Chapter 4

History and Knowledge Transmission

Tsodru chenmo is considered a secret practice going back to an early spiritual transmission to the Tibetan polymath Orgyen Rinchenpel, who brought it to Tibet in the thirteenth century. This chapter explores how ideas of taming and secrecy are embedded in the transmission of knowledge of mercury practices over time. How have these ideas affected the transfer of practical *tsotel* skills? Secrecy has led to specific ways of how Tibetan authors write about *tsotel* practices and how they publish and share texts, and understand its pastness. I explore these issues across the early history of mercury practices and then analyze how knowledge transmission of Sowa Rigpa mercury practices have changed in exile. I embed these aspects of Tibetan medical history in a discussion of where we can place the *tsodru chenmo* practice in the debate on medicine between science and religion (Adams, Schrempf, and Craig 2011b; Gyatso 2015).

Situating mercury practices between science and religion

As my earlier explorations of Sowa Rigpa and biomedical terminology of mercury processing have shown (Chapter 2), translating and understanding technical terms across different epistemologies is complex. Translations between Sowa Rigpa medical epistemologies flow in multiple ways and are rarely straightforward (Adams, Schrempf, and Craig 2011a; Samuel 2006a). In this book I refer to epistemology within its broader meaning of how things are known, one way of which is through the empirical engagement of our senses.[186] Adams, Schrempf, and Craig (2011b, 8) understand "*sowa rigpa* as an epistemology, [that] bears resemblance to Max Weber's portrayal of modern science as 'a vocation'." In their view, *rigpa* (*rig pa*, the Tibetan term for 'science') "implies a different kind of engagement with knowledge than is typical for biomedical or Western forms of science precisely because it simultaneously suggests an experiential notion

186 Here, I follow other scholars who have worked on Sowa Rigpa. See, for example, Garrett (2008, 13–14).

Published in: Gerke, Barbara, 2021. *Taming the Poisonous. Mercury, Toxicity, and Safety in Tibetan Medical Practice.* Heidelberg Studies on Transculturality 7. Heidelberg: Heidelberg University Publishing. DOI: https://doi.org/10.17885/heiup.746

of knowledge, combined with a strong ethics and morality that defines a good healer" (2011b, 8).

In *Taming the Poisonous*, the terms science and religion are used broadly, without clear correlating Tibetan equivalents.[187] Similar to Gyatso's findings, the religious is largely expressed in Buddhist terms, while the scientific stands for an epistemic orientation towards what we could term modern scientific thinking (Gyatso 2015, 5). Buddhism itself is a complex and heterogeneous term, difficult to define. The Buddhism we come across in this book varies significantly between early Indian tantric Buddhist ideas, the forms of state Buddhism of the seventeenth-century Ganden Podrang government, and—for example—how elements of Tibetan Buddhism are employed by Tibetans in exile today. Being aware of these disparities, I try to contextualize Buddhist thought and practice in each case.

The central theme of this book presents the notion of taming as a fundamental principle of Tibetan approaches to poisons, specifically unprocessed mercury. Correspondingly, this raises questions concerning the varied Buddhist influences on Sowa Rigpa medical practices, and requires examination on how medicine and religion overlap in both usage and ideas of mercury. Did Tibetan medical experts implement tantric ideas of taming poisons in empirical ways, or was this part of a deeply religious Buddhist mindset that increasingly pervaded medical thinking in Tibet after the thirteenth century? How did Tibetan physicians mediate between empirical and textual authority in their judgment and application of medical texts on mercury and its safety? Should we view the taming of mercury as solely religious knowledge, devoid of medical empiricism?

Janet Gyatso's recent work, *Being Human in a Buddhist World* (2015), challenges us to revisit the issue of medical empiricism in Sowa Rigpa. Her book is key to the debate on the epistemic shifts towards scientific thinking in Tibet's medical history. She explores these tensions based on textual research, focusing on central Tibet in the seventeenth century, when Sowa Rigpa became state sponsored during the time of the Fifth Dalai Lama. I showed in Chapter 3 how this included the making of *tsotel* and precious pills. Gyatso deploys the categories of science and religion as heuristics (2015, 4) and analyzes how Tibetan medical thought developed its epistemic orientation with a focus on material realism through what she calls a "scientific sensibility" (2015, 5) and a certain "medical mentality" (2005, 16). She highlights that this intellectual development took place in Tibet within the context of state-sponsored Buddhism and esoteric Tantric Buddhism, and outside the intellectual developments of European modern medicine. Her book questions the widespread view of Tibetan medicine being Buddhist to the core.

Her non-religious reading of empiricism in Sowa Rigpa challenges us to think through Tibetan medical knowledge each time we analyze one of the many Sowa Rigpa practices and theories. Her emphasis on what she

187 See Gyatso (2015, 13–16) for an erudite discussion of the problems involved in defining science, religion, and Buddhism in Sowa Rigpa.

refers to as "realistic descriptions" by Tibetan authors—mainly in the fields of anatomy and botany—are examples of how Tibetan physicians in the past developed strategies to consolidate their tantric Buddhist and medical ideas, especially when they contradicted each other. In fact, Gyatso's examples highlight cases where empirical knowledge, such as counting bones or dissecting bodies, contradicted tantric knowledge of subtle channels or authoritative textual statements on anatomic matters that differed from empirical physical evidence, such as the visible channels (arteries, veins, nerves) within the body, or the location of the tip of the heart in men and women. Her conclusion that empirical thought emerged from challenging tantric belief systems, thus demonstrating a Tibetan movement towards material realism in medicine, makes sense in certain contexts but seems limited to examples where such contradictions are obvious.

The data presented in this book will challenge some of Gyatso's assumptions while supporting others. It is true that medical empiricism is at the core of Tibetan understandings of how mercury changes and transforms during the taming process and how physicians are able to detect these changes with their senses. For example, with each step of processing, mercury becomes less mobile and turns black when triturated with sulfur. The visible transformation becomes a direct experience of taming, deeply merging tantric tropes with *menjor* practice.

But it is also true that the pharmacy becomes a ritual space, since the danger of the poisonous and all that can potentially go wrong during mercury taming necessitates elaborate ritual activities to protect those carrying out the taming process from obstacles and make the trituration of mercury more auspicious and successful. These rituals are conducted along with complex *menjor* practices of working and burning metals and other substances that are based on hands-on experience of medical artisanship. In written and oral accounts of *tsotel* events, we hear of experimentations with clay pots and other equipment, instructions on how to avoid explosions, regulate the heat, and so forth. Moreover, individual therapeutic experiences concerning how the resulting *tsotel*-containing precious pills work in medical practice must have contributed to the refinement of formulas and medical skills over time. For example, I show how only those formulas that contain sulfur in combination with mercury survived in medical practice, whereas many ways of taming mercury without sulfur are found in Tibetan medical texts, but are not implemented. This could point to an empirical understanding that mercury sulfide compounds were safer than others.

Overall, I situate the *tsotel* practice and the notion of taming mercury within a medico-religious pharmaceutical nexus marked by both religious and medical empiricism, where religion is not a domain distinct from medical skills and empirical knowledge but actually informs it, while empirical observation of mercury's transformation during processing confirms tantric notions of taming on a substance level.

The overlap of tantric and medical notions of taming is also evident in the wide range of therapeutic benefits attributed to *tsotel*, to which many

authors dedicate special sections in their texts. Many texts assert that the main aim of *tsotel* is to enhance the *nüpa* (potency) of other medicines. As we saw in the previous chapter, making *tsotel* also benefits communities and improves crops, thus helping tame tense political relationships. Here, ideas of efficacy are negotiated at the intersections of religion and science and beyond, including cosmological, ecological, environmental, and political domains. Sienna Craig (2012, 7) rightly argues that "efficacy is produced at the intersections of ritual actions and pharmacology, within distinct social ecologies," pointing to an experiential synthesis of how a substance, compound, or treatment is considered to be effective (Whyte, van der Geest, and Hardon 2002, 36; see also van der Valk 2019).

To analyze all these intersections in Sowa Rigpa requires translation practices that adopt "a culturally Tibetan way of doing science" as suggested by Adams, Schrempf, and Craig (2011b, 23), who prefer the term "morally charged cosmology" to that of "Tibetan Buddhism," pointing to the diversity of religious influence on Tibetan medicine, including Bon, Buddhist, and various folk beliefs. Therefore, they argue that we cannot simply assume "Tibetan medical theory to be purely religious, or purely Buddhist" (2011b, 14), which I agree with and my data attests to. We find some similarities here with the use of the term "Buddhist medicine" in China, which is a "convenient label for discourses about medicine that were introduced to China via Buddhist translations and that were elaborated on in Chinese Buddhist compositions" but are not necessarily "exclusively Buddhist" (Salguero 2014, 20). Likewise, medicine in Tibet was frequently expressed early on in a specific Buddhist literary trope (Garrett 2006; McGrath 2017a), but developed its own specialized knowledge. Specifically, in practice, being an amchi also simply meant working with *materia medica* and making medicines. Sowa Rigpa is also an evidence-based practice linked to materiality—distinguished from Buddhism, something the Fourteenth Dalai Lama keeps emphasizing in public discourse. Nevertheless, while ritual and medical substances might be perceived as distinct and are treated differently by religious and medical specialists, they are not separable as such, and to make a clear distinction between religion and medicine would be artificial. This inseparability is especially evident from the ways in which amchi are trained and knowledge is transmitted (discussed further below; see also Tidwell 2017).

In the section on heterogeneous mercury practices further below, I present examples of mercury-containing formulas for the treatment of venereal disease that were imported from China into eastern Tibet around the eighteenth century.[188] The inclusion of these formulas in medical compendia points to a non-religious attitude of Tibetan author-physicians, who adopted what worked in times of crisis and in order to treat new diseases. This could be interpreted along the lines of Janet Gyatso's argument as signs of medical

188 It is likely that forms of treatment traveled with the spread of the disease, which is known today as syphilis.

innovation in Sowa Rigpa based on transnational empirical evidence, which made some authors even question their authoritative text, the *Four Treatises*.

The making of *tsotel* is a different case and illustrates how scientific sensibilities—to use Gyatso's apt term again—developed in direct contact with a poisonous substance and its visible transformation during processing, while at the same time embedding tantric ideas of taming into ways of understanding and explaining such material transformations. When making *tsotel*, tantric notions of taming go hand in hand with medical skills of processing. Tibetan physicians for the most part see no problem in making a medicine based on principles going back to a tantric myth of taming a demon. It gives the entire event a cosmological significance with both spiritual and material benefits. As we shall see, to this day, the notion of taming is continually applied in Sowa Rigpa *menjor* practices with a large variety of substances, even though it is often expressed in practical terms, such as making a "rough" substance "smooth" (Chapter 6; Gerke 2019b).

Tantric tropes of taming are quite distinct from the ways in which Buddhist elements have been evoked in the recent pharmaceuticalization of Sowa Rigpa, as described by Martin Saxer for the PRC (2013) and Stephan Kloos for India (2012, 2015, 2017a). Kloos discusses how Tibetans in exile have emphasized the link between Buddhism and medicine as part of a re-authentication of their medical and cultural traditions. "Tibetan medicine and Buddhism strongly informed Tibet's cultural and political identity as a powerful civilization, with its systematic destruction by the Chinese striking a serious blow against the Tibetan nation" (Kloos 2015, 124). This entered the narrative of cultural survival in exile and "became the central and defining purpose of Tibetan medicine in exile" (2015, 125). For example, during the process of pharmaceuticalization of Tibetan medicine in India, which began in the 1980s, Tibetan pills arguably became "the material essence of an 'authentic' and at the same time endangered Tibetan culture" through which they were ascribed not only a pharmacological efficacy but also a "political efficacy" in the fight for a "free Tibet" (Kloos 2012, 200). The rich pharmacological repertoire of Tibetan medicines—especially the multi-compound precious pills—have been suitable agents for such an authentication of "Tibetanness," not only in India (Kloos 2012), but also to a varying extent in the PRC (Saxer 2013).

Saxer, in his analysis of the Sowa Rigpa industry in the PRC, points to the paradox of how Buddhism and alchemical ideas of taming have helped to move *tsotel*-containing precious pills into the gray zones of government regulations. Saxer writes,

> One might expect that a substance containing mercury, purified using largely secret, religious and alchemical procedures would be a prime target for the PRC's drug regulations. It is difficult to reconcile with the scientific epistemology on which GMP, the Drugs Administration Law and the *Chinese Pharmacopoeia* claim to rely (Saxer 2013, 73).

By marketing precious pills with an exotic Tibetan quality to a large Chinese clientele, they drive the Sowa Rigpa pharmaceutical industry in the PRC to some extent, making them a valuable commodity.[189] This marketing strategy allows the registration of *tsotel*-containing precious pills as "national heritage drugs," so that their formulas are considered "secret knowledge." Thus, pharmaceutical companies need neither to list all ingredients in their pharmacopeias nor conform to existing mercury regulations for medicines (2013, 73–74). Here, secrecy of traditional knowledge has become a political tool to circumvent existing governmental toxicity regulations for the promotion of an industry.

Saxer also illustrates how Buddhism and the ritual consecration of Tibetan pills becomes a strategy of the industry by evoking "magic" as an ideal technology (2013, 247). Saxer's examples of the "heterogeneity of aesthetics found within the industry" are the rituals performed to consecrate Tibetan pills, the aesthetics of a vegetarian spa center, and the Arura museum in Xining with the world's largest thangka (scroll-painting) on display (2013, 193). His point is that in "the context of industrial production, the ritual automatically acquires an additional layer of meaning, as it endows—or re-enchants—the industry with the aesthetics and power of tantric Buddhism" (2013, 170). Saxer presents this corporate culture as a "moral economy of Tibetanness." He views this "re-enchantment" of Tibetanness as a part of the industry's strategy, in which "authentic Tibetanness" emerges as the key economic factor in a non-localized "moral economy" (2013, 201–229). This entire economy is also embedded in the morality of Buddhism and Tibet's presence within China at large.

These examples of Kloos and Saxer demonstrate how different aspects of Buddhism are used today to promote the Sowa Rigpa pharmaceutical industry. They emphasize the overlap of medicine and religion in the contemporary process of commodification and industrialization. This is distinct from the actual *tsotel* practice, which grew out of centuries of complex knowledge transfers along medical and religious lineages (at times involving competitive, sectarian power struggles), secret tantric teachings, and spiritual empowerments, as well as practical and secret transmissions, all embedded in varying socio-political contexts and a widespread medical need to treat all forms of poisoning and heal serious diseases.

A HISTORICAL GAZE

To tell a history of mercury practices in Tibet, I take a position on "pastness" (Trouillot 1995, 15) that is based on varied sources: texts that medical authors wrote in the past, oral accounts and memories that are either told or withheld, authoritative lineages that continue or are disrupted, and

189 *Tsotel* itself was first patented in 1992 by the Lhasa Mentsikhang; it was also included in the PRC Intangible Cultural Heritage List in 2006 (Saxer 2013, 74).

interpretations of texts that are kept secret or are shared and debated by contemporary Tibetan physicians.

We need to pay attention to "how histories of medicines themselves construct the place of the medical tradition within Tibetan bodies of knowledge and literature" (Garrett 2014, 179). The following explorations of the early transmission of mercury practices into Tibet highlight a religious empiricism deeply linked to tantric ideas of taming; they also highlight the passing on of complex processing techniques of working with poisonous substances. On several occasions mercury practices were introduced from outside Tibet, such as for the treatment of venereal diseases, discussed later in this chapter. This reveals a heterogeneous picture of using mercury in medicines, quite representative of what we know Sowa Rigpa to be: a corpus of varied medical practices introduced over time from vast geographic and geological areas.

Since Sowa Rigpa is classified as one of the ten sciences within Tibetan tradition, many of the medical authors who composed texts on mercury studied and wrote on subjects other than medicine. Often they combined the professional expertise of ordained monastics, Buddhist teachers, and physicians. In their daily lives, they also made their own medicines and closely supervised their students. In their thinking, medicine and religion were not separate domains but merged in forms of *choga*: things that had to be done. As mentioned in Chapter 2, *choga* translates both as a ritual and as a *menjor* procedure. The following example illustrates this.

In the *Four Treatises*, the chapter describing mercury processing for precious "hot" and "cold" compounding (Rinchen Tsajor and Rinchen Drangjor—early versions of two mercury processing methods and also the names of two precious pill formulas) reveals nothing specifically Buddhist at first glance. The "cold" compounding describes nine steps to process mercury and lists nineteen compound remedies, which when mixed with processed mercury "cure all diseases that are difficult to heal."[190] On closer analysis, however, we find commonalities between the nine steps of processing mercury listed in the *Four Treatises*, and a Nyingma treasure revelation or *terma (gter ma)* text, titled the *Vase of Amrita of Immortality ('Chi med bdud rtsi bum pa)*, which has been preserved in the *Precious Treasury of Rediscovered Teachings* (*Rin chen gter mdzod*; Simioli 2016). Carmen Simioli hints at an interesting overlap between mercury processing and "accomplished medicine" or *mendrup* rituals[191] in this *terma* text. She shows how mercurial medicines during certain *mendrup* rituals "absorb the virtues of nine special substances or 'nine heroes' *(dpa' bo dgu)*"—which parallel the nine processing methods of mercury in the *Four Treatises*—"and are

190 Translated from Yutok Yönten Gönpo (1982, 603/16): *dngul chu sbyar bas gso dka'i nad rnams sel/* (cf. MTK 2015, 133). See also Gerke and Ploberger (2017a) for a translation of and an introduction to this chapter and Gerke (2019a) for a discussion of Rinchen Drangjor.

191 Simioli here sees specific Tibetan *mendrup* rituals as crucial to the development of Tibetan iatrochemistry.

imbued with the powers of the demon-subjugator deity *(zil gnon)*, which is embodied by the tantric practitioner / physician" (2016, 413–414). Two of the nine steps described by Simioli refer to internal yoga practices to open and close the channels when taking refined mercury (2016, 408). Simioli suggests that "It could be plausible that the tantric ritual associated to mercury processing was omitted in the medical writing in order to be kept secret and be taught orally" (2016, 409). This would correspond to the nature of specific Sowa Rigpa medical and ritual training, which is often kept secret, and transmitted only orally.

While it is impossible to say which of the two texts predates the other, we are looking at an early, shared history in which mercury taming techniques developed from a deep interrelationship between medical and tantric practices, involving personified substances, visualization practices, and a demon-taming deity. It also demonstrates a shared medico-ritual need to treat poisoning and protect from demonic diseases. Simioli (2016, 414) refers to famous Tibetan physicians of the fourteenth to seventeenth centuries who were influenced by the *Vase of Amrita of Immortality* in their expositions on mercury. Analyzing these texts would make for fascinating textual research to further understand the early interface of empirical medical and tantric spiritual approaches to the use of mercury in Tibet, which seem to reveal forms of religious empiricism quite distinct from what Gyatso describes as an epistemic orientation towards a scientific sensibility (Gyatso 2015, 5).

Sowa Rigpa medical knowledge has been taught in culture-specific ways, which we need to understand to get a better sense of the transmissions involved in passing on the *tsotel* practice across time and changing epistemic orientations.

TRANSMITTING MEDICAL KNOWLEDGE

Tibetan medical knowledge transmissions[192] involve various ideas, such as the accumulation of merit through benefitting others, as well as imbuing medical practice with the power and authority passed along a lineage or *gyü (rgyud)*, from teacher to disciple. The three most widely-known methods of knowledge transmission of both medical and Buddhist teachings are: spiritual empowerments or *wang (dbang)*, given by a highly qualified teacher or lama; oral transmissions or *lung (lung)*, which involves reading the texts that are to be studied out loud; and oral explanations of the "actual practice," called *tri (khrid)*. In the words of a contemporary amchi, who participated in the Kathmandu Sowa Rigpa workshop (see Introduction):

> In our culture, these three things—*wang, lung, tri*—mean that you have been granted permission to practice. If *wang* is not received,

192 An earlier version of this section appeared in Gerke (2015a, 871–872).

> this means you have no authority. And when there is no authority, I don't think we have the power to put our skills into practice.[193]

The Tibetan physicians with whom I spoke and who had made *tsotel* had received the *wang* of the Medicine Buddha and, for the most part, were also given the *wang* to practice the Yutok Nyingtik, which is a cycle of Buddhist and yogic contemplative practices in circulation since the twelfth century and especially developed for the spiritual development of amchi (Garrett 2009).[194] They had also received the *lung* of the *tsotel* manual that the head of the Pharmacy Department would follow. At the Men-Tsee-Khang in Dharamsala this is the *tsotel* manual by Kongtrul Yönten Gyatso (also known as Jamgön Kongtrul Lodrö Thayé, 1813–1899/1900; see below). Moreover, they had been given oral explanations *(tri)* and detailed practical instructions or *laklen (lag len)*[195] by their teachers.

Since making medicines involves hands-on experience—observing through the senses how things are done—the "seeing transmission" or *tongwé gyü (mthong ba'i rgyud)*[196] is another fundamental aspect of medical knowledge transmission and an essential component of passing on complex *menjor* skills such as *tsodru chenmo*. Gen Gojo Wangdu, professor at Tibet University for Tibetan Medicine in Lhasa, commented on this during the Kathmandu Sowa Rigpa workshop:

> You need the practice of seeing transmission, no matter how much we talk, it won't be of much benefit. [...] Even if we give three months lessons, talking through the steps of the practice of the Great Mercury Refinement, there won't be a result without the seeing transmission.[197]

Instructions that are only passed on secretly to selected students are referred to as secret oral instructions or *men ngak (man ngag)*. These are based on the teacher's personal experience and might involve modifications to the textual instructions or practical *menjor* advice. A complete medical knowledge transmission would therefore be complex and involve *wang*, *lung*, *tri*, *laklen,* and *tongwé gyü,* and sometimes a *men ngak*, in the long process of accomplishing a practice. To protect a practice from distortion and abuse many teaching methods have secretive elements to them. The objective is to

193 Recorded during the Sowa Rigpa workshop in Kathmandu, December 6, 2011.
194 See van Vleet (2015, 2016) on how this practice was largely linked to the Zur medical tradition until adapted in the seventeenth century by the Fifth Dalai Lama to unify existing ritual medical practices and develop a systematized Gelukpa medical curriculum.
195 *Laklen* often implies that instructions have been received through participant observation.
196 *Tongwé gyü* is short for "hands-on instruction through seeing transmission" *(mthong ba rgyud pa'i phyag bzhes)*.
197 Translated from a video recording of the Sowa Rigpa workshop in Kathmandu dated December 6, 2011, by Tenzin Demey, Dharamsala.

uphold a comprehensive lineage of a practice across many generations. We can thus understand that whenever a medical institute, a group of doctors, or a monastery made *tsotel*, it was an opportunity to pass on all knowledge transmissions described above—especially the seeing transmission—to the next generation of selected physicians. It is also understandable that not all practices survive such complex methods of knowledge transmission, and that secrecy might also lead to the loss of knowledge.

Overall, ways of teaching Sowa Rigpa intersect the religious and the medical to such an extent that it becomes difficult to make any distinction between different forms of empiricism in the way things are taught, an argument also substantiated by Tidwell (2017). That said, individual amchi choose the level of their involvement in spiritual practice, which varies widely. Sowa Rigpa's relationship with Buddhism has undergone very different historical periods. During the reign of the Fifth Dalai Lama, medicine was presented in a specifically Buddhist fashion (Gyatso 2015; Schaeffer 2003a; van Vleet 2016), while during the Cultural Revolution anything considered Buddhist was stripped from medical practice (Hofer 2018). More recently, in the PRC Sowa Rigpa had to present itself as more "scientific" to survive governmental restrictions (Adams 2002a, b), but there has also been a revival of Sowa Rigpa related Buddhist practice and lineage transmissions (Tidwell, in preparation). Next, going back in time, how did ideas of taming enter Tibetan medical knowledge and how was it passed on?

EARLY CULTURAL TRANSLATIONS OF TAMING

From its beginnings, what we now call Tibetan medicine, or Sowa Rigpa, has been a cross-cultural endeavor of medical knowledge production. Already in the thirteenth century when more elaborate mercury practices reached Tibet, medical authors faced the challenge of articulating and translating their understanding of medical and religious ideas across cultures and borders. Origin myths of poisons and the tantric symbolisms of mercury, along with both elaborate and simple processing techniques, were translated not only from Sanskrit into Tibetan—from Indic into Tibetan contexts—but also from various Hindu, Śaivite, Vedic, and alchemical cosmologies into emerging Tibetan Buddhist cosmologies.

Such acts of translation were complex interactions. Śiva, or Īśvara (Lord), became known in Tibetan as Wangchuk, "the all-powerful one" *(dbang phyug)*. Wangchuk is still associated with the tantric power of mercury, which represents Śiva's semen, and Tibetan physicians today know mercury by many secret synonyms, such as "the drop of Śiva" *(dbang phyug thig le)* (Deumar Tendzin Püntsok 2009, 106/7) or "*daryaken,* the semen of the male tantric deity" *(yab kyi dwangs ma dar ya kan)* (Dawa Ridrak 2003, 425/16–17).[198] Śiva's female consort Parvatī—whose menstrual blood is

198 For more on *daryaken*, see Beckwith (1980), who thinks it is of non-Tibetan origin and allied to the Greek panacea theriac. See also Akasoy and Yoeli-Tlalim

represented by sulfur— appears as "the queen, refined essence of the earth *chülen" (sa bcud kyi dwangs ma mtsun mo)* (2003, 425 / 16).

I already mentioned that the widespread idea of taming mercury or poisons in general shows parallels to Śaivite material and its related Śiva taming myths (e.g. Rudra). However, even though mercurial practices in Tibet still reveal Śaivite elements, when Tibetan physicians mix mercury with sulfur and re-enact the tantric sexual union of Śiva and his female consort Parvatī it does not make them Śaivite practitioners. I argue, however, that Tibetan practitioners deeply absorbed the underlying notion of taming and made it their own because it matched what they saw and experienced in actual medical practice: preprocessed mercury, when tamed with sulfur, becomes immobile and is drastically transformed from a whitish to a blackish compound (see Chapter 6).

Janet Gyatso writes about transcultural processes of transmitting and absorbing foreign medical knowledge into Tibet in an attempt to discover innovations in medical thinking:

> In adopting and adapting Indic and other important medical concepts throughout the *Four Treatises*—and Yutok selected and restated such material judiciously—the Tibetan doctors were making it their own. The knowledge so employed worked for them, and it accorded with what they already knew or suspected about the human body. [...] Although the Fifth Dalai Lama and his court were aware of the value of searching abroad for new information and therapies, Tibetan medical tradition does not systematically distinguish foreign medicine from Tibetan medicine in just those terms. In short, our concern to discover innovation has to do with the conditions under which change occurs, not the cultural or national identity of those shifts as such (Gyatso 2015, 289).

Applying this cautious historical gaze raises the question: under what conditions do particular pharmacological practices become culturally specific? When were mercury-containing formulas from outside Tibet absorbed into Sowa Rigpa medical compendia? Why did some become long-term tested formulas, while others disappeared over time? In summary, what we find woven into Tibetan narratives of medical histories testifies to complex acts of translations in their broadest sense and to how medical knowledge has been transferred and re-enacted over time. As we shall see next, sometimes they point to empirical innovations, while at other times they seem to nestle comfortably within prominent religious ideas.

(2007, 234) on musk and the elixir of *daryaken*. The contemporary Tibetan physician Penpa Tsering (1997) calls *ngülchu tsotel* the "*daryaken* nectar, king of essences" *(bcud rgyal bdud rtsi dar ya kan)*. *Daryaken* also became a popular synonym for a range of potent substances, especially those treating poisoning (see, for example, Simioli 2016, 400). *Daryaken* is further discussed in Chapter 6.

Narratives of mercury transmissions from India to Tibet

Tibetan historical narratives on mercury knowledge transmissions from India to Tibet reveal three reappearing themes: poisoning, Buddhism and its threats, and the importance of lineage.[199]

First, mercury practices are frequently linked to a medical quest for treating poisoning. The search for remedies against poisoning is evident in early Tibetan medical texts,[200] and as one of the eight branches of Sowa Rigpa, the treatment of poisoning holds a prominent position among medical nosology. Precious pills were much sought after because of their ability to treat poisoning (Czaja 2015, 48–49).

Second, the position mercury occupies within Buddhist thought is linked to mercury practices originating in India—the land of accomplished hermits, saints, and Buddha himself. In the following Tibetan narrative, the Indian saint and mercury specialist is introduced as an emanation of Avalokiteśvara, the Buddha of Compassion, which emphasizes compassion as a central moral concern of medical practitioners. Physicians' responses to human beings' suffering in their quest for wellbeing included the search for a panacea against diseases caused by poisons, which would be manifold during upcoming degenerative times, which refer to the third age of Buddhism that is often described as a future period of unrest, suffering, and the decline of Buddhist teachings.

Lamenpa Tenzin Chödrak, who introduced the *tsotel* practice to the Men-Tsee-Khang in India in 1982 (see Chapter 3), spoke of these themes to his biographer Epa Sonam Rinchen:

> During ancient times in India there was a saint called Rikpé Lodrö, an emanation of Avalokiteśvara, who had the clairvoyance that in the future 2,000 different types of poisons would appear [affecting] sentient beings. After knowing that, he travelled miraculously to a southern continent in search [for a remedy] to treat those kinds of poisons. There are many supreme beings of divine emanations like the hermits, the medicine goddesses, and others, who are experts in processing mercury. The greatest among them was a hermit called Zhungkyé, from whom he [Rikpé Lodrö] received the complete teachings on the essence extraction *[chülen]* practice made

199 This is, for example, evident from Tenzin Chödrak's biography, and his version of the history of mercury transmission (Sonam Rinchen 2000, 129/16–131/3).

200 For example, Yoeli-Tlalim (2015, 750–751) discusses the treatment of poisoning with rituals in Tibetan medical Dunhuang manuscripts from the ninth century AD. Garrett (2006, 210, 212) emphasizes the treatment of poisoning in the *Eighteen Additional Practices (Cha lag bco brgyad)* of the twelfth century (Yutok Yönten Gönpo 1999). The *Four Treatises* dedicate three chapters to poisoning and its treatment. In the fifteenth century, Zurkhar Nyamnyi Dorjé (1993, 287–298) places his famous black pill *(ril nag)* mercury formulas in the chapter on treating poisoning in his work *Relics of Countless Oral Instructions (Man ngag bye ba ring bsrel)*.

> with three nectars. After that he returned to India and he passed [the teaching] to Yogi Śavarī Wangchuk. Gradually, it was passed down to the great yogi of Tibet, Orgyen Pel [Orgyen Rinchenpel], who spread it in Tibet.[201]

Third, Tibetan physicians discuss the history of knowledge transmission in terms of authoritative lineages and key texts (e.g. Sönam Bakdrö 2006, 22 / 10–14 / 14; Sonam Rinchen 2000, 130 / 9–131 / 3). Some of the key figures and texts of Indian and Tibetan mercury lineage transmission are: Vyālipa (Bhalipa in Tibetan), the Indian alchemist who discovered from a woman the missing ingredient needed to refine mercury; Nāgārjuna, a key representative of alchemy in India,[202] whose mercury lineage apparently did not spread widely in Tibet;[203] Vāgbhaṭa, the author of the Ayurvedic compendium *The Essence of Medicine* (Skt. *Aṣṭāṅgahṛdayasaṃhitā*), which was translated into Tibetan[204] and became one of the sources available to Yutok to compile the *Four Treatises* in the twelfth century (Yang Ga 2010, 2014); and the *Kālacakratantra* which includes chapters on the magical powers of mercury.[205] The most important figure for the Tibetan part of the history is Orgyenpa Rinchenpel (1229 / 30–1309), briefly known as Rinchenpel, who brought Bhalipa's mercury practices to Tibet, translated his works into Tibetan,[206] and is believed to have received his own mercury instructions from the female deity Vajrayoginī. Thus, in the eyes of most Tibetan physicians today he is considered the first lineage holder of the *tsotel* practice, which has survived to this day. His story holds the key to why *tsodru chenmo* is considered superior among all mercury processing practices.

---

201 Translated from Sonam Rinchen (2000, 129 / 16–130 / 8): *rgya gar du sngon byon spyan ras gzigs kyi sprul pa drang srong rig pa'i blo gros zhes bya ba zhig byon pa de nyid kyis ma 'ongs pa'i sems can la dug rigs mi 'dra ba stong gnyis 'byung ba mngon par mkhyen nas dug rigs de dag sel byed 'tshol bar lho phyogs kyi gling phran zhig tu rdzu 'phrul gyis gshegs pa na / der dngul chu btso bkrur mkhas pa'i drang srong dang sman gyi lha mo sogs sprul pa'i skyes mchog mang po zhugs pa'i gtso bo drang srong gzhung skyes zhes pa las bdud rtsi gsum 'dus pa'i bcud len gyi bdams pa lhag lus med par gsan nas 'phags yul du byon te/ grub thob sha ba ri'i dbang phyug la gsungs pa rim bzhin gangs can gyi grub thob chen po o rgyan dpal gyis bod du spel zhes dang /*.

202 See White (1996, 66–69) on the controversial history of Nāgārjuna.

203 Some of the twenty-two Sanskrit medical works that were translated into Tibetan and included in the Tibetan Buddhist Canon are attributed to a Nāgārjuna (Dash 1976, 9–15), but are not currently used in Tibetan *menjor* practice.

204 Its Tibetan translation was incorporated into the Tibetan Buddhist Canon as *Yan lag brgyad pa'i snying po bsdus pa*. See Vāgbhaṭa et al. (1994–2008).

205 These chapters have been translated and analyzed by Fenner (1979).

206 Among the four Indian alchemical texts that were included in the Tibetan Buddhist Canon in their Tibetan translations, two are attributed to Bhalipa; three of the four are said to have been translated into Tibetan by Orgyenpa (Simioli 2013, 2015).

Orgyen Rinchenpel receives the *tsodru chenmo* practice from Vajrayoginī

The Indian sage and alchemist Mahāsiddha Vyālipa, in Tibetan Bhalipa, is revered by Tibetan physicians as one of the most accomplished Indian masters of mercury formulations. Two of his treatises, the *Treatise on Perfecting Mercury (Dngul chu grub pa'i bstan bcos)* (see Fig. 28) and the *Compendium on the Transmutation into Gold (Gser 'gyur gyi bstan bcos bsdus pa)* are still extant in Tibetan as part of the Tibetan Buddhist Canon, but their Sanskrit originals are lost, and "[i]t is impossible to ascertain if they are a simple translation of the Sanskrit originals or not" (Simioli 2015, 37).[207] They formed the early textual corpus of Indian alchemy that influenced mercury practices in Tibet beginning in the thirteenth century (Simioli 2013, 2015).

This knowledge of mercury processing represents late tantric teachings that survived the Muslim invasion of northern India and were brought to Tibet by the famous Orgyenpa Rinchenpel, a master of the Töd Drukpa Kagyü lineage.[208] The figure of Rinchenpel is of great significance for Tibetans since he not only translated those works into Tibetan but also received transmissions on mercury processing himself from the female tantric deity Vajrayoginī. He was a "great Tibetan yogi, thaumaturge, scholar, alchemist, and traveler" (van der Kuijp 2004, 299), and his life has been described in detail in no less than eleven biographies, which were analyzed by Brenda Li (2011). Gene Smith makes the important point that his works are "partly responsible for the charges that Tibetan tantric teachings are heavily influenced by Kashmiri Saivism," and because his essential practices were received from *ḍākinīs*, "consequently scholars like Kong sprul [Kongtrul Yönten Gyatso] have distinguished this tradition from both the Bka 'rgyud pa [Kagyüpa] practices and the Kālacakra system" (Smith 2001, 46).

Briefly, according to the Tibetan narratives summarized by Brenda Li (2011), Rinchenpel was born in southern Tibet and became a fully ordained monk in his youth at the Bodong E Monastery (founded 1049), west of Shigatse. Among many other subjects, he studied two of the major *Kālacakratantra* traditions (2011, 121). Since he received initiations and precepts for the *Vimalaprabhā,* the famous commentary on the *Kālacakratantra*, he was probably familiar with Indian alchemical ideas of transforming mercury. One of his teachers advised him to go for further study to Nepal as well as to Orgyen (2011, 122). Orgyen, from which he derived his name, is the land of Oḍḍiyāna, located by some scholars in the Upper Swat Valley in present-day northern Pakistan (2011, 126). For

207 Their Sanskrit titles are *Rasasiddhiśāstra* and *Rasaśāstroddhṛti* respectively. See Simioli (2013) for an introductory comparative analysis of both works. For the Tibetan translations see, for example, Bhalipa, Orgyenpa Rinchenpel, and Sri Narendabadra (1994–2008a, b).

208 The Kagyü school is one of the main schools of Tibetan Buddhism. The Töd Drukpa Kagyü school, which was founded by Orgyenpa's teacher, Götsangpa Gönpo Dorjé (1189–1258), is one of its sub-schools.

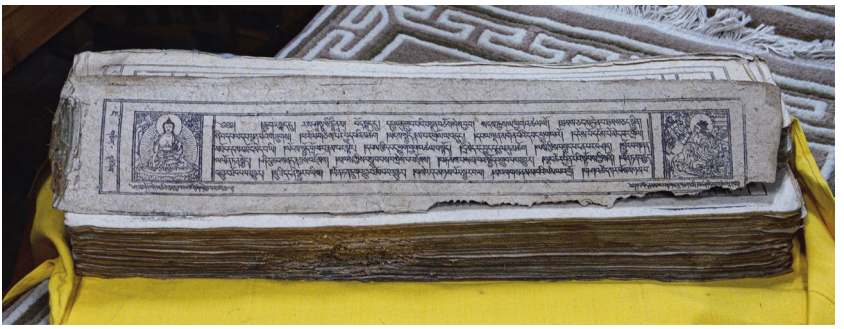

Figure 28: The *Treatise on Perfecting Mercury (Dngul chu grub pa'i bstan bcos)*, from the Shantarakshita Library at the Central Institute of Higher Tibetan Studies in Sarnath, India. Approximately 300 years old, it belongs to a collection that the Fourteenth Dalai Lama brought to India when fleeing Tibet. Note the image of Buddha to the left and what appears to be an Indian sage on the right. Photo: Thomas K. Shor (Shor 2012 / CC-BY-SA 4.0).

Tibetans, this place as a source of medical knowledge was not new. It is mentioned as one of the ten regions of medical systems in eighth- to eleventh-century Tibetan medical literature, testifying to an early exchange of medical knowledge with experts from outside Tibet (Garrett 2006, 218, note 18; Martin 2007, 314, 316).

One of Rinchenpel's biographies mentions that later when he abandoned monkhood and became a wandering yogi, he was tested on his knowledge of the *Kālacakratantra* by a female adept in northwestern India, and he admitted to having forgotten most of what he had studied as a monk. He discarded textual knowledge for the experiential and practical, thus living the full spectrum of Tibetan religious life at the time, which often stretched from monastic Buddhism to tantric siddha techniques following the ideal of the Indian wandering yogi (Samuel 2006b, 46 in Li 2011, 237). However, he did not give up his scholarly work entirely; later in life he commissioned the copying of the *Kālacakratantra* commentaries and published a condensed version of the *Kālacakratantra* while in the Yuan dynasty summer capital of Shangdu (Li 2011, 46, 87). He translated Bhalipa's two texts on mercury processing and composed a trilogy on mercury, known as *Notes on the Trilogy of Mercury* (*Dngul chu skor gsum gyi zin bris*, briefly *Dngul 'bum*; Troru Tsénam 2001, 513 / 8). Orgyenpa Rinchenpel also translated *The Powerful Lord's [Śiva's] Chülen that, Pacifying all Diseases, Promotes Physical Strength (Thams cad kyi dbang phyug gi bcud len nad thams cad 'joms shing lus stobs par byes pa)*, a text on mercury processing, which was attributed in the colophon to Īśvara, an epithet of Śiva (in Tibetan, Wangchuk).[209] Notably, it was these non-Buddhist

209 This text was included in the Tibetan Buddhist Canon. See, for example, Orgyenpa Rinchenpel and Śivadāsa (1982–1985).

Śaivite-related mercury texts by Bhalipa and Īśvara, of which the original Sanskrit versions are lost, that were codified into the "Translated Treatises," or *Tengyur (bstan 'gyur),* of the Tibetan Buddhist Canon during the fourteenth century.[210]

This inclusion demonstrates that some importance was given to mercurial practices at the time. The approach towards these practices might not have been particularly medical or religious, but more artisanship-like, since these texts were classified under the sections titled arts and technologies *(bzo rig)*, which includes texts on alchemy / metallurgy, iconometry, incense making, astrology, and divination in different editions of the *Tengyur* (Simioli 2013, 46). Notably, none of the four Indian tantric texts on mercury included in the *Tengyur* is decisively Buddhist in character (White 1996, 105), which might have influenced the way they were classified.

As the story goes, Orgyenpa's adventurous journey to Oḍḍiyāna lasted several years and covered thousands of kilometers.[211] In Dhumatala, the capital of Oḍḍiyāna and probably referring to the ancient site of Butkara near modern Mingora in today's Pakistan (Czaja 2013, 77), he received teachings from Vajrayoginī. Czaja (2013, 77) writes that somewhere on this journey, Orgyenpa acquired the knowledge of mercury processing, but we lack detailed accounts. The technique of mercury processing attributed to him is known as "The Great Cooking and Washing of Mercury," or *ngülchu tsodru chenmo*, often translated as "Great Mercury Refinement," and nowadays abbreviated as *tsodru chenmo* or *tsotel* practice.

Based on his biographies, we can conclude that Orgyenpa received textual, practical, and spiritual teachings on mercury. However, none of his eleven existing biographies mentions him actually processing mercury on any scale.[212] Only one biography mentions that Orgyenpa told the Mongolian ruler Qubilai Khan (1215–1294) during his visit to Shangdu in around 1293 that he knew how to turn mercury into silver, from which we can infer that he was involved in processing mercury.[213] We do not know the reasons behind this lack of recorded history. One can only speculate that during the time Rinchenpel's main biographies were written, mercury practices might have held a less significant status; it could also be that the practices were considered so secret that they were not put into writing; or that such details were not considered worthy of being included by the biographers.

Orgyenpa was a visionary, and receiving instructions from a female deity was not unusual for him. His teacher, Götsangpa Gönpo Dorjé (1189–1258), engaged in tantric sexual practices with a consort, the *yoginī* Drowa Zangmo, whom he had met in Jalandhar in India in 1217. Götsangpa

210 For details see also Fenner (1979), Simioli (2013), Walter (1980, 8, note 10), and White (1996, 105).
211 His travels have been described in detail by Li (2011), Tucci (1971), van der Kuijp (2004), and Vitali (2012).
212 Li (2011). Brenda Li and Olaf Czaja, e-mail communication, 2012.
213 Sönam Özer (1997, 239). Thanks to Brenda Li for this reference.

also received teachings on scriptures and practices in visions and dreams from Vajrayoginī, including instructions on the *Kālacakratantra* (Li 2011, 127). He must have taught his student in a similar vein. Drowa Zangmo is mentioned as one of four *yoginīs* Rinchenpel met in Oḍḍiyāna, but he apparently had a tense relationship with this powerful woman, who was his teacher's consort and around thirty years Rinchenpel's senior (2011, 130, 134–135).

Orgyenpa is said to have received the *tsodru chenmo* practice in a vision from the "land of the *ḍākinīs*" while encountering Vajrayoginī in Oḍḍiyāna. In the eyes of Tibetan physicians today, the spiritual potency of the practice and its lineage transmission can be traced back to him. Receiving the mercury teachings from this spiritual source also links physicians processing mercury to the land of these *ḍākinīs.* This is still evident from the ways in which Tibetan physicians revere Orgyenpa today. The senior Tibetan physician and teacher, Gen Gojo Wangdu from Lhasa, explained it this way during the Kathmandu Sowa Rigpa workshop:

> If we can master the stainless practice of the Great Mercury Refinement through the lineage of "seeing transmission" [...] it can help us to remove all the diseases and, ultimately, it can help us attain the supreme state of omniscience. As the Mahāsiddha [great yogi] Orgyenpa said, "If we even let a grain of *tsotel* enter our body, it enables us to enter the land of the *ḍākinīs*." So it is very powerful.[214]

What Gen Gojo Wangdu is implying here is that the Great Mercury Refinement practice itself has the potential to transform the practitioner. Tibetan physicians I spoke with in India did not mention these internal spiritual refinements, but attribute special abilities to Orgyenpa and consider him the founder of the *tsotel* practice. Dr. Tenzin Thaye explained it this way:

> Tibetans feel that the process of *tsotel* was perceived through a clear mind; it did not take long times of trial and error and experimentation. They had an all-knowing [mind], what we call *tamché shépa [thams cad shes pa]*. Mental clarity was needed to develop the process and maybe people like Nāgārjuna and Orgyenpa had it.[215]

The previous head of the pharmacy at the Men-Tsee-Khang in Dharamsala, Dr. Namgyal Tsering, during an interview in New York, emphasized the importance of carefully watching a specialist making *tsotel*, which Gen Gojo Wangdu refers to above as seeing transmission. Dr. Namgyal Tsering placed this in a scientific context:

---

214 Translated from a video recording of the Sowa Rigpa workshop in Kathmandu dated December 6, 2011, by Tenzin Demey, Dharamsala.

215 Interview, McLeod Ganj, July 17, 2014.

> Only the founder of *tsotel*, Orgyenpa, does not need the seeing transmission, but everybody after that needs it. It is very important. If a scientist performs experiments, then he can make *tsotel*. But at that time, there were no experiments.[216]

Dr. Namgyal Tsering points to the possibility of replacing a complicated practice that requires seeing transmission through science, arguing that through trial and error experiments, one could scientifically develop a method of making *tsotel*. Orgyenpa—as the original adept of the practice—was the only one who did not require the seeing transmission. Dr. Namgyal Tsering's response here exemplifies how experiential and spiritually perfected ways of knowing mercury refinement can easily coexist in the minds of contemporary *tsotel* experts.

Most Tibetan physicians I spoke with did not feel the need to experiment with making *tsotel*. Science could potentially verify the success of their technique, but not alter it (see Chapter 7). In their eyes, the *tsotel* practice is perfect, since it originated from what they consider an all-knowing mind, referring to Orgyenpa's special capacity to receive this practice directly from Vajrayoginī. Collectively, this reverence for historic figures and their perfect knowledge adds power and perseverance to passing on a lineage over long periods of time.

Even though Tibetan physicians revere Orgyenpa as the founder of their *tsotel* practice, they do not use his texts or those translated by him in their pharmacies. They rely on nineteenth-century manuals (discussed below), which are easier to understand, as well as notes and oral instructions from their teachers who hold the lineage. Practically speaking, Bhalipa's mercury texts, which Orgyenpa translated into Tibetan, did not reach the prominence that one might expect. The descriptions are often opaque and difficult to understand.[217]

The Tibetan tradition of telling *tsotel*'s early history is a prime example of a spiritually informed medical empiricism. Orgyenpa's story has all the elements that made the *tsotel* practice outstanding in the eyes of Tibetan physicians: It is a spiritual and visionary transmission received from a female deity, and it includes the theme of taming linked to the Rudra taming narrative and Śaivism. It was brought to Tibet by a unique expert who was both a yogic practitioner and had undergone a Tibetan Buddhist monastic training. Orgyenpa had accomplishments across the spectrum of the visionary, experiential, and the scholarly. He was thus capable of making the required cultural, spiritual, and textual translations for this mercury refinement practice to reach the Tibetan world.

---

216 Interview, New York, October 13, 2014.

217 According to Simioli (2015, 43), Bhalipa's mercury processing steps show some similarities to the eighteen *saṃskāras* mentioned in Sanskrit alchemical texts. These *saṃskāras* are described in detail by White (1996, 265–294).

But why did the *tsodru chenmo* technique attributed to Orgyenpa develop into the main and most popular processing method used today? I explore some of the reasons in Chapter 6. Next, we follow some of the historical developments of mercury practices in Tibet after Orgyenpa.

Mercury refinement practices in Tibet (fourteenth to nineteenth centuries)

The transmission of mercury refinement practices in Tibet since Orgyenpa Rinchenpel is complex and would require a study of its own. Olaf Czaja (2013) outlines this multifaceted history for the first time. Here, I present a succinct summary of the most outstanding components of the *tsodru chenmo* knowledge transmission, highlighting those most relevant for the next chapters. The examples below show that throughout the history of making *tsotel*, medicine and religion cannot be regarded as two separate domains, nor can they easily be confined to the temple vs. the clinic or pharmacy. Rather, the complex ways of making *tsotel* reveal an intertwined collaboration between medical and Buddhist ritual experts across long historical periods.

Orgyenpa is said to have passed the *tsodru chenmo* technique to the Third Karmapa, Rangjung Dorjé (1284–1339), from whom it was passed on through subsequent throne holders of the Karma Kagyü, the largest sub-school of the Kagyü school of Tibetan Buddhism, and their affiliated physicians. While the contemporary Tibetan author Sönam Bakdrö writes that the Third Karmapa received the mercury knowledge from Orgyenpa himself (Sönam Bakdrö 2006, 31–32). Czaja maintains that there is no clear textual evidence to support this, except that the Third Karmapa included the eight metals (which are essential components in the making of *tsotel*) in his medical glossary.[218]

The Karmapas became famous for their black pills or *rilnak (ril nag)* tradition, which do not contain *tsotel*. The Karmapa's black pills, given to devotees as blessing pills, appear to be quite different from the Precious Black Pill Great Cold Compound (Rinchen Drangjor Rilnak Chenmo), which is the most complex *tsotel*-containing precious pill formula. However, these pills seem to have shared histories, particularly in their use of special consecrated substances such as *jinlap* and *papta*, nectar medicines, and the aforementioned *mendrup*, which I discuss elsewhere (Gerke 2019a).

To give one example here: we know from the autobiography of the Buddhist master and famous physician from eastern Tibet, Kongtrul Yönten Gyatso, that during the New Year ceremony of 1838, the Fourteenth Karmapa, Tekchok Dorjé (1798–1868) prepared black pills. At the

218 Czaja (2013, 78) here refers to the *Treatise on Medicine: An Ocean of Medical Terms (Sman gyi bstan bcos ming rgya mtsho)*, in short *Sman ming rgya mtsho,* by Rangjung Dorjé (2005, 200 / 18).

time, Kongtrul was making several kinds of precious pills, and the physician Karma Tsépel of Pelpung Monastery in eastern Tibet made the *tsotel* for them. The Karmapa's black pills were added as a *papta* to Kongtrul's precious pills, adding a special *jinlap* and empowering Kongtrul's medicines with the Karmapa's lineage.[219] This testifies to a close collaboration between medical and ritual experts in the consecration of *tsotel*-containing precious pills.

By the fourteenth century, the mercury texts that Orgyenpa had translated earlier were codified into the *Tengyur* and appear in a more organized form in medical compendia, such as those of the Drangti School (Drangti Penden Gyeltsen 2005). Orgyenpa's trilogy also appears in a collection by Lhatsün Rinchen Gyatso (2005, 257–304) under the brief title *Trilogy of Instructions on Mercury of the Great Yogi Orgyenpa (Grub chen o rgyan pa'i dngul chu gdams pa'i skor)*.

Zurkhar Nyamnyi Dorjé (1439–1475), the famous representative of the Zur medical tradition,[220] trained in the Kagyü lineage, wrote extensively on mercury and included black pill instructions in his famous *Relics of Countless Oral Instructions* (*Man ngag bye ba ring bsrel*, Zurkhar Nyamnyi Dorjé 1993, 2014). While Nyamnyi Dorjé's treatise contains several texts on *ngülchu* and mentions many formulas that contain processed mercury, his black pill instructions for making the precious pill Rinchen Drangjor have received the most scholarly attention to date.[221] Nyamnyi Dorjé's mercury texts and related practices were spread by his disciples in southeastern Tibet (Czaja 2013, 81). As discussed earlier, during the time of the Fifth Dalai Lama, Kagyü physicians from eastern Tibet transmitted the *tsotel* practice to the Gelukpa school in central Tibet. In Lhasa, physicians affiliated with the main medical institutions—Chakpori (est. 1696) and Mentsikhang (est. 1916)—were trained and passed on the tradition further.

In eastern Tibet (Kham), the Drigung Kagyüpa school carried the practice into the seventeenth century. Drigung Rigzin Chökyi Drakpa (1595–1659)—briefly known as Drigung Chödrak—was a trained physician and the twenty-third throne holder of the Drigung Kagyü, one of the sub-lineages of the Kagyü school of Tibetan Buddhism. He wrote eleven short works on precious pills and mercury processing in his *Drigung Collection of Sowa Rigpa* (*'Bri gung gso rig gces bsdus,* Drigung Chödrak and Könchok Dropen Wangpo

219 This story is partially told in Jamgön Kongtrul's autobiography (Jamgön Kongtrul 2003, 33–34). Thanks to Khempo Chödrak, the nephew of the Sixteenth Karmapa Rangjung Rikpé Dorjé (1924–1981), for explaining these details to me (interview, Delhi, December 5, 2018). I previously published a different interpretation (Gerke 2013b), thinking that *tsotel* was added to the *rilnak* in 1838. It was in fact the other way around.

220 The two main medical traditions that developed in the fifteenth century in Tibet are known as the Northern School or Jang *(byang)* and the Southern School or Zur *(zur)*. See Hofer (2007). On the sectarian rivalry between the Jang and the Zur and their ties to different Tibetan Buddhist traditions, see van Vleet (2016, 275).

221 See Zurkhar Nyamnyi Dorjé (1993, 287/3–297/11) and the English translation of this text by Gyatso (1991). The work was also reprinted in Tibetan by Tashi Tsering (1986, 1–20). For details on this black pill formula see Gerke (2019a).

2007).[222] Representatives of the Rimé movement, foremost Kongtrul Yönten Gyatso, were very active in mercury processing in the eighteenth and nineteenth centuries and wrote several treatises on the topic (Czaja 2013; Tashi Tsering 1986). They wrote the works that remain the textual foundation of today's *tsotel* practice (see the next two sections).

Based on the examples presented here, one can glean the impression that mercury refinement practices were transmitted only through major Tibetan Buddhist schools and the technical skills and formulas were upheld solely by powerful monasteries and their adjunct medical schools and elite physicians. For social, economic, and political reasons, this is largely true of the complex *tsotel* practice, as explained in Chapter 3; but it is also influenced by the fact that those larger events were documented in writing, while smaller events remained often undocumented. However, in Tibet, mercury was used in a variety of medicines, also in smaller medical settings, family traditions, and by travelling medics. The heterogeneity of its varied processing practices is quite intriguing and requires a closer look.

Heterogeneity, lineages, and the question of origins

Tibetan medical works reveal a heterogeneity of mercury practices indicating a wide geographical range of texts and teachers. In fact, we are not dealing with one single tradition of mercury refinement, but a variety of practices from different neighboring regions. For example, the medical texts of the thirteenth to sixteenth centuries analyzed by Czaja show that various mercury processing methods circulated in the Cherjé medical school and in the Drangti medical school at Sakya. These schools mention Indian teachers such as Nāgārjuna, Abhayākara,[223] and the Bengali scholar Vanaratna (1384–1468), who taught how to tame mercury with mantras (Czaja 2013, 79). In the eighteenth century, the famous physician and author Deumar Tendzin Püntsok (2009, 575/17–585/13), briefly called Deumar, lists fifteen methods of taming mercury, attributing three of them to Indian teachers of mercury processing, Jyōtikīrtinātha,[224] Kāmadeva, and Nāgārjuna (2009, 577/18–579/8). We do not know whether Deumar included these three in his list of fifteen methods to acknowledge the Indian representatives of mercury practices, or whether he received any substantial practical transmission himself.

222 These eleven works are listed in Czaja (2013, 81, note 32).

223 According to Simioli (2015, 39, note 20), Abhayākaragupta introduced a method to extract mercury from cinnabar, realgar, magnetite, and the plant *sne'u*. On the sourcing of *ngülchu* and its classification as a cold, inanimate poison in Tibetan medical texts, see Gerke (2016b).

224 An unknown proponent. He could have been an Indian Nāth Siddha (practitioner of *haṭha* yoga), who had exchanges with Tibet (Schaeffer 2003b).

Of course, there is the tempting question of locating the origin of these mercury processing techniques, similar to the quest of uncovering the origin of Hindu alchemy. I define origin here in a broad sense, implying precedents as continuous change without a precise beginning. Bloch reminds us that "the term 'origin' is disturbing because it is ambiguous." It implies a beginning, which invokes a starting point, and "for most historical realities the very notion of a starting point remains singularly elusive" (Bloch 1992, 25). In Tibet, questions of origin are often conflated with those of authority and are shaped by the ways in which origin narratives are presented (McGrath 2017a). Davidson succinctly points out with regard to Tibetan Buddhism, "great antiquity is one of the important values of Tibetan religion, and imputing it into the lives of the saints becomes an essential tool for the affirmation of their sanctity and authority" (Davidson 2005, 49).

When asking questions about the origins *('byung gnas)* of these practices during fieldwork, I often realized that such inquiries into the history of *tsotel* or other mercury practices, and even medical history in general, are of relatively little importance to contemporary physicians, who are concerned with the methods for making *tsotel* and precious pills and their lineage, as well as their therapeutic uses. They are less interested in the details of exactly where they came from. When we spoke about his early education in Tibet, Dr. Tenzin Thaye made me realize how differently history is approached in Tibetan medical education:

> We never really ask these questions on history. Of course we need to know the lineage, but that's enough. We are not taught that way, and it is not so important for us. When I was learning from the senior teachers, I was very young, and I simply did not think of asking these questions because our teachers were so qualified. They taught us like their sons and imparted everything they knew, like pouring all their knowledge into a vessel. In principle, students usually did not ask questions.[225]

For Dr. Tenzin Thaye, knowing the lineage provides the authentication of practice. As it is, historical events are tricky to trace, and a view of history "as a combination of fact and meaning" to quote Carole McGranahan (2002, 113), might help to understand the historiographies of *tsotel* events. Those are shaped by attempts to—often retrospectively—(re)shape, install, and decree certain lineages and authorities of transmission, and be silent about others. To this day, the lineages of their medical traditions are very important to Tibetans, since they bestow a certain authority on today's medical practitioners and their institutions. As is evident from the biographies of Khempo Troru Tsénam and Lamenpa Tenzin Chödrak, the ways in which lineages are linked to authoritative figures and their histories are

225 Interview, Dharamsala, May 6, 2015.

quite different for Tibetan physicians in India compared to those living in the PRC.[226] Since Tibetan historical narratives serve certain purposes, we need to "track the possibility for history as configured by shifts in Tibetan social and political worlds" (McGranahan 2002, 113).

Likewise, Trouillot (1995) reminds us that issues of power are frequently involved in the construction of history. This often comes to the forefront when we ask questions concerning where certain medical practices originate. Authors might be keen to prove certain origins, often for different purposes. Regionalism and political history have often played a role in what is told and what is kept silent in writing the history of mercury, influencing who defines medical knowledge and what counts as authentic.

There are different ideas regarding the historical diffusion of mercury practices, which link up again with the debates on medical empiricism raised by Janet Gyatso (2015). White notes that the use of mercury in Chinese Daoist and Jabiran traditions of Persian alchemy predates those of India and Tibet. He argues that "one is tempted to hypothesize that the fundamentals of Hindu alchemy were carried, along with mercury and cinnabar, from one or both of these foreign sources" (White 2013, 216). This makes sense considering that India does not have mercury mines (see Chapter 2). While the sourcing and trading of cinnabar naturally impacted the movements of knowledge on how to process it, it does not solely account for the existence of shared processing techniques. Based on his in-depth research on Indian mediaeval Siddha alchemy, White holds the position that the similarities between the techniques and apparatus used in Greek, Hindu, Persian, and Chinese systems are

> best explained by the chemical behavior of the reagents themselves, as well as by independent trial and error discoveries made in the techniques of distillation, amalgamation, fixation, and so forth with the allied fields of metallurgy, coinage, perfumery, and the production of distilled spirits (White 2013, 217).

With the increased interest in the PRC to manufacture *tsotel* and precious pills on a larger scale, Chinese authors seem to be searching for specifically Chinese origins of the practice, looking for parallels to the Tibetan material in early medieval Chinese alchemical texts. Zhang and Jinyuan (1999) compare Orgyenpa's method of mercury processing with the techniques and names described in the *Instructions on the Scripture of the Divine Elixirs of the Nine Tripods of the Yellow Emperor (Huangdi Jiuding Shendan Jingjue)*, written between 649 and 684 CE. The authors pursue a line of argument that White cautions us not to follow. A similarity between Tibetan and Chinese mercury processing descriptions of similar material, detoxification methods, and terminology leads Zhang and Jinyuan to hypothesize that

226 I compared and analyzed these biographies with regard to mercury processing in detail elsewhere. See Gerke (2015a). See also Chapter 3.

Chinese terms and manufacturing skills went from China to India and from there to Tibet (Zhang and Jinyuan 1999, 48). While there are undoubtedly similarities—the widespread use of the term "kill" for subduing a poison, or the method of cooking, etc.—there are also many differences. Again, White reminds us that in the Indian context, such similarities are not a case of wholesale borrowing:

> While Chinese (Taoist alchemy) and Persian (the Shi'a Jabirian school) traditions no doubt interacted with tantric alchemy, the Indian material is so specifically Indian—as much in the subcontinental provenance of its *materiae primae* as in its nearly exclusively Hindu religious and metaphysical presuppositions—as to preclude any possibility of this being a matter of wholesale borrowing (White 1996, 54–55).

I would argue that the same holds true for Tibet. While there were certainly multiple influences and transmissions from neighboring countries—which Tibetan authors themselves have acknowledged—medical practitioners in Tibet tested, adopted, and adapted some of these practices over time as integral to Sowa Rigpa or what they understood to be specifically "Buddhist" and transmitted them through their unique medical and religious lineages, attributing authoritative knowledge to these techniques.

Although knowledge of medicine and astrology as practiced in China certainly influenced the development of Sowa Rigpa,[227] from what I have seen, Tibetan mercury processing practices of Chinese origin are conspicuously absent in most Tibetan historiographies on mercury with a few exceptions, explained below.[228] Mercury was clearly traded in the form of cinnabar from China, and—as mentioned earlier—the Tibetan phoneticized version of the Chinese terms for cinnabar, *chu shak* and *dachu*, appear in Tibetan medical texts. Tibetan writings, however, attribute the *tsotel* practice to Tibetan Buddhist lineage holders going back to the Third Karmapa and ultimately to Orgyenpa Rinchenpel. Some processing techniques are assigned to Indian masters. For contemporary Tibetan practitioners in India and the PRC, Orgyenpa remains the authoritative lineage holder of the *tsodru chenmo* technique, which they also consider the safest and most enduring modus operandi.

However, there were some eastern Tibetan medical authors of the eighteenth and nineteenth centuries who relied on Chinese mercury processing techniques to treat certain communicable diseases and poisoning during

227 Chinese influences on Tibetan medicine were summarized by Meyer (1981, 66–71), but have not been studied in depth. For Chinese influence on Tibetan astrology see Dorje (2002). For Chinese origins of early Tibetan medical texts, see Yoeli-Tlalim (2010) and McGrath (2017b).

228 Historical parallels between Chinese and Tibetan mercury processing methods still need to be researched. On Chinese alchemy of mercury, see Needham and Gwei-Djen (1974) and Needham, Ping-Yu, and Gwei-Djen (1976).

the Qing Empire (1644–1912). Tibetanists have argued that "documented cultural exchange between Qing China and Tibet outside the scope of religious teachings was extremely limited" (Tuttle 2005, 28), except in the fields of painting, architecture, and, among the nobility, clothing design and cooking (Tuttle 2005, 28; referring to Petech 1950, 262). I think medicine was an important sphere of exchange, especially between Qing China and Tibet, some of which was also documented, but still requires extensive research.[229]

An outstanding representative of an inclusive approach to medical scholarship and transculturality is the polymath and medical specialist from eastern Tibet, Situ Chökyi Jungné (1699/1700–1774), also known as Situ Paṇchen, who translated Chinese medical texts and studied Chinese medicine with doctors in China, and afterwards practiced an eclectic mix of Tibetan and Chinese medicine (Garrett 2013, 279). Situ Paṇchen and his nephew Karma Ngélek Tendzin included Mongolian, Nepali, Chinese, and Uygur medical treatments in their repertoire and noted that "certain poisons, venereal diseases, and smallpox, are often best treated using Chinese medicine" (Karma Ngélek Tendzin 1973, 8 in Garrett 2013, 285).

The treatment of venereal diseases, in Tibetan called *rekduk* (*reg dug*, meaning poison on touch, or contagion), provides a special case in the study of mercury in Tibet and the exchange of processing techniques with its neighbors, which I analyze in detail elsewhere (Gerke 2015b). This exchange was linked to a widespread infectious disease, which in the twentieth century became known as syphilis, and which was commonly treated with mercurial medicines. In the case of *rekduk*, foreign recipes containing mercury were widely adopted by Tibetan doctors between the seventeenth and early twentieth centuries, reaching not only eastern Tibet but also Lhasa in central Tibet, prior to the British bringing the biomedical antisyphilitic drug Salvarsan to Tibet (McKay 2007). These foreign recipes included fumigants, ointments, pills, and powders which were gathered from travelling practitioners from Mongolia and India, as well as Muslim physicians in Lhasa and other areas across the Himalayas, demonstrating considerable heterogeneity of mercury processing techniques. Processing techniques described by eastern Tibetan physicians included rolling mercury in thin Chinese paper (Lingmen Trashi Bum 2007, 719/18–19) and burning it inside a Chinese porcelain cup; the burning time was measured by burning Chinese incense sticks (Karma Ngélek Tenzin 1973, 533/3–4). Some of these *rekduk* formulas included quite toxic forms of mercury, what we today would chemically identify as red mercury(II) oxide (HgO), which is a red-yellow solid compound that is considered toxic but contains antibacterial properties, still used today externally in skin ointments and in many skin-lightening products.[230]

229 Stacey van Vleet's doctoral thesis (2015) on the importance of Sowa Rigpa for the development of Buddhism outside of Tibet during the Qing dynasty is a step in that direction.

230 The use of inorganic mercury in skin-lightening products is considered hazardous to health. See WHO (2019).

Contemporary Tibetan practitioners I interviewed in India consider these *rekduk* formulas unsafe. When I showed the description of how to process mercury for a *rekduk* formula of red mercury(II) oxide by Kongtrul Yönten Gyatso et al. (2005, 110/7–111/16) (whose text on making *tsotel* is still used by the Men-Tsee-Khang) to the contemporary Men-Tsee-Khang-trained Tibetan physician Ngawang Soepa in Dharamsala, he immediately responded that "this kind of mercury processing is not used anymore" and is "part of history." He also noted that the mercury processing methods for treating *rekduk* were "always different and not so safe" compared to those used for making *tsotel*.[231]

Apparently, Tibetan physicians were more open to adapting foreign treatment methods for new diseases in times of crisis; therefore, their use of mercury in medicines for these diseases should be treated as exceptional. In the case of venereal diseases such as *rekduk*, we can talk of a considerable borrowing of techniques and formulas, since the treatment methods often seemed to have travelled along with the disease and the need to treat it. Thus, the social history of processing mercury for the treatment of *rekduk* looks quite different from the social history of processing mercury for the creation of precious pills.

Their detailed study might also reveal different medical mentalities in dealing with mercury formulas to point back to Gyatso's argument for scientific thought and innovation in Tibetan medicine. Tibetan physicians adopting *rekduk* formulas from neighboring countries reveal a pragmatic and non-religious empirical attitude towards medical knowledge in an attempt to treat a new communicable disease. At the same time, it made them question their own medical texts. Karma Ngélek Tenzin (1973, 8/4–6) criticized the *Four Treatises* as well as the *Instructional Manual (Lhan thabs)* by Sangyé Gyatso (1992) as less useful when it came to the treatment of *rekduk*, for which he clearly preferred the Chinese methods and terms.[232] Perhaps this is an indication that in the eighteenth century, Tibetan physicians did not find existing Tibetan disease categories and methods suitable for handling a larger venereal outbreak and were looking to their neighbors for workable solutions. They were open to medical innovations in adopting new formulas. Some Tibetan physicians, such as Kongtrul Yönten Gyatso, Deumar Tendzin Püntsok, and Lamenpa Khyenrap Norbu, also questioned the different levels of toxicity of *rekduk* formulas—many of which were quite poisonous and led to salivation (a known symptom of mercury toxicity). These physicians recognized the toxicity of these formulas and recommended protective measures.[233]

In sum, we can detect different medical mentalities in the heterogeneity of Sowa Rigpa mercury practices. But they require a nuanced approach

231 Personal communication, Dharamsala, December 6, 2012.

232 For example, Karma Ngélek Tenzin (1973, 533/3–4) describes one such Chinese *rekduk* formula, which involves the burning of mercury with arsenic trioxide, sodium sulfate, and cinnabar in three stages. Translated in Gerke (2015b, 546).

233 I discuss these in detail in Gerke (2015b).

and a case-by-case analysis, which is what Gyatso also points to when she writes "our concern to discover innovation has to do with the conditions under which change occurs, not the cultural or national identity of those shifts as such" (Gyatso 2015, 289).

Notably, these innovations in mercury processing techniques and mercury-containing formulas for treating *rekduk* coming in from China and elsewhere did not alter the *tsotel* practice. Although both used mercury, they followed very different lineages, procedures, and histories. While Situ Paṇchen was quite willing to adopt specific medical practices from China and elsewhere, he followed the teachings of Orgyenpa when it came to making *tsotel* and precious pills, which he manufactured towards the end of his life within a traditional *chöyön* network and the support of the Degé king[234] (Garrett 2013, 279–280; Tashi Tsering 2014). Situ Paṇchen's work on *tsodru chenmo* became the foundational text for today's *tsotel* practice, as did the works of his nephew Gurupel and those by Mipam Namgyel Gyatso (1846–1912), and specifically Kongtrul Yönten Gyatso, whose text is used at the Men-Tsee-Khang.[235] These texts survived the Cultural Revolution and were reprinted in India in the 1980s (Tashi Tsering 1986; see Appendix D). They are important, if still untranslated, documents of the rich medical history summarized above and textually inform today's *tsotel* practices in India.

In pre-1959 Tibet, these texts were rare and typically passed along with the practice to lineage holders, but in India and in the PRC, a range of publications on *ngülchu tsodru chenmo* have appeared since the 1980s, available to anyone interested enough to read them in Tibetan. This raises questions concerning the secrecy of Tibetan knowledge transmissions and the safety of any practices done without the seeing transmission. My interviews below show how such issues have been handled by Tibetan physicians and scholars in India in their attempt to preserve, edit, and (re-)write *tsotel* manuals.

Secrecy and Tibetan publications on mercury formulations

Knowledge transmission in Asian medicine is known for the challenges it faces negotiating between the concealment and the publication of techniques that have often preserved not only knowledge but also the livelihood of family-lineage based enterprises (e.g. Blaikie 2013; Hofer 2011). Balendu Prakash's Ayurvedic family lineage, introduced earlier, based their mercury formulas on a handwritten manual passed down through

234 This was probably the Twelfth Degé King, Lodrö Gyatso (1722–1774), who was trained in and practiced medicine. See Sonam Dorje (2013).

235 This text is titled *Bdud rtsi bcud kyi rgyal po rin chen dngul chu btso bkru chen mo'i sbyor bas grub pa'i bcud len du bsgyur ba'i lag len rnam par gsal ba 'tsho byed mkhas pa'i snying bcud* (Kongtrul Yönten Gyatso 1986). It is part of the collection edited by Tashi Tsering. See text 12 in Appendix D.

generations (Prakash 2013). In sixteenth-century Tibet, the "writing from experience" *(nyams yig)* became a special genre in Tibetan medical literature that valued the individual physician's diagnostic and therapeutic experience in written form; some of them became a "kind of patrimony, a possession to be guarded against competitors" (Gyatso 2004, 86).

In the early 1980s, several manuals on the making of *tsotel* and precious pills were circulated privately by Tibetan doctors in Dharamsala, but none of them were published or available to medical students at large. In this section, I ask the question: Why have some Tibetan physicians and scholars chosen to publish Tibetan texts on *tsodru chenmo*, and why have others kept silent about it? How have mercury practices been influenced by the ways in which knowledge of the processing methods has been transmitted through published works?

The arrival of Lamenpa Tenzin Chödrak in Dharamsala led not only to the first manufacturing of *tsotel* in exile, but also to the first and only published collection of Tibetan mercury formulations in India. This was initiated by Tashi Tsering Josayma (Fig. 29), who, from 1980 to 1998, was the head of the Publication Department at the Library of Tibetan Works and Archives (LTWA) in Dharamsala. He collected twelve Tibetan medical texts on mercury and published them as *Collected Works on Mercury Formulations (Rin chen dngul chu sbyor sde phyogs bsdebs)* through the LTWA (Tashi Tsering 1986, see Appendix D). When we met in Dharamsala in December 2012 for a meal of *momos* (Tibetan meat dumplings) and *thukpa* (noodle soup) at his then favorite restaurant, I asked him what motivated him at that time to collect texts on mercury. Listening to him, I understood the ways in which his own motivation hinged on issues of lost lineages and changes in knowledge transmission. He began with his own family:

> My father's maternal lineage was from a family amchi lineage, of which the last doctor died in 1964 in Manali, India. His name was Gowa Tashi Tsering. I was told the lineage came from Ngari and had been unbroken since the sixteenth century. So I grew up with knowledge of medicine. My father's uncle was also a physician, but I do not know the story because he died in 1962.

Dipping a *momo* into spicy chili sauce, I wondered how it must feel to be part of a family of a lost medical lineage. Tashi Tsering continued,

> When Tenzin Chödrak made *tsotel* in 1982, it reminded me that most pharmacy practices are done in secret, and were passed on from father to son. When the Mentsikhang in Lhasa was established in 1916, they mostly enrolled monks from central Tibetan monasteries; then they were sent back as amchi. Many disrobed and became laymen and sent their children back to the Mentsikhang for training. The same practice continues in exile.

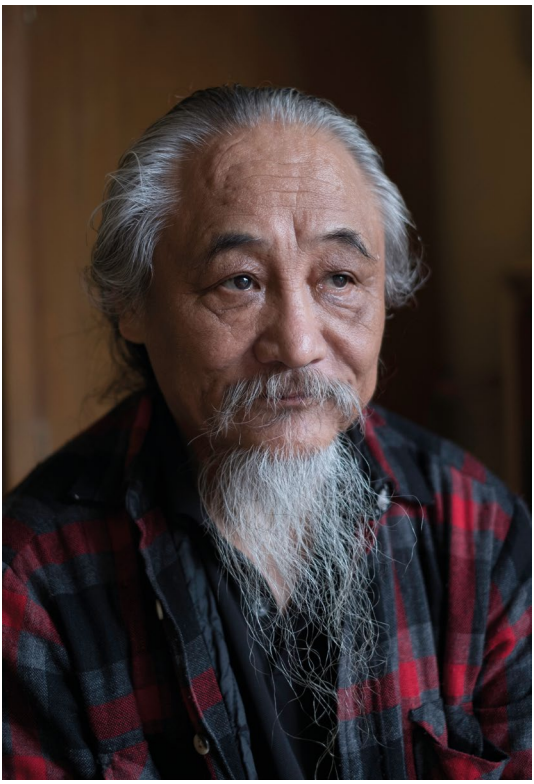

Figure 29: Tashi Tsering Josayma at the Amnye Machen Institute in Dharamsala in 2017. He collected twelve medical texts on mercury and published them as *Collected Works on Mercury Formulations*. Photo: Thomas K. Shor (Shor 2017 / CC-BY-SA 4.0).

He was clearly aware of the changes in Tibetan knowledge transmission. I asked, "How was it when Tenzin Chödrak suddenly arrived in Dharamsala, having the knowledge of making *tsotel*?" Tashi remembered:

> When Tenzin Chödrak came to Dharamsala, we realized how special and sacred it is to make *tsotel*. You need a sponsor; it is super secret and expensive. How can it go on passing just from father to son? In Tibet, because of the government taxation system, the trade remained in one family. [...] In Dharamsala, there were thirty young doctors who did not have family lineages anymore! Now the knowledge has to pass down to anyone who is interested. For that reason you need to publish the texts. Yeshi Dhonden and Tenzin Chödrak were monks; they had the texts—but no sons.

We paused. I knew that neither of these two widely respected physicians published any significant details about mercury practices. Tenzin Chödrak

only left some notes on *tsotel* manufacturing with one of his students at the Men-Tsee-Khang and gave a few historical details in his biographies. They both represented a generation of practitioners that held knowledge secretly. To date, apart from a detailed *tsotel* manufacturing description in Dawa Ridrak's book (2003) explored below, Men-Tsee-Khang-trained physicians have published only one translation of a mercury formulation in English (Gyatso 1991) and two articles in Tibetan—one on *tsotel* (Penpa Tsering 1997) and one on the shorter mercury processing techniques *kardül* and *tsadül* (Namgyal Tsering 1997).

Thinking about the undisclosed skills of the practice, I then wondered aloud, "How did you find the texts and motivate the doctors to give them to you, since they were considered secret?" He laughed, "That was the only problem: to make them share the texts and the knowledge!" Curiously, I asked, "How did you convince them?" He answered,

> At that time, I had not seen the text by Gurupel.[236] I knew it existed from reading the mercury texts by Kongtrul Yönten Gyatso. In 1981, a week after Tenzin Chödrak arrived, I met him. He allowed me to copy some of his texts, but not the *ngülchu* text. In 1984, I met him for the second time. [...] At some point he agreed to let me publish it. The other texts I received from the Late Jamyang Tashi of Tsona,[237] as well as from Lobsang Tashi from Dromo.[238]

I then asked, "Which of the texts was the most interesting to you?" Tashi Tsering was certain of his answer: "Among all the texts I collected, the text written by Orgyen Tendzin [fl. nineteenth century] is the rarest. Even Tenzin Chödrak did not know this text; it was never published before. It was written in Lhasa. It is extremely rare." I remembered Lamenpa Orgyen Tendzin Gyatso from my list of physicians who made *tsotel* in Lhasa in 1893 under the Thirteenth Dalai Lama (see Chapter 3). He wrote two texts, both of which are in the *Collected Works on Mercury Formulations*.[239] Tashi Tsering continued:

---

236 This text is based on the oral instructions of Situ Chökyi Jungné and titled *Srid gsum gtsug rgyan si tu chos kyi 'byung gnas kyi zhal lung dngul chu btso chen dang rin chen ril bu'i sbyor sde zla ba bdud rtsi'i thig le ces bya ba bidza ha ram sde dge'i drung yig gu ru 'phel gyi zin bris* (Degé Drungyig Gurupel 1986). See text 11 in Appendix D. Situ Chökyi Jungné himself authored *Dngul chu btso bkru chen mo'i lag len 'chi med bdud rtsi'i bsrubs shing*, an extant but unpublished manuscript on mercury processing (Czaja 2013, 90).

237 Lamenpa Jamyang Tashi of Tsona (1918–1986) studied at the Mentsikhang in Lhasa, became head of the Men-Tsee-Khang pharmacy in Dharamsala in 1963, and the personal physician of the Fourteenth Dalai Lama in 1976. On his life, see the official website of Amchi Lobsang Tsultrim (2019).

238 Amchi Lobsang Tashi worked at the Men-Tsee-Khang in Dharamsala from 1963 until 1971 (Kloos 2010, 68, 74). He later worked at the Kalimpong Men-Tsee-Khang branch clinic for many years and retired in Switzerland.

239 The first is a short description of how to make the precious pill Rinchen Tsodru Dashel *(Rin chen dngul chu btso bkru zla shel ril bu'i sbyor ba drang srong rgyun shes kyi lugs khol du phyungs pa)*; the second is titled *Rin po che'i sbyor ba'i gtso*

> Amchi Lobsang Tashi had a copy, which was written in *khyuk yik* [*khyug yig,* Tibetan cursive writing]. I saw it by chance in his collection. I established some contact through a friend of mine who is from the same village as Lobsang Tashi and requested a copy.

Approaching someone from the same region was the culturally appropriate way to appeal to Tibetans one did not know closely. Tashi spoke further on this, saying "we had to copy it into *u chen* [*dbu can*, Tibetan printed script]. Finally, we got a calligrapher to prepare the final version." I pondered on the rarity of the texts and how exciting it must have been to finally see them in print. "What was the impact of the publication?" I asked, not anticipating his answer. "Absolutely none," he said with a sense of disappointment. "We printed 150 copies and hardly any doctor bought it. It is still available." He then went on to complain about the lack of teaching medical history at the Men-Tsee-Khang. After lunch, Tashi Tsering and I parted, but the next day he invited me to the Amnye Machen Institute to copy more texts on mercury, among them a reprint of an early manuscript from the twelfth century, which he thinks predates Rinchenpel's work.[240]

The *Collected Works on Mercury Formulations* is the only collection of classical Tibetan medical texts on mercury processing that was published in India. One of its texts was also reprinted by Amchi Tashigang in Leh (Degé Drungyig Gurupel 1985). Apart from that, the Tibetan physician Dawa Ridrak is the only contemporary Tibetan physician in India who wrote in detail on mercury practices. Born in Lhokha (southern Tibet) in 1963, he came to India in the 1980s and graduated from the Men-Tsee-Khang in 1991. He worked at the Men-Tsee-Khang pharmacy for ten years and also directed the Herbal Product Research Department. In 2003, Dawa Ridrak published a detailed chapter with photos on the 1994 *tsotel* event in his self-published *menjor* book, which largely contains formulas (2003, 402–451). He was also instrumental in getting the first samples of *tsotel* and precious pills to Sara Sallon for chemical analysis, before the toxicity study became an official Men-Tsee-Khang project.

I interviewed Dr. Dawa Ridrak at his home in New York, where he now lives with his family. Like many physicians who left Men-Tsee-Khang,[241] he has found a new life in the US. We met several times between 2011 and 2014, and I always noticed his innovative ideas on new supplements, as well as his dedication to collecting material for new publications. In 2011, I asked him why he published his account on making *tsotel*. He said:

---

bo bdud rtsi bcud rgyal dngul chu btso bkru che mo'i lag len snying por dril ba phan bde'i gter mdzod. See Orgyen Tendzin Gyatso (1986a, b) and texts 9 and 10 in Appendix B.

240 These are two small works on *ngülchu* by the first Drigungpa Jikten Sumgön (1143–1217), found in the *Collected Writings* of Barawa Gyeltsen Pelzang (1310–1391; 1970, vol.12, 512–517).

241 See Kloos (2010) on the issue of frequent resignation of amchis from Men-Tsee-Khang.

> In the past, the masters had very sharp brains. By just seeing they understood everything. These days the brain is not so smart, we still get confused even with writing everything down. So, I took many notes when we made *tsotel* in 1994. I also took photos and collected notes for several years, but I could not publish them for a number of reasons, one being financial. Then, around 2001, there were a lot of controversies about mercury in Europe [he refers to the safety scandals in Finland and Switzerland, see Chapter 7]. Because of that, I felt we had to clarify the scientists' doubts, so I published this. It was my own idea; there was no request made by the Men-Tsee-Khang.[242]

In Dawa Ridrak I saw a young physician who chose to document the *tsotel* practice and offer it for scientific study, preferably in a laboratory. He even collected samples from the different stages of making *tsotel* and wanted to test them in a laboratory to detect any chemical changes that occur between the processing steps. He could not find any support, though the approach of the Men-Tsee-Khang towards such studies has changed over the years with changing directors (see Chapter 2).

I questioned Dawa Ridrak on the secrecy of the practice. As the short title of his book implies, he gave the "key to open a secret door" *(gsang sgo 'byed pa'i lde mig)*. Several physicians I met in Dharamsala have voiced their concerns, believing it should not have been published. This might be linked to tantric ideas that the secrecy of a method might also affect the potency of a substance and comes with a certain responsibility for the author who writes about it. In his analysis of secret medicines in the writings of Sangyé Gyatso, Tony Chui (2019, 16) remarks: "As with other tantric teachings, keeping potentially dangerous tantric substances from the uninitiated was the responsibility of the author." Moreover, tantric substances are known to unfold their potency more fully when handled secretly (2019, 15). Dawa Ridrak knows that this knowledge could potentially be abused, but thinks the benefits are larger:

> Some have the feeling that I opened up what was considered secret. Many doctors won't talk or tell anything about making *tsotel*. But, we should remember, the *Four Treatises* are also secret, it is also a "secret oral instruction" *[gsang ba man ngag]*, and is now published in many languages. Of course, there are many things to check if a person is fit to receive the teachings or not. Since the medical tantras have a connection to tantric rituals, they are considered secret. If someone without proper experience tries to detoxify mercury, it can be very harmful. [...] Many doctors and others liked this book. There was no special recognition from the Men-Tsee-Khang office. But what I wrote is not something new. I collected it from other

242 Interview, New York, July 21, 2011.

> sources. However, one mistake I made in this book is that I did not give my sources in detail. But since I published this, it has become available. For some interested doctors it is helpful, especially for the doctors who practice in the Himalayan belt.[243]

I asked Dawa Ridrak if anyone had tried to make *tsotel* following his book.

> Not that I know of, but it has planted some seed in them on how, for example, the gold is purified. In the past the gold was made thin with a hammer but now it can be done mechanically.

He excitedly opened the book and showed me the photograph of a little machine that makes gold plates as thin as bee wings (Dawa Ridrak 2003, 429), thus revealing his openness to empirical innovation in pragmatic ways.

A few months later, during the Sowa Rigpa workshop in Kathmandu, mentioned before, I saw for myself that his book had become popular among Himalayan amchi. Many of the amchi I spoke with during the workshop used Dawa Ridrak's book for their *menjor* training and practice. None of them, however, had ever made *tsotel* and did not think it was possible to make it based on the book without receiving the seeing transmission. As described above, Tibetan knowledge transmissions are complex, and reading a printed text is only one aspect of learning; it is never sufficient to gain an entire skill, but Tibetan medical history shows that it has been an essential aspect that ensured the continuity of *tsodru chenmo* across centuries.

During the workshop in Kathmandu, the twelve amchi attending from Tibet had all received the *tsotel* transmission from Khempo Troru Tsénam, the famous Tibetan physician and trained scholar from Katok Monastery in eastern Tibet, who was instrumental in spreading the *tsotel* lineage in the PRC after the Cultural Revolution (see Chapter 3). He published a detailed *tsotel* manual (Troru Tsénam 2001, 2012) and his students continue to publish on *tsodru chenmo*, including photographs of the processing steps (e.g. Nyima Tsering 2009; Sönam Bakdrö 2006). Due to the widespread training of *tsotel* manufacturing in the PRC, many pharmacies are able to make precious pills today. A study on the exact knowledge transmission of *tsodru chenmo* in the PRC is still lacking and would require intensive study and fieldwork, which was not part of this project.[244]

---

243 Interview, New York, July 21, 2011.

244 See Sönam Bakdrö (2006, 57) and Lappendum Lozang Lodrö (2006, 241/2–245/7) for published details on the making of *tsotel* in Tibetan pharmacies in the PRC. Studying with senior physicians, such as Gyayé Lobsang Nyima at the Qinghai Provincial Tibetan Medical Hospital who has made *tsotel* more than thirty times in his lifetime, would provide opportunities to more deeply understand many aspects of *tsodru chenmo* (Tawni Tidwell, personal communication, October 4, 2019).

As for secrecy, anthropologists have acknowledged that it is part of the everyday negotiation of knowledge in many societies, serving a variety of social purposes (e.g. Piot 1993; Luhrmann 1989; Herdt 2003). The material presented here raises issues of secrecy surrounding the sharing of *tsotel* techniques in published form and through selective training. This secrecy debate hinges on questions of keeping or giving away the details of a *menjor* skill to (un)suitable students.[245] It also hinges on ideas of potency, just mentioned, and issues of safety, since dealing with mercury can be dangerous, and an incomplete knowledge transmission is additionally considered unsafe.

Gen Rinpoche Rakdo Lobsang Tenzin mentioned this in one of our conversation at CIHTS in Sarnath when I asked him whether they were visually documenting their manufacturing of *tsotel*. "So far we haven't," he said with some reluctance. "Someone could write it down and try to make it, but if the resulting *tsotel* did not have good quality—something can easily go wrong—it would not be safe." He then affirmed, "It is not just about secrecy; safety is most important. Some might try to practice, but they do not have the knowledge."[246] While he is keen to teach the *tsotel* technique to all his students, at the same time, he is extremely careful to ensure the safety of his students and the entire procedure.

Publishing manuals of how to make *tsotel* (with or without photos) might override some of these secrecy and safety concerns. As I have shown, in India this has been done with varying motivations. Tashi Tsering Josayma with his *Collection of Mercury Formulations* wanted to support the practice within the changing culture of knowledge transmission among Tibetans in exile and the lack of family lineage training opportunities. The gap, he argued, can be partly filled by printing the classical *tsotel* texts. For Dawa Ridrak, the motivation for publishing a *tsotel* account with photographs was to explain his tradition to Western scientists. He would like his medical knowledge to stand the test of modern chemistry and see Sowa Rigpa contribute to global health.

Today, the debate among Tibetan physicians and their institutions on publishing formulas and pharmacological techniques also hinges on the question of who "owns" the knowledge of *tsotel* pharmaceutical practices.[247] As mentioned earlier, *tsodru chenmo* has remained for the most part a uniquely Tibetan practice. *Tsotel* is largely manufactured along the lines of *chöyön* networks (except at large institutions), and is currently not manufactured by Sowa Rigpa practitioners in Ladakh, Nepal, Bhutan, Buryatia, and Mongolia. Here, ownership becomes not only a question of intellectual property, but also of Tibetan cultural identity. The case of ownership with

245 The *Four Treatises* has a dedicated chapter titled "Entrustment," discussing to whom medical knowledge should be transmitted and to whom it should not. See Gerke and Ploberger (2017b) and MTK (2015, 294–307).

246 Interview, Sarnath, December 24, 2012.

247 Saxer (2013, 74, 147–148) has written about the patenting of precious pills in the PRC; also summarized and discussed in Gerke (2019c, 344–345).

regard to *tsotel* practices is also an issue of gender. To date, with a few exceptions highlighted in Chapter 5, *tsotel* has been manufactured and its lineage transmitted only by male practitioners.

Secrecy and gender are deeply linked to ideas of taming, and the next chapter will explore the main reasons why taming mercury has been a widely gendered practice and how this has been affecting the *tsotel* knowledge transmission and cultural translations of toxicity and safety in contemporary Sowa Rigpa mercury practices.