progressive expansion of the scope of the discussion in both time and geography. Histories of contemporary and recent hospital institutions continue to be produced every year, but these are often of archival and local administrative interest only. Such histories do not push historiographical boundaries, nor do they probe deep time. Miller's 1985 book *The Birth of the Hospital in the Byzantine Empire* relocated the discussion of hospital precursors decisively to Asia Minor and the early centuries CE.<sup>5</sup> Dols's landmark study rebased the discussion of Islamic hospitals and cleared up many historical misconceptions.<sup>6</sup> More recent studies such as those of Horden, Cohen, and Pormann and others have shifted the ground yet again, and opened up the discussion in the direction of the Islamic and Jewish healing institutions of the Middle East.<sup>7</sup>

There are understandable reasons for the failure of contemporary medical historians to address the history of hospitals in the rest of Asia. Scholars accustomed to working with Greek and Latin sources may feel insecure about sailing into the unfamiliar waters of Chinese, Sanskrit, Cambodian or Sinhalese language materials. And when they turn to the secondary sources that are available in European languages, especially those written in India in the twentieth century, they are sometimes found to be of a quality which can be hard for an outsider to trust or evaluate. Thus, the papers of Kutumbiah (1969) and Gurumurthy (1970), for example, contain much interesting information. But it is presented in a conversational style, without the careful citation of original source materials that is needed to inspire confidence.<sup>8</sup> This difficulty is exacerbated by some scholars from former European colonies who have been over-eager to argue that their indigenous scientific histories were superior to European ones.<sup>9</sup>

<sup>5</sup> References are to the 2nd edition, Miller 1997, that responded to the review of Nutton (1986).

<sup>6</sup> Dols 1987.

<sup>7</sup> Pormann 2003; Horden 2004; Cohen 2005; Horden 2005; 2008; Pormann 2008; 2010; Shefer-Mossensohn and Hershkovitz 2013; Ragab 2015; Wujastyk 2016. Speziale (2012) has pioneered the history of hospitals in Iran and India from 1500.

<sup>8</sup> The discussions of early Indian hospital history by Jaggi (including 1981; 2000), suffer from a similar lack of academic rigour,

and in any case depend almost entirely on Kutumbiah (1969) and Gurumurthy (1970). Mukhopādhyāya (1913) contains much useful material, but again lacks clarity and rigour of presentation.

<sup>9</sup> Many studies such as Breckenridge and van der Veer 1993; Wujastyk 1998; Prakash 1999; Lal 2003; Wagoner 2003; Nanda 2003; Berger 2013; Alter 2015; Subramaniam 2019 and others address the topic of contested histories and postcolonialism and the history of science.

In fact, secure secondary sources on the history of Indian medicine, produced to the highest international standards of scholarship, have been appearing for several decades. And these studies already include much reliable information on the history of hospitals. In particular, Meulenbeld's magisterial *History of Indian Medical Literature*, published in five volumes between 1999 and 2002, has transformed the study of medical history in South Asia. But such works are still read chiefly by Indologists and not by medical historians.

The present paper, then, presents the current state of research on the history of hospitals in peninsular South Asia, primarily India, in a form which is accessible to medical historians not primarily engaged in Indological studies. It also extends the discussion, bringing forward evidence that has not previously been taken into consideration in hospital history. Throughout, I shall pay close attention to the original sources of our knowledge, and I shall critically evaluate these sources and their dating in terms which I hope will make them available for assimilation into the mainstream of hospital history.

## 2 THE EARLY HISTORY OF MEDICINE IN INDIA

THE HISTORICAL RECORD for Indian civilization begins in the third millennium BCE, with the Harappan culture of the Indus Valley, India's First Urbanization. But beyond evidence of a good knowledge of the plant and animal environment, and the remains of strikingly advanced civic drainage and domestic lavatories, little information can be recovered concerning the healing traditions of this time.<sup>10</sup> Simple ideas related to disease and healing can be found in greater abundance in the corpus of religious hymns called the Vedas, composed originally in an archaic form of Sanskrit during the early- to mid-second millennium BCE.<sup>11</sup> These ideas have much in common with religious materials worldwide: a concern with hostile demons, curses, and poisoning, and a detailed awareness of the plant world as a source of healing herbs. Outside the metropolis in India today, such ideas continue to form a prominent part of health-related beliefs and activities. Considering health as, in Canguilhem's words, "a margin of tolerance for the inconsistencies of the environment," such practices and ideas can be seen as a perfectly reasonable and indeed rational extension of the use of a continuum of efforts – from prayer to warfare – as means for creating an acceptable environment in which to live.<sup>12</sup>

<sup>10</sup> Parpola (1994) provided a survey of the best scholarship on Harappan civilization to that date. For a synthesis of early Indian history with attention to archaeology, see Singh 2015 and for the more recent relev-

ant discoveries coming from the analysis of ancient DNA, see Joseph 2018; Reich 2018; Narasimhan et al. 2019; Shinde et al. 2019.

<sup>11</sup> The best study is that of Zysk (1996).

<sup>12</sup> Canguilhem 1991: 197.

## SYSTEMATIC MEDICINE

Structured systematic thought about medicine in India can first clearly be detected in sayings of the Buddha.<sup>13</sup> In the Buddhist Canon (c. 250 BCE), the Buddha is represented as contradicting the view that suffering is caused only by the effects of bad karma. He says that it is caused by eight factors: “bile, phlegm, wind, and their pathological combination, changes of the seasons, the stress of unusual activities, external agency, as well as the ripening bad karma.”<sup>14</sup> This is the first moment in documented Indian history that these medical categories and explanations are combined in a clearly systematic manner, and it is these very factors which later become the cornerstone of classical Indian medical theory, or *āyurveda* (Sanskrit, ‘the knowledge for long life’).

Several great encyclopedias of medicine were composed in India during the centuries before and after the time of Christ, and these works brought together not only treatises on anatomy, including embryology, diagnosis, surgery, epidemics, pharmacology, and so forth, but many reflective philosophical passages discussing, for example, the origin of the human being, the rules of medical debate, methods for the interpretation of technical terminology and scientific expression, and so forth. The two best-known compendia to survive from this era go under the names of their editors, Suśruta and Caraka.<sup>15</sup> All this work was synthesised in the early seventh century CE into the great work *The Heart of Medicine* (Skt. *Aṣṭāṅgahṛdayasaṃhitā*) by the Sindhi author Vāgbhaṭa.<sup>16</sup> This work became the textbook *par excellence* for ayurveda, the Sanskrit equivalent of Avicenna’s *Canon*, and every bit as influential as that work. The later history of Sanskrit medical literature is a mixture of further works of grand synthesis and the proliferation of works on specialized topics and manuals for the working physician. Innovation took place both in the content and the form of the medical literature. By the nineteenth century, when European medical education and practice began to have a decisive impact in South Asia, Indian students who chose to specialize in traditional medical studies were in receipt of a tradition of sophisticated medical reasoning and theory almost two thousand years old. This tradition was embodied in its practitioners and the literature they preserved through energetic and wide-ranging manuscript copying, which included multi-lingual dictionaries of materia medica, allegorical medical dramas, toxicological manuals, and veterinary texts, in addition standard reference and teaching works.

<sup>13</sup> Cf. Gombrich 2006: 60, 102.

<sup>14</sup> *Samyutta Nikāya, Saḷāyatana-vagga* 2.21.1 (ed. SN: 4.230–31; tr. Bodhi 2000: 2.1278–9). See Wujastyk 2017 for further discussion.

<sup>15</sup> Editions: SS1938; Y. T. Ācārya 1941;

analysis and further bibliography by Meulenbeld (HIML: IIA, pts. 1 & 2).

<sup>16</sup> Edition: Kuṃṭe and Navare 1902, analysis and further bibliography in HIML: IIA, pt. 3.

## MEDICAL CONCEPTS AND THERAPIES

The systematic doctrines of Ayurvedic medicine included a humoral theory somewhat akin to that of the Hippocrates and Galen. Indian medicine admitted three humoral substances, namely wind, bile, and phlegm. However, a certain indecision is visible within the tradition about the status of blood, which shared with the humours the critical feature of being able to cause illness through becoming corrupt, and blood was sometimes implicitly included as a fourth humour.<sup>17</sup> Disease was classified in several interesting and useful ways, and a system of triage was developed which guided the physician to focus on treatable and curable cases, while discouraging involvement with patients who were clearly in the grip of terminal conditions.<sup>18</sup>

Several thousand plants were known for their medicinal values and were described in terms of a pharmacological typology based on flavours (six types), potency (usually two: hot and cold), post-digestive flavourings (usually three), and pragmatic efficacy (used when the effect of a medicine is not adequately defined by the earlier categories). This typology formed a system of interlocking correspondences and antipathies with the system of humours and other physiological categories as expressed through the vocabulary of pathology.<sup>19</sup>

Sanskrit medical treatises recommended a wide range of therapeutic techniques, including herbal drugs, massage, sauna, exercise, diet (including the use of meat broths and other non-vegetarian tonics), blood-letting (including leeching), simple psychotherapy, and surgery. One important group of five specific therapies became established early. According to Caraka, these were: emetics, purgation, two types of enema, and nasal catharsis. Suśruta replaced one of the enema treatments with bloodletting. Other authors added sweating and massage, as well as other therapies, into what became in time an increasingly important and elaborate complex of treatments. This 'five therapies' treatment is still popular and important today.

## 3 SICK ROOMS IN EARLY BUDDHIST TIMES

ACCORDING to the most recent scholarship, an appropriate working date for the death of the Buddha is about 400 BCE.<sup>20</sup> The Buddhist Canon was formalized in the centuries following, and preserved much material that is likely to

<sup>17</sup> Meulenbeld 1991; Wujastyk 2000.

<sup>18</sup> On the Ayurvedic discourse concerning diseases, see Wujastyk 2017.

<sup>19</sup> Meulenbeld 1987; Zimmermann 1989; Sivarajan and Balachandran 1994; Zimmermann 1995; Wujastyk 2000.

<sup>20</sup> Controversy over the date of the Buddha reopened in the 1990s. Bechert (1992–7; 1995) assembled much of the salient scholarship. Prebish (2008) gave a valuable survey of the topic and reflections on the state of the debate.



come from the Buddha's own time, and perhaps even from his own discourses. One canonical text, the *Samyutta Nikāya* mentioned above, contains a reference to the Buddha entering a "sick room" (Pāli *gilāna-sālā*, "sick-person-room or hall") in order to give a sermon.<sup>21</sup> Zysk (1998: 44) cited this passage, appropriately in my view, as evidence of, "a structure in the monastery compound set aside for the care of sick brethren."

There is no doubt that the general cultural background of monastic society during the Buddha's time was rich in medical activity. Zysk's important study of asceticism and medicine in the Buddhist milieu provided an reliable exploration of the general state of medicine in early Buddhist times.<sup>22</sup> The Buddha himself sometimes used medical metaphors in his teaching. For example, in a famous episode when the Buddha was persistently questioned about metaphysical matters about the afterlife and the everlastingness of the world by a monk called Mālunkyāputta, he told the monk that the religious life as he taught it did not include teachings on these metaphysical matters, but on the practical issues of escaping from this-worldly pain and misery:

It is as if, Mālunkyāputta, a man had been wounded by an arrow thickly smeared with poison, and his friends and companions, his relatives and kinsfolk, were to procure for him a physician or surgeon; and the sick man were to say, 'I will not have this arrow taken out until I have learnt whether the man who wounded me belonged to the warrior caste, or to the Brahman caste, or to the agricultural caste, or to the menial caste.'<sup>23</sup>

He also noted that monks should make use of specific medicines:

The religious life has decomposing urine as medicine for its resource. Thus you must endeavour to live all your life. Ghee, butter, oil, honey, and molasses are extra allowances.<sup>24</sup>

The Buddha told his monks that because they had abandoned their families and social ties, they were vulnerable, and therefore they should offer medical care to each other:

You, O *bhikkhus*, have neither a mother nor a father who could nurse you. If, O *bhikkhus*, you do not nurse one another, who, then, will nurse you? Whoever, O *bhikkhus*, would nurse me, he should nurse the sick.<sup>25</sup>

<sup>21</sup> *Samyutta Nikāya, Vedanā-samyuttam* 36.7 (= same start as 36.8) (ed. SN: 4.210; tr. Bodhi 2000: 2.1266).

<sup>22</sup> Zysk 1998.

<sup>23</sup> *Majjhima Nikāya, Sutta* 63 (tr. Warren

1896: 117 ff.).

<sup>24</sup> *Mahāvagga* 1.30.4 (tr.: Rhys Davids and Oldenberg 1881: 174).

<sup>25</sup> *Mahāvagga* 8.26.3 (tr.: Rhys Davids and Oldenberg 1882: 241).

The Buddha showed an awareness of the qualities of good and bad patients, a feature typical of medical discourse in general:

There are five qualities, O Bhikkhus, which, when a sick man has, he is difficult to wait upon—when he does not do what is good for him; when he does not know the limit (of the quantity of food) that is good for him; when he does not take his medicine; when he does not let a nurse who desires his good know what manner of disease he has, or when it is getting worse that that is so, or when it is getting better that that is so, or when it is stationary that that is so; and when he has become unable to bear bodily pains that are severe, sharp, grievous, disagreeable, unpleasant, and destructive to life. These are the five qualities, O Bhikkhus, which, when a sick man has, he is difficult to wait upon.<sup>26</sup>

Likewise, the Buddha had the measure of the bad doctor, again a theme that resurfaced in later Sanskrit medical treatises:

There are five qualities, O Bhikkhus, which, when one who waits upon the sick has, he is incompetent to the task—when he is not capable of prescribing medicines; when he does not know what (diet) is good and what is not good for the patient, serving what is not good, and not serving what is good for him; when he waits upon the sick out of greed, and not out of love; when he revolts from removing evacuations, saliva or vomit; when he is not capable from time to time of teaching, inciting, arousing, and gladdening the patient with religious discourse. These are the five qualities, O Bhikkhus, which, when one who waits upon the sick has, he is incompetent to the task.<sup>27</sup>

I cite these passages – and there are many others like them<sup>28</sup> – to illustrate the point that the early Buddhist milieu, including the dialogues ascribed to the Buddha himself, was redolent with medical references, medical metaphors, and implicit and explicit medical theory. In such an environment, it is not unreasonable to take seriously a reference to a sick room. It may not have been a hospital in a narrow definition, but there is every reason to believe that it was a place where a patient received formal medical care.

<sup>26</sup> *ibid.*, 8.26.5, tr. p. 242

<sup>27</sup> *ibid.*, 8.26.7, tr. pp. 242 f.

<sup>28</sup> Several more are described by Zysk (1998: ch. 3).

## 4 LAYING THE GHOST OF AŚOKA'S HOSPITALS

AŚOKA (fl. 272–232 BCE) was a king of the Mauryan dynasty who ruled the larger part of the Indian peninsula in the third century BCE. His capital city was Pāṭaliputra, the modern Patna in Bihar, the largest city in antiquity.<sup>29</sup> We are unusually well-informed about his personality and rule because he left numerous rock and pillar inscriptions at sites all over his kingdom and around its periphery.<sup>30</sup> The script of Aśoka's epigraphs was deciphered in 1837 by James Prinsep,<sup>31</sup> and Aśoka's edicts have subsequently thrown a flood of light on many historical matters relating to the early centuries BCE in India. Aśoka adopted the Buddhist faith and promulgated vegetarianism, an anti-war policy, public-health measures, and Buddhist values (Pali *dhamma*) generally.

Secondary and popular literature on Indian medical history has frequently included the claim that king Aśoka established a network of hospitals across India. To cite just one example:

We know from the Edict II of Aśoka that India during his reign was studded with hospitals....<sup>32</sup>

I have been assured that history 101 textbooks in North America routinely make the same claim.<sup>33</sup> This assertion continues to be repeated and propagated in many books and websites. There is absolutely no evidence for these Aśokan hospitals, in Aśoka's inscriptions or elsewhere. They are ghosts, and we need to exorcise them.

The claims are normally based, on those occasions that evidence is given, on Aśoka's second Rock Edict. The edict reads as follows, in the authoritative 1925 translation of their editor Eugene Hultzsch:<sup>34</sup>

Everywhere in the dominions of king Dēvānāmpriya Priyadarśin, and likewise among (his) borderers, such as the Chōḍas, the

<sup>29</sup> Schlingloff 2013: 32.

<sup>30</sup> The editio princeps of the inscriptions is that of Hultzsch (1925); cf. Bloch (1950). The study of these inscriptions is still an active area of research (e.g., Olivelle et al. 2012; Falk 2013; Smith et al. 2016). Salomon (1998) and Falk (1993; 2006) bring together much of the recent research. The classic study of Aśoka is Thapar (1997); Basak (1959) offers an accessible text and translation, though it does not reflect recent discoveries and interpretations. Nikam and McKeeon (1959) is a popular and reliable translation arranged topic-wise.

<sup>31</sup> Hultzsch 1925: xvi f.

<sup>32</sup> Mukhopādhyāya 1913: 28.

<sup>33</sup> Tim Miller, personal communication, 2006.

<sup>34</sup> Hultzsch was epigraphist to the government of Madras and author of the still standard first complete edition and translation of the inscriptions. Salomon (1998: 133) gave a brief evaluation of Hultzsch's edition and of later contributions to editions and translations of the Aśokan inscriptions ("E. Hultzsch's edition ... is still the standard reference source...").

Pāṇḍyas, the Satiyaputa, the Kētalaputa, even Tāmraparṇī, the Yōna king Antiyaka, and also the kings who are the neighbours of this Antiyaka,—everywhere two (kinds of) medical treatment were established by king Dēvānāmpriya Priyadarśin, (viz.) medical treatment for men and medical treatment for cattle.

And wherever there were no herbs that are beneficial to men and beneficial to cattle, everywhere they were caused to be imported and to be planted.

Wherever there were no roots and fruits, everywhere they were caused to be imported and to be planted.

On the roads wells were caused to be dug, and trees were caused to be planted for the use of cattle and men.<sup>35</sup>

In this inscription, then, Aśoka (“Devānāmpriya Priyadarśin”) speaks of importing medicines where necessary, for the treatment of humans and animals. It is notable that he claims to be implementing this policy over an extraordinarily wide geographical area, including areas outside the subcontinent such as Greece and Sri Lanka (Tāmrapāṇi). However, he does not speak of hospitals.<sup>36</sup>

Elsewhere, in his seventh “Delhi-Tōprā” Pillar Edict, Aśoka makes further similar assertions about his service to the population:

King Dēvānāmpriya Priyadarśin speaks thus:

On the roads banyan-trees were caused to be planted by me, (in order that) they might afford shade to cattle and men, (and) mango-groves were caused to be planted.

And (at intervals) of eight *kōs* wells were caused to be dug by me, and flights of steps (for descending into the water) were caused to be built.

Numerous drinking-places were caused to be established by me, here and there, for the enjoyment of cattle and men.

[But] this so-called enjoyment (is) [of little consequence].

<sup>35</sup> Hultzsch 1925: 3 f. giving the second Rock Edict in its Girnar version. The synoptic texts of the different versions are given at Hultzsch 1925: 184–6. Cf. Bloch 1950: 93–5. The Antiyaka referred to in the edict is Antiochos II Theos of Syria (261–246 BCE). Elsewhere, Aśoka also refers to Ptolemy II Philadelphos of Egypt (285–247 BCE), Anti-

gonos Gonatos of Macedonia (278–239 BCE), Magas of Cyrene (300–258 BCE) and Alexander of Epirus (272–258 BCE).]

<sup>36</sup> Aśoka uses the Prakrit word *tikicchā* “medical treatment” in this edict, which is cognate with Sanskrit *cikitsā*, the normal word for medicine in classical times and commonly synonymous with “āyurveda.”

For with various comforts have the people been blessed both by former kings and by myself.

But by me this has been done for the following purpose: that they might conform to that practice of morality.<sup>37</sup>

Thus, in accordance with the Buddhist ideals of generosity and ethical responsibility, King Aśoka claims to have provided roadside facilities, as well as digging wells and providing watering places.

In Hultzsch's translation, Aśoka provides "flights of steps." This expression is controversial, and has often been translated "rest houses." Aśoka's original Prakrit language word behind the translation is *niṃsi[dha]yā*. Most of Aśoka's edicts are available in several versions, since they were promulgated widely and carved on rocks and pillars across wide areas of South Asia. However, the seventh pillar edict is available only on the Delhi-Tōprā pillar; all other pillars have only six edicts. So in this case we have no parallel passages that would give us some extra readings or variants for this problematic word. In his footnote on the word, Hultzsch refers to some of the conjectures by other scholars.<sup>38</sup> Bühler, for example, read *niṃsiḍhiyā*, which he connected with the word *niṣidhiyā* that occurs in the Nāgārjuni hill cave inscriptions (from Sanskrit *niṣīdati* "sits, lies down"). It is this interpretation that became "rest house".<sup>39</sup> Others have suggested a connection with the Sanskrit *niṣadyā* "shop," "small bed or couch" (literally, "a sit down").<sup>40</sup>

The linguistic evidence, therefore, can be configured to support the idea that Aśoka was claiming to have built step-wells, or else wells and resting places, or else wells and shops. However, there is no variant or interpretation that would lead us to a hospital.

There is no evidence in these or any other of King Aśoka's edicts that he built any hospitals.

## 5 THE HOSPITAL IN THE COMPENDIUM OF CARAKA

THE earliest surviving encyclopedia of medicine in Sanskrit is the *Compendium* of Caraka (Skt. *Carakasaṃhitā*). This is the text with which classical medicine in India really begins. Before this text, we are reduced to searching through books on other – mainly religious – subjects, looking for oblique references which may tell us something about the position of medicine at the time. But with

37 Hultzsch 1925: 134–5. Cf. Bloch 1950: 170.

38 Hultzsch 1925: 135, n. 2.

39 Bloch (1950: 170, n. 13) summarizes this discussion, prefers to read Pkt. \**nisidi* on the

evidence of the Khāravēla and Nāgārjuni inscriptions, and translates "des endroits de repos."

40 Cf. Monier-Williams et al. (MW: 561).

Caraka's *Compendium* we emerge, so to speak, into the clear light of real medical practice. The text is of special interest to us because it describes the building of a hospital. To give the description a chronological context, we can say that this description dates from the period between 100 BCE and CE 150. I shall give more detail on the reasons for this dating below. Here is what the *Compendium* says about the hospital:<sup>41</sup>

ON HOSPITALS (1.15.1–7)

'Now I shall set forth the chapter which starts with the preparations to be made,' said the Venerable Ātreya.

'A physician who wishes to make a king or wealthy minister drink an emetic or purge should prepare the supplies before they take the medicine. And if the medicine goes well, then the supplies can be used as additional items of diet; if the medicine fails, then once the problems have been reckoned up, it can be used remedially. For even if they are available in the market, it is not easy or appropriate to obtain medicines quickly very close to the time at which the crisis develops.'

After Lord Ātreya had said this, Agniveśa said to him, 'Surely, Lord, someone with knowledge must at the very outset exclusively administer that medicine which, when administered, will succeed. It is desirable that the success of all therapies be brought about by proper application, and disaster be brought about by improper application. But if a therapy may succeed or fail without reason, whether it is taken up properly or improperly, then knowledge and ignorance are equal.'

Lord Ātreya said to him, 'I and people like myself are capable of administering medicine exclusively in such a way that when it is administered it succeeds, Agniveśa, and we are capable of teaching that great skill in application in the proper way. But there is nobody who, when taught like this, is capable of comprehending it. Or even if they comprehend it, nobody is capable of teaching it or putting it into practice. For subtle are the different conditions of humour, medicine, place, time, strength, body, diet, suitability, energy, constitution, and time of life. The intellect of even someone of vast intelligence who tries to think about these things will become confused, let alone that

<sup>41</sup> My translation from the vulgate Sanskrit edition of Y. T. Ācārya (1981:92–6). See my published translation and discussion of this passage in Wujastyk (2003:10–11, 35–

38). For other translations, see P. V. Sharma (1981–94:103–110) and R. K. Sharma and Dash (1976–2002).

of a lesser brain. At a later time, therefore, in the sections on successful treatment (Ca. 8), I shall explain the following two things in a proper manner: the correct application of medicines, and how to help with the afflictions of the afflicted.'

### *The hospital building*

'I shall now point out in brief the various supplies. Thus, an expert in the science of building should first construct a worthy building. It should be strong, out of the wind, and part of it should be open to the air. It should be easy to get about in, and should not be in a depression. It should be out of the path of smoke, sunlight, water, or dust, as well as unwanted noise, feelings, tastes, sights, and smells. It should have a water supply, pestle and mortar, lavatory, a bathing area, and a kitchen.'

### *The staff*

'After that, one should select the staff of soup and rice cooks, bath attendants, masseurs, people to help patients with getting up and sitting down, and herb grinders. They should be good-natured, clean, well-behaved, loyal, practical, and pious. They should be skilled in nursing, and accomplished in all treatments. They should not be reluctant to work. The attendants should be able to sing, play instruments, and perform recitations, as well as being skilled in verses, songs, stories, legends, and ancient lore. They should be pleasant and able to anticipate. They should know the where and when of things, and be generally sociable.'

### *Supplies*

'There should be bustard-quails, grey partridges, hares, blackbuck, Indian antelope, black-tails,<sup>42</sup> chinkara, sheep, and a nice, healthy milk cow with a live calf and good arrangements for grass, shelter, and drinking water.

'There should be dishes, cups, water barrels, jugs, pots, pans, saucepans, large and small jars, bowls, platters, spoons, straw mats, buckets, an oil pan, churns, leather, cloth, thread, cotton, wool, and so

<sup>42</sup> 'Black-tail', (*kālapucchaka*): an unidentified marsh-dwelling animal; perhaps the swamp deer or barasingha, *Cervus duvauceli*,

Cuvier Prater 1993: 289, or the wild goat, *Capra hircus*, L Prater 1993: 255.



forth. There must be beds and seats, and so on, with vases and receptacles placed near them. Their coverlets, quilts, and pillows should be neatly made, and they should have bolsters. These are to make it easier to apply treatments involving lying down, sitting down, oiling, sweating, massage, balms, showers, massage ointments, vomiting, purges, decoction enemas, oil enemas, purging the head, urine, and faeces. There should be smooth, rough, and medium grinding stones with well irrigated uppers. Knives and their accessories must be supplied, as well as pipes for smoking, tubes for enemas and douches, a brush, a pair of scales, and a measuring instrument.<sup>43</sup>

'There must be supplies of ghee, oil, fat, marrow, honey, sugar-cane treacle, salt, kindling, water, mead, molasses rum, liquor, fermented barley-water, fermented bean-husk water, blended liquor, spirits, curds, sour cream, watered buttermilk, fermented rice-water,<sup>44</sup> and urine. There must also be supplies of śāli rice, sixty-day śāli rice, mung beans, green gram, barley, sesame, poor-man's pulse, cottony jujube, grapes, white teak, phalsa, myrobalan, emblic, belliric myrobalan, as well as the various kinds of drugs used during oiling and sweating.

'There should be drugs for throwing up, soothing, and those which have both effects,<sup>45</sup> as well as medicines well-known for constipating, for kindling the digestion, digestives, and those which remove wind.

'All these supplies, as well as anything else that might be needed in an emergency, should be reckoned up and provided for the purpose of treatment. And items of food over and above the prescribed diets should also be laid on.'

Later verses in this chapter turn to the detailed treatment of the patient, and show that the patient is being treated on a bed, attended by family and professional staff. Descriptions also show the patient being taken to a draught-free room where he is asked to lie down, and is given instructions about maintaining good health through a balanced lifestyle (v.15). It is assumed that the patient will be present for several days, since there are treatments prescribed for "the evening or the next morning" and detailed descriptions are given for the contents of

43 Smoking, i.e., the fumigation of the nose and mouth using a pipe burning a herbal mixture, was considered a normal procedure in āyurveda, and is advised by all the early authors for a range of ailments from exhaustion to bleeding and mania (Jolly 1977: 34). Tobacco was unknown in ancient

times, of course.

44 This is a standard list of 'sour' beverages; see Ca.3.8.140, and Meulenbeld (1974: 454).

45 An *ubhaya-bhāga-hara*, or 'two-way cathartic' is a medicine which can be used for both the primary drug functions: as an emetic and as a purgative.



twelve consecutive meals (v.16). It is only after seven more nights that the patient may once again meet his friends and family and be permitted to resume his normal duties (v.17).

Note that these treatments are intended for, “the king, royal personages, and those having great wealth” (v.18). The poor are advised to follow the same evacuation treatment but with simpler equipment.

Elsewhere in Caraka’s *Compendium* there are also instructions for the construction and equipping of a delivery room.

### *Discussion*

Here we have a comprehensive and detailed description of a hospital building together with its staff, furniture and equipment that bears favourable comparison with many modern clinics and hospitals in the newly developed and developing worlds. The hospital building is carefully sited, and has hygienic toilet facilities. The staff are chosen with attention to their practical but also their human and empathetic skills. There is a farm attached to the hospital with a good and varied stock of animals. It may be noted here that the earliest medical literature of India shows no sign of vegetarianism. The meat and blood of animals is regularly prescribed as a strengthening regime for patients.<sup>46</sup> The kitchen is richly stocked with fine victuals and medicaments. The overall rationale is the cultivation of medical preparedness.

This description is part of a discourse between professionals: it is one doctor’s instruction to another.<sup>47</sup> It is not the description of a patient, or of a patron. It is not science fiction, a genre that does exist in early Indian literature.<sup>48</sup> It must stand as valid and impressively detailed evidence for the idea of the hospital in early India.<sup>49</sup>

What, then, is our evidence for the date of this description?

### THE DATE OF CARAKA’S COMPENDIUM

The Bower Manuscript, a group of Central Asian fragments including Sanskrit medical works, today housed in the Bodleian Library, gives us physical evidence for the name Caraka as a medical authority by the beginning of the sixth century

<sup>46</sup> For a discussion of later commentators’ wrestling with this feature of the tradition in later times when the virtue of *ahimsā* “harmlessness” (to all creatures) had become widespread, see Wujastyk (2004b).

<sup>47</sup> This is in spite of some standardized rhetorical features of early Sanskrit literary style, such as teacher-student setting.

<sup>48</sup> For example, Naravāhanadatta’s adventures in Hemapura, the city of robots, etc. Raghavan 1956: 18 ff.

<sup>49</sup> I use the word “idea” advisedly, to avoid the criticisms that were levelled at the use of the Pantokrator Typicon as evidence for early Byzantine hospitals (Dols (1987: 370–371) and others).

CE.<sup>50</sup> But internal and external evidence allows us to push the date considerably earlier than that.

A physician named Caraka is mentioned in Chinese texts of the late fifth century CE.<sup>51</sup> In the year 472, two Chinese monks called Ki-kia-ye and T'an-iao, who lived under the Northern Wei dynasty (386–584), together translated an anonymous Sanskrit text into Chinese. The work was called the *Samyuktaratna-piṭakasūtra*. The Sanskrit original is lost, but the Chinese translation has survived. The text is a collection of stories about Buddhist history and legend. Story 16 of chapter seven gives a description of the famous Yue-tchi king, Devaputra Kaniṣka. He had three intimate friends: Aśvaghōṣa Bodhisattva, his prime minister Māṭhara, and a famous physician, Caraka. These three were the king's constant companions and advisors.

This tale, associating Caraka with Kaniṣka, is the only external evidence available for the date of a physician called Caraka before the Bower Manuscript. There remains the possibility that the Caraka referred to is not the same person as that associated with the *Compendium*. While the name 'Caraka' is known but not common in Sanskrit, a Caraka who is a successful royal physician but not the famous author associated with one of the best-known works on medicine would seem unlikely. The date of Kaniṣka has recently been definitively clarified by the discovery and description of the Rabatak inscription and he can now be placed in either the period CE 100–126 or in CE 120–146.<sup>52</sup>

Meulenbeld published a critical survey and assessment of all previous scholarship on the dating of Caraka's *Compendium*.<sup>53</sup> He agreed that the evidence summarized above is somewhat insecure. He noted too that the text of Caraka's *Compendium* is not cited in medical literature until the Gupta dynasty, i.e., the period between CE 320 and 550.<sup>54</sup> Meulenbeld cited careful studies by P. V. Sharma that establish a Buddhist orientation in some of the language and content of the *Compendium*. In particular, several topics discussed in the *Compendium* are discussed in identical terms in the *Milindapañhā*, the "Questions of King Milinda," a Buddhist text parts of which probably date from the late first century BCE, which relates the dialogues of the Greek Bactrian king Menandros and the Buddhist

50 Hoernle (1893–1912) dated the parts of the Bower Manuscript to the late fourth or early fifth century, but more recent work by Dani (1986: 148–51) and especially Sander (1987) presents convincing evidence for the somewhat later date.

51 See Lévi (1896) and Takakusu (1896).

52 See Basham (1968) for the early debate relating to Kaniṣka's date, and Sims-

Williams and Cribb (1996), Cribb (1999), and Sims-Williams (2004; 2008) for the recent discoveries.

53 HIML: IIA, 105–115.

54 The Buddhist philosopher Śāntarakṣita, abbot of Nālanda monastery and instrumental in introducing Buddhism to Tibet, gave a secure reference to our Caraka a few years before CE 760 (HIML: Ib: 198–99).

monk Nāgasena.<sup>55</sup> This would suggest composition in the period after the death of the Buddha in about 400 BCE, when the Buddhist Canon was forming.

To summarize, current scholarship tentatively places the composition of the earliest version of the *Compendium* in the period between the second century BCE and the first century CE.<sup>56</sup>

### *Agniveśa and Dṛḍhabala*

The chapter colophons of the *Compendium* of Caraka describe the work in the following way: “In the work of Agniveśa, edited by Caraka, in the division on X, here ends chapter Y called Z”.<sup>57</sup> And towards the end of the work, the formulation changes to: “In the work of Agniveśa, whose edition by Caraka was not available, that was supplemented by Dṛḍhabala, in the division on X here ends chapter Y called Z”.<sup>58</sup> Thus, internal evidence in the text itself confirms that the work has several editorial layers. All agree that the original redactor is Agniveśa. The work was then re-edited by Caraka, and when Caraka’s edition was not available it was supplemented by Dṛḍhabala.<sup>59</sup>

Thus, dates that have been proposed for the *Compendium* on the basis of internal similarities with Buddhist literature would apply to the original text of Agniveśa, not only to the later redactions of Caraka and Dṛḍhabala. On the basis of detailed evidence, the latter editor may be dated securely to the period CE 300–500.<sup>60</sup>

To sum up, one plausible and defensible interpretation of the evidence is that Agniveśa composed the original *Compendium* in about 100 BCE. It was re-edited by Caraka about two hundred years later, and again by Dṛḍhabala about two hundred years after that. It may be relevant to note that two hundred years is the average length of time that a manuscript survives in typical South Asian storage conditions.

### CARAKA IN THE ISLAMIC WORLD

Meulenbeld gave detailed information about the transmission of Caraka’s *Compendium* to the Middle East, which I summarize here.<sup>61</sup> The work was translated

55 Ed.: Trenckner (1880); Tr.: Rhys Davids (1890–4). See Norman 1983: 110–113; HIML: Ib, 193, n. 148; Winternitz 1993: 2.168 ff., *et passim*.

56 Meulenbeld (HIML: IA: 114). For further detail on dating see P. V. Sharma (1992: 177–95), Meulenbeld (1974: 403–6), and especially Meulenbeld (HIML: IA, *passim*).

57 Skt.: इत्य् अग्निवेशकृते तन्त्रे चरकप्रतिसंस्कृते X-

स्थाने Y-नाम Z अध्यायः॥. See the text edition of Y. T. Ācārya (1981: *passim*).

58 Skt.: इत्य् अग्निवेशकृते तन्त्रे चरकप्रतिसंस्कृते उप्राप्ते दृढबलसंपूरिते X-स्थाने Y-नाम Z अध्यायः ॥ *ibid*.

59 See P. V. Sharma (1992: 186–88), Meulenbeld (1974: 410–13), Meulenbeld (HIML: IIA, 105–115, *et passim*).

60 HIML: IA, 130–41.

61 Meulenbeld refers especially to the works of Siddiqi (1928; 1957a,b; 1959)

into Persian by an Indian physician who is usually referred to as Manka,<sup>62</sup> but is more properly called Mañkha or Māṇikyā according to various sources.

Our knowledge of Mañkha's activities are due mainly to the accounts of Ibn 'Alī Uṣaybi'a in his *'Uyūn al-anbā' fī ṭabaqāt al-aṭibbā'* and of al-Ṭabarī in his *Tarīkh*,<sup>63</sup> A. Müller (1880: 496–7) discussed the trustworthiness of the stories about Mañkha and noted that Uṣaybi'a borrowed them from a book called *Kitāb Akhbār al-khulafā' wa'l-barāmika* or 'Book of the history of the caliphs and Barmakids.'

Mañkha, in these sources, is said to have come from India to the 'Abbāsīd court at Baghdād at the request of the Caliph Hārūn al-Raṣhīd (fl. 763 or 766–809). In the standard physician's success story, the Caliph was suffering from a disease which his own physicians were unable to cure, but Mañkha was summoned and was successful in healing the Caliph. Mañkha seems to have remained in Persia and may have embraced Islam. He was appointed chief physician at the royal hospital in Baghdād. During his time in Persia, he translated a number of Indian scientific treatises into Persian, including the *Compendium* of Caraka. This work was translated again, from Persian to Arabic, by 'Abdullāh ibn 'Alī.<sup>64</sup> Meulenbeld (HIML) listed no fewer than ten Arabic authors from the eighth to the thirteenth centuries who show a knowledge of Caraka's work.

#### *Transmission to the Islamic World*

Whatever the complexities of historical narrative and translation history, there are no compelling grounds for doubting that the *Compendium of Caraka* was known to physicians in Baghdād from the late eighth century onwards. Building on the seminal research of van Bladel (2011), Shefer-Mossensohn and Hershkovitz (2013) have presented important evidence showing that the first *bīmāristān* or "place for the sick" of Baghdād was established under the direct influence of the Pramukhas (Barmakids), viziers to the Baghdād Khalīfs and a family whose ancestors were Buddhists from Balkh, educated in medicine in Kashmir during the late seventh or early eighth century.<sup>65</sup> I have proposed elsewhere that the Baghdād *bīmāristān* was likely to have been directly inspired by the hospital description provided in the *Compendium of Caraka*.<sup>66</sup>

62 Or 'Mankbah' in al-Ṭabarī's *Ta'rikh* according to Reinaud (1849: 315–6).

63 According to Siddiqi (1959: 36).

64 Siddiqi 1959: 61. The eleventh-century scholar Al Biruni says that he has his own defective translation of Caraka (Sachau 1910: 1.162).

65 This narrative moves the discussion for-

ward decisively from earlier discussions such as those criticized by Dols, and picks up a point actually made by Dols (1987: 382–383) that the establishment of the first Baghdād hospital was the work of Yaḥyā ibn Khālid ibn Barmak.

66 Wujastyk 2016: 686 ff.

## 6 FAXIAN

SOME time during the first decade of the fifth century CE, the long journey of the Chinese Buddhist pilgrim Faxian brought him to the city of Pāṭaliputra. This city had once been the glorious capital of the emperor Aśoka, and was the probable site of the third Buddhist Council.<sup>67</sup> The pious pilgrim was deeply impressed by the city and its inhabitants. He described it as a centre of Buddhist learning and home to two large monasteries housing six hundred monks. But Faxian seems to have been equally impressed by the laity. In his famous travelogue he recorded that,<sup>68</sup>

After crossing the river, [Faxian's group] went south for one *yojana* and reached the city of Pāṭaliputra, which was the capital of king Aśoka in the country of Magadha. ...Besides the stupa built by King Aśoka, there was a magnificent Mahayana monastery. There was also a Hinayana monastery, where six or seven hundred monks lived in a most orderly manner with perfect decorum. Monks of high virtue and scholars from the four quarters came to this monastery to seek knowledge and truth. ...In the whole of [the country of ] Madhyadeśa, the capital was the largest city. The people were rich and prosperous and vied with each other in performing benevolent and righteous deeds. ...The elders and householders of this country established facilities for welfare and medical care in the city. The poor, the homeless, the disabled, and all kinds of sick persons went to the facilities, to receive different kinds of care. Physicians gave them appropriate food and medicine to restore their health. When cured, they left those places.

This description by Faxian is one of the earliest accounts of a civic hospital system anywhere in the world and, coupled with Caraka's description of how a clinic should be equipped, it suggests that India may have been the first part of the world to have evolved an organized cosmopolitan system of institutionally-based medical provision.

Zysk (1998: 45) suggested that Faxian may have been describing the "health monastery" (Skt. *ārogya-vihāra*) that was discovered during archaeological excavations at Kumrahār, eight kilometers from modern Patna.<sup>69</sup> The building, datable to CE 300–450, had four rooms of varying size, with walls of fire-baked bricks and a brick floor. In the debris unearthed at the site was an inscribed sealing. The inscription, shown in Fig. 1, reads: "in the auspicious health monastery

67 See Law 1984: 249 ff.

68 Rongxi and Dalia 2002: 190–2. Cf. the tr.

of Legge (1965: 79).

69 Altekar and Mishra 1959: 41, 53, cited by Zysk (1998: 45).



Figure 1: Sealing found at Kumrahār showing probably the tree of enlightenment (*bodhiṅkṣa*) flanked by conch shells (Altekar and Mishra 1959: frontispiece, 103).

of the monastic community” (Skt. *śrī ārogyavihāre bhikṣusaṅghasya*). Other potsherds from the same debris also bear similar inscriptions: “in the health house” (Skt. [*ā*]rogyavihāre), and “of Dhanvantari” (Skt. [*dha*]nvantareḥ). The latter is the name of the god of medicine and promulgator of the medical *Compendium* of Suśruta, (whose textual history is somewhat parallel to that of Caraka), and is a name associated with an ancient school of surgeons.<sup>70</sup> The name Dhanvantari is also mentioned in the *Milindapañha* (approximately second century BCE) as a medical authority, and in many later sources.<sup>71</sup> It is beyond reasonable doubt that the Kumrahār site included a medical building. It was possibly part of a Buddhist monastery, perhaps offering treatment for the monks similar to that described by Faxian in about CE 410.

## 7 XUANZANG

XUANZANG was born in China in CE 602 and became famous for his seventeen-year Buddhist pilgrimage through India, during which he studied with

<sup>70</sup> See HIML:IA, 358–61. Note, however, that recent research on the ninth-century Nepalese version of the *Suśrutasaṃhitā* shows that the figure of Dhanvantari was not at that time strongly associated with

the text (Birch et al. 2021) and may have been a person associated more with teachings on food and drink than on surgery.

<sup>71</sup> HIML:IA, 358–361.



many famous Buddhist masters, especially at the famous centre of Buddhist learning in Nālanda. When he returned to China, he brought with him some 657 Sanskrit texts. With the emperor's support, he set up a translation bureau in Chang'an, drawing students and collaborators from all over East Asia.

In his description of India of the early seventh century, Xuanzang noted that King Harṣavardhana/Śilāditya (fl. ca. CE 606–648, in Kanyakubja, modern Kanauj) was inclined towards Buddhism.<sup>72</sup> Emulating Aśoka, this king forbade the slaughter of animals and,<sup>73</sup>

...in all the highways of the towns and villages throughout India, he erected hospices,<sup>a</sup> provided with food and drink, and stationed there physicians,<sup>b</sup> with medicines for travellers and poor persons round about, to be given without any stint.

<sup>a</sup>*Puṇyaśālās* – *Tsing leu*, pure lodging houses or *choultries*.

<sup>b</sup>There is an error in the text as pointed out by Julien, n. 2. The text may mean he placed in these buildings “doctor's medicines,” or “physicians and medicines.”

This story sounds similar to the erroneous “hospitals of Aśoka,” but in this case there is no reason to doubt Xuanzang's contemporaneous account.<sup>74</sup>

In many places of Xuanzang's narrative, the Chinese monk described the institution called the “merit hall” (Skt. *puṇya-śālā*). These were apparently common in mid-seventh century India.

There were formerly in this country [Ṭakka, in Panjab, between the Indus and Beas rivers] many houses of charity (*goodness or happiness–Puṇyaśālās*) for keeping the poor and the unfortunate. They provided for them medicine and food, clothing and necessaries; so that travellers were never badly off.<sup>75</sup>

At least some of these charity houses also functioned as medical centres:

Benevolent kings have founded here [at Haridwar, near the mouth of the Ganges] “a house of merit” (*Puṇyaśālā*). This foundation is

72 Cf. On Bāṇa's seventh-century biography of Harṣavardhana, see Keith 1920: 316–9. The standard translation is by Cowell and Thomas (1968).

73 Beal 1884:I, 214. The footnotes to the translation are Beal's.

74 Rongxi (1996: 125 f.) translated the same passage as follows: “Temples were constructed in towns and villages and at thoroughfares and crossroads in the five parts of

India, where food and drink were stored and medicines laid in to be distributed as alms to wayfarers and the poor without negligence.” It is not impossible that these constructions were “temples,” although it seems more likely that Xuanzang was describing a choultry or charitable rest-house, as Beal suggested.

75 Beal 1884:I, 165. Cf. tr. by Rongxi (1996: 97).

endowed with funds for providing choice food and medicines to bestow in charity on widows and bereaved persons, on orphans and the destitute.<sup>76</sup>

Xuanzang mentions similar merit-houses on several other occasions.<sup>77</sup>

Clearly these merit-houses are not full-blown hospitals, but are rather to be likened to *xenones*.

## 8 JAINA HOSPITALS

Jain (1947: 179) stated that the Jaina text *Nāyādhammakahā*, in the sixth part (*aṅga*) of the Jaina Canon, described a hospital (Prakrit *tigicchiyasālam* “medicine hall”) with a hundred pillars where, “a number of physicians and surgeons were employed who treated various kinds of patients with medicine and herbs.”<sup>78</sup> While it is not impossible that this interesting description dates to as early as the fifth century CE, it is unfortunately not helpful in establishing the chronology for Indian hospital history because of the notoriously difficult problems surrounding the dating and transmission of Jaina canonical texts.<sup>79</sup> The scholarly consensus is that while some texts may have extremely ancient origins, the canon as such was formalized at a council held in Valabhī, Gujarat, in the fifth century.<sup>80</sup>

## 9 ELEVENTH-CENTURY TIRUMUKKŪḌDAL

WE are fortunate that a fairly detailed description has survived from the late eleventh century of a hospital in South India. While the earlier account of Caraka recorded a physician’s view of the hospital, the present account gives the view of the financial sponsor.

The late eleventh century inscription on the wall of the temple at the town of Tirumukkūḍal, not far from Kanchi, covers 540 sq. ft., and is 55 ft. long.<sup>81</sup>

76 Beal 1884:I, 198. Cf. tr. by Rongxi (1996: 115): “Philanthropic kings have constructed almshouses to provide isolated, solitary, and needy people with free food and medical service.”

77 Beal 1884:II, 274, 303.

78 *Nāyādhammakahā* XIII.99 (Vaidya 1940: 143): तए णं नंदे मणियारसेट्टी पच्चत्थिमिल्ले वणसंडे एणं महं तिगिच्छियसालं करेइ अणेगरखंभसय जाव पडिरूवं। तत्थ णं बहवे वेज्जा य वेज्जपुत्ता य जाणुया य जाणुयपुत्ता य कुसला य कुसलपुत्ता य दिन्नभैत्तवेयणा बह्वणं वाहियाण य गिलाणाण य रोगियाण य दुब्बलाण य तेइच्छकम्मं करेमाणा विहरंति।

The edition of Schubring (1978) was not available to me (but see the reservations of Bollée (1979) and other reviewers), nor was the commentary of the eleventh-century canonical scholar Abhayadeva Sūri (1919).

79 On the canonical literature of the Jains, see, e.g., Winternitz 1981–5: 2: 428 ff. Kapadia 2010, who both skirt issues of chronology.

80 Thoughtful discussion by Dundas (2002: ch. 3); overview by Singh (2015: 26).

81 Subrahmanya Ayyar 1931–2. See also Gurumurthy 1970; Rama Rao 1995–6.



The Tirumukkūḍal inscription records grants given by Vīrarājendra (i.e., the Cola king Rājakeśarivarman) for the support of a Sanskrit college, students' hostel and a hospital. A master (Skt. *bhaṭṭa*) is paid 120 kalams of paddy and 10 kāśus of gold per annum to teach grammar and the *Rūpāvātāra*. This is twice what a Vedic teacher got for *Ṛgveda* lessons. The master also had twice as many students: 20 for grammar, as against 10 for *Ṛg Veda* teaching (Subrahmanya Ayyar 1931–2: 222).

The inscription provides detailed information on the Vīrasōḷan “house for the sick” (Skt. *āturaśālā*).<sup>82</sup> The hospital was provided with fifteen beds. The attending doctor's name was Savarṇan Kōdaṇḍarāman Aśvatthāma-Bhaṭṭan of Ālappākkam, who was a recipient of land grants to support his medical prescribing. He was paid annually 90 kalams of paddy and 8 kāśus (i.e., less than the grammar master), as well as a grant of land, for prescribing medicines to the patients lying in the hospital, for the servants attached to the institutions and for the teachers and students of the Vedic college.<sup>83</sup>

In addition to the physician, the inscription describes the following staff:<sup>84</sup>

- one surgeon who received 30 kalams of paddy;
- two persons for fetching medicinal herbs who were paid 60 kalams of paddy and 2 kāśu; these staff also supplied firewood and prepared the medicines;
- two nurses, who received 30 kalams of paddy and 1 kāśu, and attended the patients and administered the medicines;
- a barber who received 15 kalams of paddy;
- there were also cleaners.

Money was provided for a daily ration of rice for each sick person, for a lamp to be kept burning in the hospital at night, and for a water-man and for stocking medicines.

The medicines to be kept at the hospital are listed. There are twenty named compounds, and almost all of them can be traced to the classical works of ayurveda, especially Caraka's *Compendium*.<sup>85</sup>

This description, occurring a thousand years after Caraka's, is fascinating for its detail, and for the financial information it gives. The inscription is dated to the late eleventh century on firm palaeographical grounds, and this is corroborated by the information given about the monarch.

<sup>82</sup> Subrahmanya Ayyar 1931–2: lines 42–3, pp. 223–25, 249–50.

<sup>83</sup> *ibid.*, 223

<sup>84</sup> Subrahmanya Ayyar 1931–2: 223–224.

<sup>85</sup> Subrahmanya Ayyar 1931–2: 224–225.

## 10 TWELFTH-CENTURY BENGAL

**B**ENGAL has been the location of highly developed cultures of medical practice for at least a millennium. The very earliest institutionalized medical centres in South Asia are likely to have been those connected with the early Buddhist monasteries that were particularly well-established in Bengal and Bihar, the heartland of Buddha's own life history.<sup>86</sup> As early as the twelfth century, King Vallāla Sena (r. 1158–ca. 1179), aided by his guru Aniruddha Bhaṭṭa, wrote a work on donations, the *Dānasāgara* ("Ocean of Gifts"), that was completed in CE 1170.<sup>87</sup> In this treatise, Vallāla explicitly addressed the important question of medical patronage.

King Vallāla was interestingly self-reflective in respect of his authorship. First, he showed an awareness of his authorial relationship with his teacher, Aniruddha, and clarified their respective contributions to the composition of the work. In the first chapter of the work, Vallāla set out his royal family lineage, emphasizing its lunar origin and all the fluid, cooling and vegetal qualities that are implied by the quintessentially *soma*-defined category of the moon.<sup>88</sup> He then gave strong emphasis to his teacher's qualities and powers: Aniruddha was the best-known man in Varendra for literature, traditional lore (*smṛti*) and the meaning of the Vedas. He was tireless, brilliantly clever, bright-eyed, and the home of many other virtues.<sup>89</sup> The king said that he had faithfully learned the essence of all the Purāṇas and the *smṛti* literature from Aniruddha, and had developed a desire to create a literary digest concerning donations in order to cut away the sin of the Kali age. But the king felt paralyzed by uncertainties about coming to a correct understanding of the difficult texts about dharma. So he began paying his respects to brahmans. They gathered together and granted him the blessing of success and freedom from doubt.<sup>90</sup>

With his teacher's instruction, King Vallāla then composed, this *Dānasāgara*, with a methodology based on his own wisdom, for the sake of those who have faith.

The sequence of acts and relations here is interesting: the king first learned as a student. Subsequently, he had to demonstrate intellectual and personal subordination to the brahmana community. Only with their assent could he continue

86 Zysk 1998: ch. 3, and see pp. 5 ff. above.

87 The work was edited by B. Bhattacharya (1953). On Vallāla, see, e.g., Majumdar 1971: 216–8 *et passim*, Derrett 1973: 53 and refs., etc. The king's name is often also written with its Bengali pronunciation "Ballāla Sena."

88 For the thematic symbolism of *soma*, see Wujastyk (2004a).

89 *Dānasāgara* 1, v. 6. (B. Bhattacharya 1953: 2).

90 *ibid.*, v. 9:

श्रीवल्लालनरेश्वरो विरचयत्येतं गुरोः शिक्षया।  
स्वप्रज्ञाविधि दानसागरम् अयं श्रद्धावतां श्रेयसे ॥ ९ ॥

to the act of composition. Finally, he asserts his own methodological and intellectual contribution to the work, while yet acknowledging his educational debt to his teacher.

The second striking feature shown by Vallāla in this work was a remarkably modern sense of his relationship to his textual sources. Not only did he list the texts – over fifty – that he had relied upon for his own treatise.<sup>91</sup> He also discussed the texts that he had preferred *not* to use, and he gave his reasons.<sup>92</sup> In doing this, he produced an impressively critical evaluation of the content of the works he rejected. For example, he was willing to use the first seven chapters of the *Bhaviṣyapurāṇa*, but not chapters eight and nine, which had been “contaminated by heretics”.<sup>93</sup> The *Viṣṇusahasra* and the *Śivarahasya*, that Vallāla called “well known in the world,” were rejected because he considered them to be just congeries.<sup>94</sup> He said that although the *Bhaviṣyottarapurāṇa* was famous for its tradition and was not controversial, it had been put to one side on the grounds that “there is nothing to suggest that it is authoritative”.<sup>95</sup> Several other Purāṇas, including parts of the *Skanda-*, and the *Brahma-*, were said to include numerous topics such as false genealogies.

They are chaotically arranged stories that contradict one another. Because of this, having observed how idiots, heretics and frauds, ...lead the world astray, they are absolutely all disregarded.<sup>96</sup>

Finally, the *Devīpurāṇa* is also not included as a source for this work, because,

it is observed that its connection with disgusting activities means that it agrees with heretical teachings that are beyond the pale of the traditional literature of major and minor Purāṇas.<sup>97</sup>

These reflections by Vallāla on the quality and appropriateness of his source texts are remarkable. They show his awareness that certain orthodox texts were subject to revision by “heretics,” presumably Buddhists. They show too that he was evaluating his sources according to their originality, and that mere collections of disorganised or scripturally dubious materials were not of interest to him. He

91 *Dānasāgara*, 1, vv. 11–20 (B. Bhattacharya 1953: 2 f. and intro. xxii–xxiv).

92 *Dānasāgara*, ch. 1, vv. 57–68 (B. Bhattacharya 1953: 6 f.).

93 *ibid.*, v. 56bc:

त्यत्तवाष्टमीनवमौ कल्पौ पाषण्डिभिर्ग्रस्तौ ॥ ५६ ॥

94 *ibid.*, v. 60acd: लोकप्रसिद्धम्...द्वयमिह न परिगृहीतं संग्रहरूपत्वमवधार्य ॥ ६० ॥

95 *ibid.*, v. 61c: प्रामाण्यज्ञापकादृष्टेर् ।

96 *ibid.*, v. 65cd–66:

असङ्गतकथाबन्धपरस्परविरोधतः ॥ ६५ ॥

तन्मीनकेतनादीनां भण्डपाषण्डलिङ्गिनाम् ।

लोकवञ्चनमालोक्य सर्वमेवावधीरितम् ॥ ६६ ॥

The expression तन्मीनकेतनादि is unclear.

97 *ibid.*, v. 67:

तत्तत्पुराणोक्त्यपुराणसंख्याबहिष्कृतं कश्मलकर्मयोगात् ।

पाषण्डशास्त्रानुमतं निरूप्य देवीपुराणं न निबद्धमत्र ॥

६७ ॥

wanted source texts that were orthodox, that were clearly presented, and that said something original

In writing his chapter on hospital donations, Vallāla cited materials on the topic from an earlier authority, the *Nandipurāṇa*, that is unfortunately lost.<sup>98</sup> He began by advising the reader, presumably a rich man like himself, to found a hospital:

As it says in the *Nandi Purāṇa*:

Health is the means of attaining Virtue, Wealth, Enjoyment, and Liberation. By giving health, therefore, a man gives all. He should build a hospital (*ārogyaśālā*), with great herbs and equipment, with clever physicians, servants, and overnight quarters. The physician knows science, is wise, experienced with medicines and energetic. He knows the truth about the roots of herbs, and he knows the right time to harvest them.<sup>99</sup>

The justification of medicine on the grounds that it makes possible the achievement of the canonical “ends of man” (*puruṣārtha*) has ancient antecedents and had been discussed by the learned Bengali physician Cakrapānidatta about a hundred years before King Vallāla. The argument resurfaces often in the literature, for example being used by another Indian king in the eighteenth century.<sup>100</sup>

The *Nandipurāṇa* passage cited by the king goes on to set the standards for the hospital and its staff, and to emphasise the qualities of the resident physician. It then notes the virtue that accrues to the patron and healer:

A good physician is as follows. He knows savours (*rasa*), potencies (*vīrya*) and post-digestive effects (*vipāka*), as they apply to the groups of herbal medicines and the measures of rice. As a wise man, who knows yoga, he can enter mentally into the body of an embodied person. He knows the elements, what is wholesome and the internal receptacles, he knows etiology. He never slackens. He knows the premonitory signs of sick people, and he knows how they will turn out. He knows how to do things at the right place and time, and he

98 Although widely-cited in Sanskrit literature, the *Nandipurāṇa* has not come down to the present time as an independent text. Rocher (1986: 200 f.) notes that no manuscript of the work has yet been found.

99 *Dānasāgara* ch. 59 (B. Bhattacharya 1953: 558–61): नन्दपुराणे  
धर्मार्थकाममोक्षाणामारोग्यं साधनं यतः।  
अतस्त्वारोग्यदानेन नरो भवति सर्वदः ॥ १ ॥

आरोग्यशालां कुर्वीत महौषधिपरिच्छदाम्।  
विदग्धवैद्यसंयुक्तां भृत्यावसथसंयुताम् ॥ २ ॥  
वैद्यस्तु शास्त्रवित्प्राज्ञो दृप्तौषधपराक्रमः।  
औषधिमूलतत्त्वज्ञः समुद्धरणकालवित् ॥ ३ ॥ ...

100 I.e., King Tukkoji of Thanjavur (Wujastyk 2006). See also Wujastyk 2004b for further historical discussion of ayurveda and the ends of man.

knows where medicines should go. He knows ayurveda with its eight constituent parts. He knows how to prescribe in small quantities.

A person who is himself a refuge of virtue should make a hospital (*ārogyaśālā*) where a physician like that is employed. That person is virtuous, he is successful in the world, he is judicious.

Someone filled with compassion who has completely taken away the illness of even a single sick person in the hospital, with medicines and oil purifications, goes forth to the home of Brahman together with seven generations of his family. A poor man, acting within his means, will enjoy the same result too. For how can a poor man have a hospital or a doctor? Furthermore, the eternal world described above will also be attained by a mortal man who has brought about health through the use of any roots, or by such methods as massage. The same is true for someone who liberates people suffering from illness using even the simplest means. He goes to the beautiful worlds, unattainable even to those who perform sacrifices.<sup>101</sup>

To place the practice of medicine is on a par with, or even over, the practice of ritual and sacrifice is a bold claim indeed, but it is again in line with ancient assertions that the practice of medicine could even lead to the acquisition of twice-born status for those of the *śūdra* caste.<sup>102</sup>

King Vallāla then added his own summary of the *Nandipurāṇa*'s authoritative assertions.

Thus, for the sake of health, the patron (*yajamāna*) should first use all his ability to design a building made of bricks and so on, as well as buildings for medicines and purifiers etc. It should be supplied with attendants of different kinds, with doctors of the aforementioned characteristics, with collections of herbs suitable for pacifying the different kinds of diseases, with resting houses, and with vessels like water pitchers and copper kettles and equipment that can be

<sup>101</sup> *Dānasāgara, ibid.:*

रसवीर्यविपाकज्ञः शालिमानौषधिगणे।  
योगविद्देहिनां देहं यो धिया प्रविशेद्बुधः ॥ ४ ॥  
धातुपथ्याशयज्ञश्च निदानविदतन्द्रितः।  
व्याधीनां पूर्वलिङ्गज्ञस्तदुत्तरविधानवित् ॥ ५ ॥  
देशकालविधानज्ञश्चिकित्साशयवित् ॥ ६ ॥  
अष्टाङ्गायुर्वेदवेत्ता मुष्टियोगविधानवित् ॥ ६ ॥  
एवंविधः शुभो वैद्यो भवेद्यत्राभियोजितः।  
आरोग्यशालामेवन्तु कुर्याद्यो धर्मसंश्रयः।  
स पुमान्धार्मिको लोके स कृतार्थः स बुद्धिमान् ॥ ७ ॥  
सम्यगारोग्यशालायामौषधैः स्नेहपावनैः।

व्याधितं निरुज्जीकृत्य अप्येकं करुणायुतः ॥ ८ ॥  
प्रयाति ब्रह्मसदनं कुलसप्तकसंयुतः।  
आत्मवित्तानुसारेण दरिद्रः फलभागभवेत् ॥ ९ ॥  
ददिद्रस्य कुतः शाला आरोग्याय भिषक्तथा।  
अपि मूलेन केनापि मर्दनाद्यैरथापि वा।  
स्वस्थीकृत्य लभेन्मर्त्यः पूर्वोक्तं लोकमक्षयम् ॥ १० ॥  
...यस्तु स्वल्पाभ्युपायेन मोक्षयेद्ब्याधिपीडितान्।  
सो ऽपि याति शुभान् लोकानवाप्यान्यज्ञयाजिभिः ॥ ११ ॥  
<sup>102</sup> See, e.g., Ca.ci.1.4.51-53 (Y. T. Ācārya 1981:389), Su.sū.2.5-1 (Y. T. Ācārya and N. R. Ācārya 1992:11).

useful in such a place. For the sake of assuaging the illnesses of various beings, starting with brahmans, he should create this and then donate it.

So, for example, “I would like to achieve the fruit of donating a hospital as described in the *Nandipurāṇa*, in order to counteract the diseases of various beings starting with brahmans. I am creating this hospital having herbs and supplies, an attending doctor, with attendants and places to live”.<sup>103</sup> Then, to bring that to fulfillment, he should make a grant either of money or of land written on a copper plate or something similar.

But someone who is not capable of building a hospital should give a mere gift of a little medicine, and just assist the sick to recover their health through means such as food or massage.<sup>104</sup>

King Vallāla demonstrated here his dedication to the idea of medical support for his subjects. The hospitals he was proposing to fund were to be substantial (“made of bricks”) and well-equipped and staffed. These institutions seem to be hospitals in a recognizable and formal sense, rather than mere dormitories or religious shelters. The hospital at Tirumukkūḍdal discussed above was established only a half a century or so before Vallāla wrote his description.

## 11 TWELFTH-CENTURY KASHMIR

THE Kashmir chronicle *Rājatarāṅgiṇī*, composed by Kalhaṇa (fl. 1149) less than a hundred years after the Tirumukkūḍdal inscription, mentions the establishment by one particular monarch in Kashmir of an Health Hall (Skt. *ārogya-śālā*), “for the healing of sick people and in order to ward off a danger [threatening] his queen, Senāmukhī”.<sup>105</sup> The monarch in question, Raṇāditya, is a figure to whom several implausible legends are attached, but the passage is nevertheless interesting as such endowments were apparently unproblematic to a twelfth century Kashmiri author.

<sup>103</sup> Or, “with houses for the staff.”

<sup>104</sup> *Dānasāgara*, *ibid.*: अत्र यजमानो यथाशक्ति इष्टकादिरचितां शालामौषधपावनादि-शालाश्च तदुपकरणताम्रकटाहकलसादिपात्रपरि-च्छदनानाविधव्याधि-शान्त्युचितौषधगणयथोक्तलक्षणवैद्य-नानाविधपरिचारकयुतां विश्रामगृहसहिता आरोग्यायोपकल्प्य ब्राह्मणप्रमुखनानासत्त्वव्याधिशान्त्य-अर्थमुत्सृज्य दद्यात्। तद्यथा—नन्दिपुराणोक्तारोग्य-

शालादानफलप्राप्तिकामोऽहं ब्राह्मणप्रमुखनानासत्त्वेभ्यो व्याधिप्रतीकारार्थम् एतां महौषधिपरिच्छदां नियुक्तवैद्यां भृत्यावसथसंयुक्ताम् आरोग्यशालाम् उत्सृजे। ततस्तन्-निर्वाहाय धनं ताम्रपट्टादिलिखितां वा भूमिं दद्यात्। आरोग्यशालाकरणासमर्थस्तु स्वल्पौषधदानमात्रम् अन्नमर्दनादिभिश्च रोगिस्वस्थीकरणानुष्टु[आ]नमात्रं कुर्यात्।

<sup>105</sup> Stein (1900: 3.461), Keith (1920: 160).

## 12 THIRTEENTH-CENTURY MALKAPURAM

IN the town of Malkapuram of Guntur District in Eastern India, there is a huge pillar lying near the ruined temple. The indefatigable epigraphist Sircar (1971: 156–163) gave an account of the inscription on this pillar, which is dated to CE 1286.<sup>106</sup> The Malkapuram inscription describes how the Kākatiya king Gaṇapatideva provided a grant to his spiritual guru Viśveśvaraśiva, and how the latter constituted the gift into a group of endowed settlements and institutions. Amongst the charitable buildings were a hospital (*ārogyaśālā*) and a birthing house (*prasūtiśāla*).<sup>107</sup> The entire land gift supported an impressive and cultured rural community exceeding sixty brahman families with teachers of grammar, logic, literature and philosophy as well as a physician and an accountant, cooks, police, servants, artisans, and a temple for dancing girls, musicians and singers. Such generous endowments are known from many other sites in South India and several still exist today.<sup>108</sup>

## 13 CONCLUSION

RISSE made a compelling case for presenting, “sequential features of a particular hospital in each time and place”, and aimed to tell the stories of the hospitals he studied in terms of six basic aspects of hospital life: mission, patronage, organization, staff, patients, and ritualized caring activities.<sup>109</sup>

This is an admirable goal, and I am only too aware of how crude the present study appears in comparison with the sophistication of hospital studies for institutions in Europe and Turkey. However, one must start somewhere. In this study, I have aimed to bring to the surface and organise important information about hospitals in peninsular South Asia. This preliminary information deserves further study, comparison with related data, philological examination and thoughtful interpretation. We may never get the rich detail of patients’ experiences that fills the pages of Risse’s *Mending Bodies, Saving Souls*. But we do, at least in the case of Caraka’s *Compendium*, see into the mind of the physician when he planned his house of healing, and through Vallāla’s *Dānasāgara* and the Tirumukkūḍdal and Malkapuram inscriptions we gain valuable insights into patronage and funding.

<sup>106</sup> Sircar also described some other hospitals mentioned in Indian inscriptions. Unfortunately, he succumbed to the idea that Aśoka had built hospitals. The full text of the Malkapuram inscription is given by Pantulu 1929; Pantulu and Rao 1948: #395.

<sup>107</sup> Sircar 1971: 159.

<sup>108</sup> The Malkapuram inscription by no means exhausts the inscriptional evidence for hospitals and healing centres in early South Asia. This is likely to be a rewarding area for future research.

<sup>109</sup> Risse 1999: 4.

As stated at the outset, this study is specifically focussed on hospital history in peninsular South Asia. There also exists directly related and critically important historical information on early hospitals in Sri Lanka, Cambodia and elsewhere in South and South-East Asia that will repay integration into the larger historical picture of the evolution of hospitals in South and South-East Asia.<sup>110</sup>

#### ACKNOWLEDGEMENTS

I am sincerely grateful to the journal's referees, who offered corrections and suggestions that have materially strengthened the article.

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<sup>110</sup> See, e.g., Cœdès 1940; Müller-Dietz 1975; Urugoda 1977; 1987; Müller-Dietz 1996; Chem 2003; 2007.



## ABBREVIATIONS

- HIML Meulenbeld, G. J. (1999–2002), *A History of Indian Medical Literature*, 5 vols. (Groningen: E. Forsten), ISBN: 9069801248.
- MW Monier-Williams, M., Leumann, E., Cappeller, C., et al. (1899), *A Sanskrit–English Dictionary Etymologically and Philologically Arranged, New Edition* (Oxford: Clarendon Press); 1970 reprint.

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