

# Barbara Gerke, *Taming the Poisonous: Mercury, Toxicity, and Safety in Tibetan Medical Practices* (Heidelberg: Heidelberg University Publishing, 2021)

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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*

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# Book Review: Barbara Gerke, *Taming the Poisonous: Mercury, Toxicity, and Safety in Tibetan Medical Practices*

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Barbara Gerke, *Taming the Poisonous: Mercury, Toxicity, and Safety in Tibetan Medical Practices* (Heidelberg: Heidelberg University Publishing, 2021), 379 pp. *Heidelberg Studies on Transculturality*, 7. €46.64 (hardback), €34.49 (paperback), free (Open Access PDF). ISBN 9783968220420. DOI: [10.17885/heiup.746](https://doi.org/10.17885/heiup.746).

**T**AMING THE POISONOUS: MERCURY, TOXICITY, AND SAFETY IN TIBETAN MEDICAL PRACTICES is a monograph by Barbara Gerke over two decades in the making. She provides the first ethnographic, textual, and metaphorical analysis to date of the most technically and ritually complicated pharmacological procedure in Tibetan medicine—the processing of mercury into complex multi-compound medicines. Through investigating the ideas of ‘taming’ mercury in this medical tradition, she broadly positions her work as an investigation of the social construction of toxicity and safety.

Gerke asserts that her study does not aim to address whether the use of certain mercury compounds in Tibetan medicine is safe, but rather what is at stake in asking such a question. In doing so, she examines the politics of toxicity, the social construction of safety, and the ways in which medical epistemologies are cross-culturally translated, adopted, resisted, and used for different purposes by different stakeholders. She claims that the same discourse applies to any medicine or therapeutic that has not been tested or ‘verified’ by the Euroamerican scientific gaze (16). However, Gerke does not entirely ignore the question of safety either. She presents some of the principal research on mercury compounds and their lifecycle considerations for environmental and human health to situate the reader in the discourse (Appendix A, 279–283).

Gerke’s central questions comprise: What issues of toxicity are raised in Tibetan medical works? How did Tibetan authors describe the processing of mercury? How were mercury processing events embedded in political, economic, and religious life in Tibet? How has this changed since 1959, in exile in



India and Nepal, and—more recently—with the United Nations Environmental Program global ban on mercury implemented in India in 2020?

To answer these questions, she chooses a distinct analytical approach compared to earlier works. Kloos (2017) applied the hermeneutic of the pharmacological assemblage to study the development of the Sowa Rigpa industry. Gerke notes that her own earlier work on the social life of *tsotel*, a complex compound made through time-intensive and arduous ritualized processes and important for treating chronic disease in Tibetan medicine, was limited to merely ‘uncovering the biographies of medicines’ (87). In this current work, she builds on the analytical tool of the pharmacological nexus as developed by Petryna and Kleinman (2006) to inquire into the ethical, ecological, and socioreligious dimensions of mercury practices and *tsotel*. Her aim in applying this analytical tool is to inquire into the complex ‘taming’ of societies, religion, politics, ecologies, gender and medicines, which she posits is achieved through the production of *tsotel* through a pharmacological ritual enactment event.

More broadly, Gerke explores the evolving social and meaning network relationships that each ritual enactment creates throughout history. As Dr Tsewang Tamdin, personal physician to His Holiness the Dalai Lama, states, “If you don’t know *tsotel*, you do not know how to make medicine” (111). The extensive 40-day process of making *tsotel* in Tibetan medicine requires numerous physicians to prepare, combine, and forge the minerals, metallic ashes, and other geo-medicinals alongside herbs and other organic ingredients into an organometallic mercury sulfide compound considered the crown jewel of Tibetan pharmacology. It quintessentially demonstrates the ability of Tibetan medical physicians to tame, purify, and direct the qualities of medicinal substances normally considered poisonous into potent medicines and to cultivate even non-poisonous substances into synergistically formulated medicinal compounds. *Tsotel* has been used to treat life-limiting and chronic illnesses such as cancer, neurodegenerative conditions, infectious disease, and chronic inflammatory disorders for hundreds of years. The final product is a nanoparticle-sized metallo-organically ornamented mercury sulfide that is colloquially described as ‘detoxified mercury’ indicating its nontoxic and potent characteristics. Gerke offers an account of the historical texts and figures underlying the development of this process and its contemporary enactments that were previously only available in Tibetan and to Tibetan medical specialists.

Gerke shows how ‘unprocessed’ mercury is conceived by the tradition as a toxin that when ‘tamed’ becomes a powerful medicine for rejuvenation and recovery, a tonic for longevity and a support for realization. She describes how *tsotel* is an essential ingredient in precious pills and other complex medicines and that the cultural construction and perception of safety is inherently dependent on how its production is understood to purify and manage social and physical

environments. Gerke shows how the various ‘tamed’ mercury-imbued precious pill formulas, from the thirteenth century CE to the present time, draw upon the insights and lineages of regional localities and key physician-pharmacologists. She describes how the commodification and over-the-counter sale of precious pills in India, China, and across the Tibetan Plateau and Himalayas can lead to their misuse.

The Tibetan medical tradition recognizes many minerals, gems, precious substances, flora, and fauna as *materia medica* which have poisons, known as *duk* (*dug*), that are harmful to the body, and at times lethal, if not properly processed. She details how physicians apply distinct techniques to remove harmful components and neutralize capacities for adverse effects known as ‘detoxifying’ (*dug ‘don pa*) or ‘taming’ (*‘dul ba*) and retain and imbue medicinally-potent components and qualities known as ‘purifying’ (*sbyong ba*). Although the approach applies to all medicinal substances used in Tibetan medicine, she focuses on mercury as the quintessential, most challenging, and technically arduous example. The process tends to create more complex compounds to ‘tame’ toxicity, cultivate ‘purity,’ and achieve a medicinal effect instead of the approach in Euroamerican traditions of pharmacology that view detoxification and purity in terms of creating single chemical species. She aptly describes ‘purity’ in Tibetan medicine as a process of amalgamation (66). Thus, Sowa Rigpa practitioners have developed extensive systems of transforming substances to remove and transmute toxicity and optimize therapeutic value—allowing medicinal qualities to emerge, so to speak. This is the process that Gerke tracks in *Taming the Poisonous* known as *düljong* (*‘dul sbyong*), or taming and purifying, through its textual and intertextual foundations, its social biographies, and the human ecologies of practitioners forging these medicinal compounds.

One of the great strengths of this monograph is its richly researched textual, historical, and ethnographic content depicting the multifaceted subject of mercury, toxicity, safety and potency in Tibetan medical practice. Gerke’s eloquent narrative articulates the significance of *tsotel* historically for Tibetan medicine but also in contemporary times with the Tibetan exile population, trans-Himalayan communities, and in relation to the current identity politics of Tibetan medicine, or Sowa Rigpa as its known more broadly. She provides the first images ever printed of the Men-Tsee-Khang 1982 *tsotel* event and describes key historical moments such as when the XIV Dalai Lama began the trituration of mercury in that event to add blessings, potency and capacity to the medicine (140). Several important resources for Gerke’s work included Epa Sonam Rinchen’s biography of Lamden Tenzin Chodrak (2000) and Tashi Tsering Josayma’s compilation of the *Collected Works on Mercury Formulations* (1986).

Some of the book’s unique contributions lie beyond the 278 pages of rich textual narrative from extensive interviews with lead pharmacologists and

physician-scholars of the Tibetan and are nestled in her thick appendices. These include the first ever compilation of the *tsotel* manufacture events at Men-Tsee-Khang in Dharamsala (1982–2014) in which approximately 50 physicians made *tsotel*; a list of the rare small-scale events by private physicians and institutions (1953–2008); and even the specific transmissions and transmission types conducted across all events. A list of key figures and terms in the related Tibetan medical and Indian Buddhist historical literature will be valuable to Tibetan and Buddhist studies scholars alike.

An area that could be better developed is greater clarity regarding her process for gaining permission within the Tibetan medical community to publish details on a topic that have been kept largely secret until recent times and are highly protected. On p. 223 she notes that not all steps in the process are shared in order to protect the knowledge. However, similar to her transparency in relation to her own embodied poison culture (25), where she describes her concern for mercury exposure while interviewing physicians comfortably working with mercury, the monograph would benefit from a discussion of how she negotiated conversations and permissions to share protected cultural knowledge with a global public audience and what details of the mercury processes were permitted for publication.

In summary, Gerke offers historical, anthropological and sociological engagements with the cultural construction of toxicity and concepts of safety and risk (200). She revisits poison/medicine discourse beyond dose dependence and focuses on substance processing and individualized recipient effects. The Tibetan version of what Gerke calls an “embodied sense of toxicity” intersects with ritual and materiality, lineage and realization of the recipient as well as the physician artisans. She shows that toxicity and safety are not universal concepts but culturally and historically created, continuously re-negotiated and adjusted over time (238–9).

This monograph will benefit scholars, researchers and students of medical, sociocultural, and pharmacological anthropology; history of medicine; medical humanities; South Asian, Tibetan, and Himalayan studies; environmental health; public health; gender studies and subaltern studies. *Taming the Poisonous* could be used for both undergraduate and graduate courses on material anthropology, history of medicine, medicine as a form of social knowledge, environmental humanities, South Asian studies, and anthropology of public health.

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