Editorial

Barbara Gerke

‘Mercury—Elixir of Life or Poison?’ was the title of a one-day symposium held in May 2012, which brought together a group of multidisciplinary scholars at the Central Asian Seminar of the Institute for Asian and African Studies (IAAW) at Humboldt University of Berlin. The Dean’s Office of the IAAW kindly funded the event, which I convened as part of my three-year DFG-funded research project on detoxification methods in Tibetan pharmacology.¹ The symposium brought together multidisciplinary perspectives discussing the medical, political, legal, and economic aspects that surround the use of mercury in Asian medicine. The day concluded with an unforgettable dinner, generously hosted by Paul Unschuld (Director of the Horst-Görtz-Stiftungsinstitut für Theorie, Geschichte und Ethik Chinesischer Lebenswissenschaften, Charité-Universitätsmedizin Berlin) and his wife Ulrike Unschuld at their residence in Berlin.

Presentations ranged from the medical history of mercury in Europe (Andrew Cunningham, Cambridge University), to its use in the form of calomel in Ayurveda (Dagmar Wujastyk, University of Zurich), and as a syphilitic treatment in Tokugawa Japan (Daniel Trambaiolo, Princeton University). In the Tibetan medical traditions, questions focused on which part of mercury is considered poisonous (Sonam Dolma, Men-Tsee-Khang, Dharamsala), what we can learn about Tibetan mercury purification methods from the historical literature (Olaf Czaja, Leipzig University), and which of the centuries-old pharmacological methods to ‘refine’ mercury are still in use today (Barbara Gerke, Humboldt University of Berlin). Larger debates on the politics of toxicity surrounding the use of mercury in Ayurveda (Madhulika Banerjee, University of Delhi) and the legal issues of using mercury in allopathic, homeopathic, Traditional Chinese Medicine (TCM), and Tibetan medicines in Germany (Jürgen Aschoff, University of Ulm) led to lively discussions on who defines toxicity in what way, and how do such definitions politically impact the use of mercury in medicines.

1 I am grateful to the DFG (Deutsche Forschungsgesellschaft) for funding the research and writing that went into editing this issue as part of the DFG project No. 53307213, 2011–14.

This special issue of *Asian Medicine: Tradition and Modernity* combines papers by six authors from the symposium and three additional articles by authors who joined this publication at a later stage. *Asian Medicine* is a journal that encourages the contributions of medical practitioners alongside academic papers, and this issue presents various approaches to and perspectives on the use of mercury in ayurvedic and Tibetan medical traditions. We find it enriching to provide the reader with both academic and practitioners' views, placing in-depth research alongside the experience of day-to-day medical practice, based on empiricism and oral traditions. At times, this results in the presentation of disparate perspectives standing alongside each other, providing the reader with the opportunity, not only to understand these opposing viewpoints, but also to critically re-think the social construction of concepts such as 'toxicity' and 'safety'. For this reason, this issue additionally provides space for a section on 'Legal Aspects', where we cover the legislation of mercury-containing Asian medicines in the EU, and specifically in Germany. The section 'Field Notes' gives space to practitioners' points of view and experiences and was introduced as a new journal feature by the recently appointed senior co-editors, Marta Hanson and Mona Schrempf. In that section, an ayurvedic physician presents his experience with mercury processing in the form of a personal memoir, richly illustrated with photos depicting the equipment used to distill and process mercury. The section 'Practice Reports' offers space for practitioners to present their clinical experiences and thoughts on practical issues of Asian medicines. This issue presents a report on the processing of mercury in an ayurvedic setting.

At the time when we gathered in Berlin to discuss mercury, the UN resolution to ban mercury world-wide was in its fourth round of discussions. The proposed ban had been initiated by Switzerland and Norway and was adopted by the Governing Council of the United Nations Environment Programme in 2009. The symposium participants were all well aware that we were discussing a highly toxic element, and that its use might become the subject of a treaty that would impose a legally binding global ban on mercury. How would this ban affect the practice of traditional medicine in Asia, where mercury had been used for centuries—largely as cinnabar/mercury sulphide—in a variety of medicines? Were we discussing a substance that would be illegal by the time this issue was published?

On 19 January 2013, the UN passed the text of a legally binding treaty that was named the 'Minamata Convention on Mercury';² aimed at preventing

2 Minamata is the name of a city and bay in Japan, which was heavily poisoned with mercury from industrial waste in 1956, leading to almost two thousand deaths and the 'Minamata disease' due to intake of contaminated fish.

emissions and releases of the neurotoxic heavy metal mercury world-wide.³ The European Union and 91 countries signed the document in October 2013, in Japan.⁴ Looking through the long reports from the four years of negotiations (2009–13), the use of mercury in traditional medicines rarely featured. ‘Traditional religious use’ was requested to be exempted by one delegation during the second meeting in Japan.⁵ In the third report, only one country ‘expressed concern for the listing of traditional medicines’.⁶ The fourth report stated that ‘two representatives highlighted the need for exemptions for mercury-containing products, such as cinnabar, for use in traditional medicines’.⁷ Unfortunately, the report does not mention from which countries these representatives came. In the fifth and final session in 2013, it was eventually decided to exclude from the mercury ban ‘products used in traditional or religious practices’ along with ‘vaccines containing thiomersal as preservatives’.⁸

Considering that India does not have mercury mines and depends on mercury imports, this was an important exemption for ayurvedic practitioners who have been using mercury in their herbo-mineral *bhasma* preparations for many centuries. However, these UN session reports also reflect that the use of mercury in traditional medicines is a minor issue when it comes to the overall concern about mercury as a heavy-metal pollutant through mining, coal combustion, cement production, industrial waste, and appliances such as light bulbs, thermometers, blood pressure devices, skin lightening soaps and creams, and of course, dental amalgam fillings.

In the past, despite the known toxicity of many of its chemical forms, mercury was also used in Western medical traditions. Its most famous use was as a syphilitic treatment. During the symposium, Andrew Cunningham showed us the ‘Martyrdom of Mercury’ (see Fig. 1) and reminded us of the infamous saying ‘a night with Venus leads to a lifetime with mercury’. Fumigations of mercury vapour (as cinnabar or calomel) were a popular treatment of syphilis widely used in Europe from the first decade of the sixteenth century until 1928.⁹ Liquid metallic mercury was drunk orally to treat intestinal obstruction ‘in doses from a few ounces up to a pound or more’.¹⁰ Externally, it was also used in the form

3 See URL: <www.unep.org/newscentre/Default.aspx?DocumentID=2702&ArticleID=9373&cl=en>, last accessed 20 November 2013.

4 For a full coverage of this conference, see URL: <www.iisd.ca/mercury/dipcon/>, last accessed 20 January 2014.

5 UNEP February 2011, p. 39.

6 UNEP October 2011, p. 30.

7 UNEP 2012, pp. 10–11.

8 UNEP 2013, p. 61.

9 Goldwater 1972, p. 318.

10 Ibid., pp. 305, 349.

FIGURE 1 *The Martyrdom of Mercury*, 1709.¹¹

of ointments, and in some countries this is still the case. For example, the inexpensive antiseptic ointment called Mercurochrome was legally available and used in Germany until 2003.¹²

It is important to stress that in this special issue of *Asian Medicine*, the medicinal use of processed mercury discussed refers largely to processed forms of mercury sulphide. Tibetan and ayurvedic practitioners have used processed mercury for a long time to treat a variety of diseases, such as leprosy and skin afflictions in general, food poisoning, fevers, and tumours, as well as longevity tonics taken regularly over long periods of time. This issue contributes in various ways to ongoing debates regarding the toxicity of such medical products. As the articles show, such debates are not only scientific in nature, but also have epistemological, legal, and political aspects. Before outlining the nine contributions in more detail, a few terms that appear throughout the volume need to be clarified.

¹¹ Sintelaer 1709, plate facing page 125. Courtesy: Wellcome Library, London, URL: <<http://wellcomeimages.org/>>.

¹² See Aschoff, this issue.

Detoxification, Purification, or Processing?

Medical texts as well as scholars and practitioners in Asia often express the necessity to ‘detoxify’ or ‘purify’ mercury before it can be used in medicines. When I presented a lecture on the history of the use of mercury in Western medical traditions to Tibetan physicians and medical students in India, the first question they asked, being rather surprised at the crude use of mercury by Europeans in the past, was: ‘Why did they not purify the mercury?’ What they meant by ‘purification’ are pharmacological processes known in Tibetan as *dukdön* (*dug ’don*, lit. ‘taking out the poison’) and *dülwa* (*’dul ba*, lit. ‘taming’). Purification is extremely important for any Asian pharmacologist dealing with poisonous substances, especially mercury. Purification can easily be misunderstood when used in the context of ‘purifying mercury’. A reader with a scientific background and no prior knowledge of Asian medicine might think ‘purified mercury’ means 100 per cent pure mercury—a pure metal, free of adulterants. This concept of chemically pure mercury is based on the atomic model and has little to do with the Indian and Tibetan alchemical ideas of processed and transformed mercury, also considered ‘pure’ by its pharmacologists.

The ‘purification’ of mercury discussed in this issue refers to the processing of metallic mercury into various alloys, amalgams, and herbo-mineral compounds. In Sanskrit, these processes are known as *śodhana*. Within the Tibetan and Indian medical traditions, mercury processing is described variously as killing, cooking, dyeing, subduing, drying, or resurrecting—to mention a few of the terms the reader will come across in this issue. The authors have tried to come to terms with this terminology. Dagmar Wujastyk, for example, discusses the problematic translation of *śodhana* as ‘purifying’ and suggests ‘perfecting’ as the more appropriate translation. The Tibetan medical practitioner Sonam Dolma writes about purifying mercury, defining the Tibetan term *dülwa* as ‘to overpower, or to eliminate the harmful effects of a substance, thereby subduing the negativity of the substance and generating and reinforcing its positive side’. In Asian medicines, ‘purified mercury’ implies that mercury has been transformed into a beneficial medicine through lengthy processing methods. Chemically speaking, ‘purified’ or ‘detoxified’ mercury in most articles presented here is a more or less stable compound, bound by other metals as well as minerals, in most cases sulphur. Some authors have used the terms detoxifying and purifying interchangeably, while others have used processing or perfecting in their writing.

Tibetan Medicine or Sowa Rigpa?

Sowa Rigpa (*gso ba rig pa*, lit. ‘the science of healing’) has become the official term of Tibetan medical practices in India. Under this umbrella term, Tibetan medicine was officially accepted as an ‘Indian system of medicine’ by the Indian Ministry of Health and Family Welfare under AYUSH (the acronym for Ayurveda, Yoga, Unani medicine, Siddha medicine, Sowa Rigpa, and Homeopathy) in 2010.¹³ Sowa Rigpa has increasingly become a unifying term that includes practices of traditional medicine in Tibetan cultural areas across and beyond the Himalayan belt, that rely on medical literature originally written in Tibetan, such as the *Four Tantras* or *Gyüshi* (*Rgyud bzhi*) and/or oral traditions passed on through family lineages. The broad meaning of the term is also evident from the new Sowa Rigpa working group that was founded during the eighth ICTAM conference in South Korea in September 2013, with the aim to bring together practitioners and academics on a transnational, interactive, digital platform to promote and consolidate research on Sowa Rigpa.¹⁴

Sowa Rigpa seems to emerge as a prominent term to describe Tibetan medical practice and has supported the development of Tibetan medicine into a ‘medical system’.¹⁵ Nevertheless, authors of this issue made their own decisions on which of the terms to use when referring to medical practices they describe. Recently, Geoffrey Samuel aptly summarised the use of Sowa Rigpa compared to Tibetan medicine in his introduction to the special volume on Sowa Rigpa in the journal *East Asian Science, Technology and Society*, co-edited with Colin Millard, and I refer readers to his introduction.¹⁶ The term Sowa Rigpa has also found a place in recent anthropological perspectives of Tibetan medicine. The editors of the volume *Medicine between Science and Religion: Explorations on Tibetan Grounds* call for more nuanced approaches to the varied Tibetan medical practices, which they term ‘Sowa Rigpa Sensibility’.¹⁷ This approach ‘facilitates an understanding of “medicine” between “science” and “religion” in polysemous ways, which include being self-reflective of our own (Euro-American) points of view’.¹⁸ Whether or not authors choose to use the term Sowa Rigpa for Tibetan medicine, such reflections aid our understanding

13 Kloos 2013, p. 4.

14 For details, see URL: <http://iastam.org/?page_id=458>, last accessed 19 March 2014.

15 Kloos 2013, p. 13.

16 Samuel 2013, pp. 1–6.

17 Adams, Schrempf, and Craig (eds) 2010, pp. 3–5.

18 Ibid., p. 4.

of mercury, its toxicity, and transformation into medicine in both Tibetan and ayurvedic practices.

Atomic Model or Chemical Bonds: The Construction of Toxicity

In the Indian alchemical worldview, mercury is considered the semen of Śiva and sulphur the menstrual blood of Śiva's spouse, Parvatī. The elixir can only be made if they completely merge together. This mythology is found in both ayurvedic and Tibetan traditions and is mentioned by several authors in this issue. Chemically speaking, Śiva and Parvatī's union produces the rather stable compound mercury sulphide, known to be largely insoluble and thus less toxic than other mercury compounds.¹⁹

Several authors raise issues about how the toxicity of mercury is defined and socially and politically constructed, and point to the limitations of scientific toxicity studies on mercury that neglect a detailed assessment of its various chemical forms. When mercury contamination is measured scientifically, the focus is on the presence or absence of the mercury atom, regardless of how that atom is chemically bound and how differently its various chemical bonds are absorbed by the body. EU laws on mercury follow the atomic model²⁰ despite the fact that absorption of the different chemical bonds of mercury by the body varies from 0.2 to 95 per cent.²¹ Also, toxicity levels of mercury vary considerably in both the raw materials and finished products of Asian medicines; but to date the research carried out on mercury toxicity of Asian medicines is for various reasons²² considered insufficient to draw conclusions concerning its toxicity. There is certainly a lack of scientific research to prove any of the purported benefits and the efficacy of mercury in whatever form on humans.²³ Studies on mercury's safety and toxicity in certain ayurvedic and Tibetan medicines are more common, but still insufficient, and we still lack a clear picture.

This issue contributes a variety of multidisciplinary and nuanced perspectives to the debate on mercury toxicity in Asian medicine, explaining views that contradict and oppose each other and still are part of the bigger picture, contributing histories, textual analyses, reports, and ethnographies, as well as

¹⁹ Clarkson and Magos 2006; Liu et al. 2008.

²⁰ See Schwabl, this issue.

²¹ Liu et al. 2008, p. 813.

²² Some of the reasons are discussed by Aschoff and Banerjee, this issue.

²³ See Aschoff, this issue, for one recent study.

exploring the politics of toxicity that have informed and continue to influence these global debates.

Outline of the Contributions

Under the rubric of ‘Academic Articles’, we begin this issue with mercury-containing recipes mentioned in some of the oldest classical Sanskrit medical texts. The indologist Dagmar Wujastyk argues that ‘with one notable exception, it was only from the thirteenth century onwards that ways of processing mercury were developed or adopted from alchemical sources in ayurvedic medicine’. By the sixteenth century, mercury refinement from cinnabar and its use in standard recipes, such as mercury sulphide and calomel, were considered a safe and ‘perfect medicine’. Wujastyk sketches these trajectories through numerous examples taken from the Sanskrit medical literature.

Next comes a textual analysis of two of the earliest Tibetan medical texts that involve the processing of mercury. Their authorship is attributed to an Indian *siddha*, and these texts were translated into Tibetan by an eminent thirteenth-century scholar from western Tibet, Orgyenpa Rinchenpel (1229/30–1309), whose life was so unusual and enigmatic that 11 biographies of his life exist today.²⁴ In the fourteenth century, these two texts were included in one part of the Tibetan Buddhist canon, the *Tengyur* (*Bstan ’gyur*). Carmen Simioli, of the L’Orientale University of Naples, translated, analysed, and compared these two texts as part of her forthcoming doctoral thesis. She offers an in-depth contribution to our knowledge of early ideas on mercury processing, and especially the different sets of metals and minerals used to make ‘the elixir’. These pharmaceutical techniques later influenced the making of *tsotel* (*btso thal*), the mercury sulphide ash that becomes famous as the base material for popular multi-compound Tibetan precious pills (*rin chen ril bu*), considered the pinnacle of Tibetan pharmacology.

The Tibetologist and historian Olaf Czaja takes the story further by telling us how Orgyenpa Rinchenpel’s mercury purification practices became popular in Tibet and were integrated into local medical schools, such as the Drangti and Drigung schools. During the seventeenth century, two chief lines of transmission of these mercury processing practices emerged, each linked to one of several Tibetan Buddhist schools: the Gelukpa school in Central Tibet, the Kagyüpa school and the Rimé movement in eastern Tibet. Czaja shows how

24 See Li 2011.

numerous practices of refining mercury existed, and how, at some point, the knowledge of how to process mercury became a political issue in Central Tibet. Eventually, the Gelukpa school accomplished the practice of making precious pills with *tsotel*. Czaja argues that the lineage that had been transmitted in eastern Tibet was interrupted, and that the continuance of the knowledge of how to process mercury during the period of Chinese occupation and the Cultural Revolution seems to have hinged on two physicians, Troru Tsenam and Tenzin Choedrak. They made *tsotel* together in the late 1970s, in a Chinese prison. Troru Tsenam widely taught mercury processing in Tibet after his release from prison, and Tenzin Choedrak introduced *tsotel* to Tibetan physicians in India in 1982, shortly after his arrival at the Men-Tsee-Khang in Dharamsala, the largest Tibetan medical institute in Indian exile.

With this historical background in mind, the reader will then be taken into the physiological details of what actually comprises the poisons in and of mercury from the perspective of a Tibetan physician. Sonam Dolma, trained at the Men-Tsee-Khang in Dharamsala, bases her account on the *Gyüshi*, oral transmissions, and Tibetan pharmacology texts. It becomes clear that early on Tibetan physicians knew very well that mercury is toxic. They developed specific methods to deal with its toxicity and to process mercury into a mercury sulphide ash, called *tsotel*. Sonam Dolma explains Tibetan concepts of poison or *duk* (*dug*) as those aspects that are harmful, in contrast to medicines or *men* (*sman*) that are beneficial. She discusses this not only on a medical and pharmacological level but also on a spiritual level referring to Tibetan Buddhist teachings. Understanding the numerous meanings of *duk* and how it can be ‘tamed’ and purified will help the reader to understand the rationale based on which Tibetan physicians explain how mercury can be transformed from a poison into an elixir.

Barbara Gerke gives a medical anthropological perspective to Tibetan mercury processing practices. Her paper on *tsotel* explores this mercury sulphide ash through the lens of pharmaceutical anthropology. ‘The Social Life of *Tsotel*’ sketches a biography of a medicinal substance that includes the economic, religious, pharmaceutical, and political aspects of the larger ‘pharmaceutical nexus’ that surrounds *tsotel*. These aspects of its biography are in one way or another linked to medical and religious perceptions of mercury, which are discussed in detail, drawing on ethnographic fieldwork in India and Nepal and literature on the recent pharmaceuticalisation of Tibetan medicines in China. Gerke argues that the social life of *tsotel* is linked increasingly to perceptions of toxicity and safety because its chief ingredient, mercury, is being contested on a globalised arena of tightened international regulations, as well as the recent attention given to heavy metal toxicity issues in Asian medicines. The paper

concludes with an outlook on recent scientific studies on *tsotel* and how the safety debate plays out in contemporary Tibetan contexts.

Mercury toxicity issues have so far been of more concern to Ayurveda than Tibetan medicine. The Delhi-based political scientist Madhulika Banerjee argues in her paper on 'The Politics of Toxicity' that 'toxicity is as much a construct as an objective criterion'. She also stresses that 'Ayurveda and other such medical knowledge systems cannot only be understood as "traditional", as they have been for a long time in the literature. They are living systems of practice and research that need to be understood within the transformed parameters of production and practice'. Her paper critically analyses the approach some of these toxicity studies have taken, their shortcomings and pitfalls, all of which, she argues, have added to erroneous perceptions and representations of ayurvedic *bhasmas*.

The following rubric 'Legal Aspects' exclusively focuses on the legislation around mercury-containing products in the EU and Germany. Herbert Schwabl, known for his long-term engagement with Tibetan medicine at Padma AG in Switzerland, the sole pharmaceutical factory for Tibetan medicines in Europe, shares his opinion on how the international health community, especially in Western countries, unanimously condemns the use of heavy metals in medicines. Schwabl explains the legal framework for the actual practice of medicine, which is a national matter and varies from country to country, compared to the regulations that apply to medicines that are strictly regulated through the EU directive (2001/83/EC) for medicinal products and the food law. He concludes that 'today there is *no legal way* in Europe to produce, prescribe, or administer traditional medicines containing heavy metals'. Thus, representatives of Complementary and Alternative Medicine (CAM) in Europe, which also includes ayurvedic and Tibetan medicines, are especially careful to protect their name and reputation by following the EU directives, and strictly oppose the use of heavy metals in medicine. Rather than dealing with mercury-containing medicines that simply cannot pass EU laws, Schwabl argues for the 'mercury puzzle' to be solved by extending the paradigm of phyto-pharmacology research to herbal multi compounds in Tibetan medicines which, he suggests, holds the potential future for a globalised version of Tibetan medicine.

The German neurologist Jürgen Aschoff explains the differences between allopathic and homoeopathic, approved and registered, and individually prescribed drugs in their legal contexts. He analyses legally prescribed drugs in Germany and explains how diluted mercury is still widely used in homeopathic medicines. He offers answers to several topical questions that might be

of special interest to patients and practitioners: who has the legal responsibility when it comes to mercury contained in medicines, the physician prescribing the drugs, or the pharmacies issuing, mixing, and importing them? How can Tibetan precious pills or ayurvedic *bhasmas* be legally imported or prescribed in Germany?

In 'Field Notes', the ayurvedic physician Balendu Prakash presents a personal memoir of his family tradition making *bhasmas* and his growing up in a house where mercury was a constant presence through the continuous distillation and processing methods. He also shares his successes with patients who were treated with *bhasmas*. His memoir exemplifies how mercury is experienced by medical practitioners who intimately work with the substance over a long period of time, perceiving its benefits more than its toxicity.

Lastly, the 'Practice Report' by Narendra Bhatt describes how black and red mercury sulphide was prepared in an ayurvedic setting in the past. Black mercury sulphide, called *kajjali*, is made through simple grinding techniques and is found to be metacinnabar (β -HgS), whereas the making of red mercury sulphide, called *rasasindūra*, involves the further heating of *kajjali* and is found to be cinnabar (α -HgS). Bhatt describes this process step by step and discusses reasons why the art of traditional processing methods is vanishing among ayurvedic practitioners.

Outlook

Mercury is used in many Asian medical traditions, including the traditional medicines of China, Burma, Korea, and Japan. Therefore, this issue does not offer a comprehensive overview of mercury in Asian medicine, but it is a beginning. Another publication on the history of the use of mercury is underway.²⁵ Research studies are cumulative and build on each other. Several forthcoming issues of *Asian Medicine* will link up, build on, and analyse pharmaceutical concepts that also influence the production of herbo-mineral *bhasmas* in India and multi compounds in Tibetan medicines.

The next special issue of *Asian Medicine* on 'The Herbal Pharmaceutical Industry in India: Innovation, Reformulation, and the Market' (Issue 9.1, Spring 2014), edited by Laurent Pordié and Jean-Paul Gaudillière, will explore pharmaceuticalisation of the Indian 'traditional' drug industry. Safety, which is closely linked to the toxicity issues discussed here, will be the topic of another

25 Wujastyk (ed.), forthcoming.

forthcoming special issue on 'Efficacy and Safety in Tibetan and Chinese Medical Traditions' (Issue 9.2, Autumn 2014), edited by Mona Schrempf and Lena Springer. We also wish to generate more debate on mercury and other toxic metals and their use in Asian medicines during the forthcoming Ninth ICTAM conference in India.

Just like mercury during processing is made 'hungry' to devour other metals and bind them, my hope is that this issue will instigate more interest in the study of mercury in a wide range of medical traditions, from perspectives of the humanities as well as the medical sciences. Reliable and systematic clinical studies to analyse the therapeutic use of processed mercury and its compounds are still lacking; so are ethnographic studies on cultural perceptions of toxicity, safety, and the use of poisonous substances in medicine.

Is there a future for the use of mercury in Asian medicines? The contributors to this issue point out different trajectories. The global UN ban, while affecting the mining, production, and trade of mercury-containing products, exempted the 'religious and traditional use of mercury', undoubtedly an important exemption for Asian medical practitioners. In countries where the use of mercury remains unregulated, existing rules are circumvented, or exceptions for the use of mercury in medicines are made, precious pills and *bhasmas* continue to be produced and prescribed, although their future is uncertain due to increased government regulations. Taking this into account and looking at the ongoing practices of the medical use of mercury in Asia, these seemingly contradicting approaches offer new platforms for innovative, multidisciplinary research on this enigmatic silvery metal liquid, its social history, pharmaceutical techniques, and medical applications.

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A Note on Sanskrit, Hindi, and Tibetan Terms

English translations of technical terms and phrases are marked by single quotation marks and are followed by the original in parentheses. Sanskrit terms are transliterated following the 'International Alphabet of Sanskrit Transliteration' (IAST) scheme.²⁶ For Hindi terms, authors applied the popular usage of Hindi transliteration. Tibetan terms are introduced with a phonetic transcription, followed by the transliteration in Wylie at first use.²⁷ Thereafter, only the phoneticised term is used.²⁸ Well-known Tibetan terms, such as lama or amchi, are used in their anglicised forms, with a plural –s.

26 For details, see URL: <en.wikipedia.org/wiki/International_Alphabet_of_Sanskrit_Transliteration>.

27 For Wylie, this journal uses the 'Tibetan & Himalayan Library's Extended Wylie Transliteration Scheme'. For details, see URL: <thlib.org/reference/transliteration/#!essay=/thl/ewts>.

28 The phonetic transcription follows as closely as possible the 'THL Simplified Phonetic Transcription of Standard Tibetan' by David Germano and Nicolas Tournadre 2003, unless the phonetics of terms used in Tibetan dialects are considerably different from modern Tibetan. For details, see URL: <thlib.org/reference/transliteration/#!essay=/thl/phonetics/>.