Chapter 3

# The Pharmaceutical Nexus of Mercury Practices

This chapter investigates how poisons become powerful agents not only in the making of rejuvenating "precious" medicines, but also how they were used to purify and control social and physical environments. As we shall see, actual events of taming mercury and the manufacturing of the complex mercury sulfide compound *tsotel* have been embedded in the well-known Tibetan dynamics of socio-religious and economic support—called *chöyön (mchod yon)*—since the thirteenth century. Later in the book, we will see that *chöyön* dynamics still impact the ways in which science is employed today by Sowa Rigpa practitioners and their institutions in exile in India to prove the safety of *tsotel* (Chapter 7).

In what follows, I explore how complex socio-historical, cosmological, political, economic, and medico-religious dynamics of *tsotel* can be better understood from the anthropological perspective of the pharmaceutical nexus, which to date has been largely applied to biomedical drugs. My analysis here builds on and modifies the theoretical approach developed and applied by anthropologists to global pharmaceuticals (Petryna, Lakoff, and Kleinman 2006; Seeberg 2012; van der Geest 2006).

In the introduction to their edited volume on global pharmaceuticals, Petryna and Kleinman (2006, 20–21) define the pharmaceutical nexus as capturing "a broad set of political and social transitions that fall under and to some extent happen through the globalization of pharmaceuticals." They focus on the biomedical pharmaceutical industry and the multiple stages a drug goes through from processing to being sold and consumed, as well as the interconnections between state, market, and regulations in a globalized world. They argue that this "is a multiscaled movement with political, economical, and ethical dimensions. Together these dimensions constitute a pharmaceutical nexus" (Petryna and Kleinman 2006, 20).

They approach the pharmaceutical nexus in three ways (2006, 20–22):

(1) As an empirical object, by which they mean basically the pharmaceutical industry, but also its expansion and inclusion of core actors such as "states and populations, governmental and non-governmental

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actors, medical professions and patient groups, persons and subjectivity" (2006, 21).

(2) As a problem, in that the nexus appears differently to different stakeholders: for example, drug developers face problems of being curtailed by regulations, manufacturers have to negotiate resources and prices, policy makers weigh national and international interests, and patient groups are concerned with access to affordable and safe drugs.

(3) As a method of inquiry, which refers to the authors applying the pharmaceutical nexus as a tool to rethink "Big Pharma," including ethnographic microanalysis to reflect on the industry's ethical practices and its politics that impact health and the global (un)equal distribution of drugs.

Jens Seeberg applied the concept of pharmaceutical nexus to the biomedical pharmaceutical industry in India with an emphasis on the local—what he calls the molecular level—as well as by including "the state as a necessary actor in the nexus" (Seeberg 2012, 183). In his case, the state acts mainly to regulate and control the poor quality of healthcare services that reveal a pattern of under-diagnosis and over-prescription of drugs. Seeberg's emphasis on the state is an important element of the pharmaceutical nexus, but his focus is mainly on state control. Using the examples of historical and contemporary *tsotel* events, I will instead show how the state and other government entities can also play other roles in pharmaceutical production.

The pharmaceutical nexus was developed by anthropologists as a concept for the analysis of biomedical drugs in the contemporary global world, in order to deal with the enormous complexity social scientists face studying pharmaceuticals today. I hold that when using it in an Asian medical context, such as for the historically rich tradition of Sowa Rigpa, some adaptations and modifications are necessary. My application of this framework to Sowa Rigpa raises several questions, such as whether the pharmaceutical nexus is still useful when applied to earlier historical periods, during which the role of the state and its approach to medical practices were considerably different. As we shall see, during the Cultural Revolution the *tsotel* practice was carried out once in a Chinese labor camp, revealing a mix of state suppression and support. Moreover, the social networks and political relationships surrounding mercury practices in Tibet's history were of a particular character (explained below), which were also to some extent re-established in exile in India.

In addition, does the framework hold when looking at the "political, economic, and ethical dimension" of such diverse drugs as *tsotel*-containing precious pills compared to antiretroviral drugs, antidepressants, or antibiotics? Notably, *tsotel* in itself is not a pharmaceutical drug but an

organometallic, mercury sulfide-containing compound that is added to several other complex formulas, mainly a variety of precious pills. *Tsotel* is never administered alone, but considered beneficial when included in other formulas, since it is meant to enhance the potency of other compounds. Making *tsotel* is also not an isolated event; it has wider impacts on the surrounding community. Tibetan understandings of taming enlarge the significance of processing mercury beyond pharmaceutical settings. Taming mercury also entails the translation of economic and political prestige into medical practice. In Tibet, for instance, taming a poison also meant taming political enemies and harmonizing political relations. Here the pharmaceutical nexus involves not only physicians but also entire communities and their political leaders. Moreover, the community is part of a *tsotel* event, even though mercury is refined in an enclosed setting. The community shares its success and blessings not only in the form of medicine; the process of taming itself is also believed to foster a more beneficial and peaceful environment and bring forth good crops. Thus, the pharmaceutical nexus of taming mercury also has ecological, environmental, social and religious factors. All these aspects should be considered when creating a broad framework to develop an anthropological and socio-historical understanding of this pharmaceutical practice.

Recently, Stephan Kloos introduced the "pharmaceutical assemblage" as a heuristic tool to study the Sowa Rigpa industry in order to generate the "bigger picture" of "the terrain created by ingredients, medicines, knowledge, people, the market, culture, politics, science, or intellectual property rights together" (Kloos 2017a, 714). He suggests that a sustained focus and deeper study of the pharmaceuticalization of Asian medicines would then allow us to apply the same analytic framework as for biomedicines and as part of the pharmaceutical nexus. As I suggest below, the pharmaceutical nexus first requires some modifications to become a suitable analytic framework for complex Asian medicines, which have a long-standing history.

Initially, I employed the notion of "the social lives of medicines" (Whyte, van der Geest, and Hardon 2002) to approach the multifaceted elements that make up the social biography of *tsotel* (Gerke 2013b) because it ends up in many different medicines and plays a variety of spiritual, economic, therapeutic, and political roles. This notion provided a helpful preliminary overview of the multiple dimensions involved in its production, commodification, and regulations. On reflection, while suitable for individual Sowa Rigpa drugs,[87] I found the approach of uncovering biographies of medicines (building on Appadurai 1986; Kopytoff 1986; and van der Geest et al. 1996) too limiting to thoroughly analyze the complex impact of taming on societies, religion, politics, ecologies, gender, and medicines. To follow

87 This approach worked well in Sienna Craig's biography of the Tibetan birth pill Zhije 11 (Craig 2012, 215–252), which presents the multifaceted realities that surround one medicine in transition from a simple Tibetan prescription drug to a trial drug, validated by biomedicine.

*tsotel* and its use in precious pills through the typical biographical order of the "life-cycle" of drugs, i.e. "from production, marketing, and prescription, to distribution, purchasing, consumption, and finally their efficacy," as laid out by van der Geest et al. (1996, 153) would miss out on the more complex aspects of taming and its broader effects. Moreover, the focus of this book is not on the consumption or efficacy of *tsotel*-containing medicines, but on the underlying ideas of taming mercury that inform perceptions of its toxicity and safety.

I consider the pharmaceutical nexus a useful analytical tool since my overarching theme of taming is found in each of the three approaches laid out by Petryna and Kleinman above (2006). Moreover, I add two approaches to make the concept more applicable to Asian medicines and their historical elements. Thus my five approaches to the nexus that are explored in this book are:

(1) The pharmaceutical nexus **as an empirical object** (the industry and beyond): I show how taming as a key Sowa Rigpa *menjor* principle of handling mercury as a poison impacts all core actors involved in *tsotel* events: the professionals processing *tsotel*, the surrounding community and ecology, and the dynamic support system involving religious and political figures.

(2) **As a problem:** Using mercury in traditional medicine poses a range of problems that are perceived differently by different stakeholders: the physicians processing it, scientists analyzing its Hg content, consumers buying or taking precious pills, those making or demanding Tibetan medicines without mercury, or the women excluded from taming it. This second aspect of the nexus concerns the problems of safety, how evidence of safety is created and how taming mercury is perceived, handled, questioned, translated, negotiated, and presented to the public and at conferences, how Sowa Rigpa institutions and physicians negotiate the scientific approach of detecting mercury atoms, and how they collaborate with scientists to prove *tsotel*'s safety, and so forth.

(3) **As a method of ethnographic inquiry:** Exploring the entire nexus across this book will make us rethink the role of global toxicity regulations for Asian medicines and question what is at stake in the cultural translation of toxicity and identifying who gets "tamed" by whom. It will also make us re-think the ways in which the pharmaceutical nexus of a traditional Asian practice is marked by both religious and medical empiricism, where religion is not a domain distinct from medical knowledge but actually informs it (see Chapter 4), and what this tells us about the nature of a pharmaceutical product. Based on the results, in the conclusion I will also raise questions about the future of traditional mercury practices in India.

(4) **As a process over time:** So far, the pharmaceutical nexus has only been applied to contemporary biomedical drugs. As far as we know, complex mercury processing techniques, such as *tsodru chenmo*, came to Tibet in the thirteenth century. To understand Tibetan mercury practices over time I also raise questions such as, how can we approach historical *tsotel* events as part of the nexus? How did events and texts impact drug production and availability of precious pills and the knowledge transmission of taming mercury over time? Even though, through historical sources, we have more fragmentary access to the nexus of a drug in the past than in the ethnographic present, I expand the pharmaceutical nexus as an analytic tool to include historical elements (texts, events, and lineage transmissions) of a traditional pharmaceutical practice from particular historical periods. Moreover, early tantric paradigms of taming have affected notions of gender and secrecy over time; this has translated into specific ways of transmitting medical knowledge (Chapters 4 and 5). I hold that such historical aspects and developments should be considered a part of the pharmaceutical nexus because they impacted medical knowledge transmission and still greatly affect the ways medicines are made today in different Sowa Rigpa institutes.

(5) **As a self-reflexive process:** Van der Geest critiqued the lack of self-reflexivity of anthropologists, who "fail to see themselves in the nexus of pharmaceuticals" (2006, 313). His critique mainly addresses those anthropologists who write about the nexus but do not "contribute to the actual improvement of distribution and use of pharmaceuticals" (van der Geest 2006, 313). This assumes the anthropologist has passed judgment about the medicines' benefits, which leads us to slippery ground when dealing with substances considered toxic when unprocessed, and medicines that so far have not been tested for their efficacy.[88] While I wholeheartedly agree that we owe something back to our informants, reciprocity can take many forms, as I mentioned in the introduction. Here, as part of an expanded pharmaceutical nexus I include the self-reflective element of an embodied sense of toxicity.

Any anthropologist has to be honest about how she is affected by her own poison culture (Arnold 2016; Buell 1998) and how it can be embodied in her reactions when confronting toxic substances in the field. I experienced this when ethnographically observing the distillation of mercury from cinnabar (Introduction), mercury spills in the Old Delhi bazaar (Chapter 2), and

88 Sarah Sallon made it clear in her two conference presentations (2012, 2016) that her two studies on *tsotel* researched whether mercury-containing Tibetan medicines are safe, not whether they are efficacious.

the roasting of cinnabar for pill coating (Chapter 6). Note that all of these relate to mercury vapor exposure during trade and simple forms of processing and not to *tsotel*, which is a rather stable mercury sulfide ash. It is necessary to be aware of the positionality of one's own embodied sense of toxicity as part of the larger nexus in which toxic substances are processed, since it affects the cultural translation between anthropologists and the people they work with.

Taken all together, analyzing the data through the lens of this expanded pharmaceutical nexus, I aim to show that this anthropological approach helps to provide a deeper understanding of traditional pharmaceutical practices and their manufactured medicines over time. I begin by analyzing the complex social dynamics of support that have been in place in Tibetan communities for a long time to sustain the expensive and complex manufacturing of *tsotel*. What did the pharmaceutical nexus of making *tsotel* look like during those centuries when the Tibetan government, powerful monasteries, rich donors, and political figures all played a part in its manufacture? How has this nexus changed with the establishment of more institutionalized pharmacies in the Tibetan diaspora in India? The contemporary examples presented here are based on oral narratives—often of relatively small *tsotel* events—and speak of the continuation of *tsodru chenmo* among different medical communities that are not necessarily mentioned in medical histories published by Tibetan medical authors in the PRC or in India.[89] These events demonstrate impressive continuity and significant adaptability on the part of the actors involved in the changing political circumstances of mercury taming practices both in Tibet and, post 1959, in exile.

## Dynamics of support

The pharmaceutical nexus of *tsotel* practices when approached as an empirical object reveals a complex set of social relationships specific to the Tibetan dynamics of socio-religious and economic support, called *chöyön*, often translated as priest-patron or preceptor-donor relationship. *Chöyön* describes a relational dynamic between one party who is worthy of patronage, or *chöné* (*mchod gnas*, e.g. lamas and monasteries, or a *tsotel* event), and a patron or donor called *yöndak* (*yon bdag*, e.g. a local or foreign ruler), who gains merit, *sönam (bsod nams)*, through sponsorship.

The *chöyön* relationship has been described at length by many Tibetologists in the context of political alliances between Buddhist masters and (largely Mongolian, Manchu, and Chinese) political powers, where

89 For the PRC, these accounts largely mention key institutional *tsotel* events, partly listed in Czaja (2013, 96), and also in Lappendum Lozang Lodrö (2006, 241 / 2–248 / 11) and Sönam Bakdrö (2006, 48 / 1–57 / 21). Published *tsotel* records in India refer to Men-Tsee-Khang events (Choelothar 2000, 106 / 10; Dawa Ridrak 2003, 411 / 14–412 / 17).

armed protection, titles, and annual salaries were gifted in exchange for Buddhist teachings, ritual protection, and empowerments (e.g. Cüppers 2004; DeVoe 1983; Goldstein 1989; Jagou 2009; Ruegg 2013; van Schaik 2011; Schwieger 2015). This relationship network has been in place in Tibet since the thirteenth century. Stacey van Vleet (2016, 106) argues that during the seventeenth century, the Fifth Dalai Lama utilized this network to establish "an integrated Buddhist governance," also through his patronage of medical institutions.

Even today, the *chöyön* dynamics are at the core of interactions between Tibetan refugees, the Central Tibetan Administration (CTA) in Dharamsala, and Western donors (Kauffmann 2015). They also inform the symbiotic relationship between neuroscience and Tibetan Buddhism (Lott 2016). *Tsodru chenmo* events across history show that *chöyön* relationships have shaped the pharmaceutical nexus of *tsotel* and precious pill practices for a very long time (roughly since the thirteenth century). I argue that having been manufactured and gifted along the lines of *chöyön*, *tsotel* and precious pills have gained political, economic, and spiritual potency; at the same time, the falling away of *chöyön* support in more recent times has contributed to the loss of *tsotel* practice among the institutionally trained amchi in exile.

Precious pills hold a special position in Tibetan medical history, and in the historical accounts we find hints that the dissemination of this specialized knowledge for their manufacture—which included the knowledge on making *tsotel*—was surrounded by secrecy and involved political networks, elite financial support, and even sectarian struggle. Precious pills hold what Kloos calls political efficacy (Kloos 2012), in that they were used as gifts for high-ranking officials and wealthy patrons, who often sponsored the expensive, labor-intensive, and time-consuming manufacturing process within the *chöyön* dynamics. The Ganden Podrang Government, headed by the Dalai Lama in Lhasa, sponsored the making of *tsotel* and precious pills several times beginning with its establishment in the seventeenth century and promoted *tsotel* manufacturing into the early twentieth century.

In some regions of Tibet, *tsodru chenmo* came close to extinction several times when one or more of the *chöyön* actors were lost to sudden death, war, or socio-political conflict. In some instances, printed manuals helped to recover such losses. During the making of *tsotel* at the Powo Tramo labor camp in 1977, Tibetan physicians relied heavily on an important eighteenth century manual that had survived the Cultural Revolution in eastern Tibet. *Tsotel* texts thus also form an important part of the pharmaceutical nexus since they help ensure the continuity of the practice.

Each of the different manifestations of *chöyön* needs to be analyzed in its own local and historical context (Ruegg 2013, 225). Overall, my examples show that Tibetan physicians tapped into existing *chöyön* dynamics to attract support for the complex and expensive *tsodru chenmo* process to manufacture *tsotel* that would have been difficult for them to manage alone. I interpret the combined efforts of all actors involved in

*chöyön*-supported *tsotel* events also as attempts to partake in the larger benefits of taming practices, gaining merit, benefitting from the blessings, medicines, or political or ecological taming powers ascribed to successful mercury processing. Moreover, *chöyön* networks significantly impacted the ways *tsotel* and precious pills were seen and used as medicines, ritual substances, or valuable gifts to establish political alliances. *Chöyön* networks thus also influenced ideas of the pills' benefits.

The following two sections present two examples that highlight how conflicting state support in different historical periods affected *tsotel* production. First, I take the example of how the *tsodru chenmo* practice was established in Lhasa under the Dalai Lamas (summarized in Table 1, p. 96–98). This highlights some of the political aspects involved in taming mercury in the past and how precarious the continuity of its knowledge transmission could be if a *tsotel* event failed to manifest. This focus on Lhasa is an example and should not draw attention away from important mercury practices in eastern Tibet (Chapter 4) or small-scale mercury processing in smaller monastic and lay settings (see Hofer 2018, 74–76). Second, the making of *tsotel* in a Chinese labor camp during the Cultural Revolution explores a very difficult time in the history of Sowa Rigpa with varying forms of governmental support and suppression.

## The Dalai Lamas and mercury practices

The Dalai Lamas, an important institution of reincarnated spiritual and religious leaders of Tibet, had been based in Lhasa since 1642. Several of them were short-lived (Mullin 2001), which contributed to the challenges involved in establishing a complicated medical practice that required governmental and spiritual patronage. Twice the early deaths of Dalai Lamas curtailed the manufacturing of *tsotel*. Until the seventeenth century the Gelukpa, the branch of Tibetan Buddhism associated with the Dalai Lamas, "had no significant medical school of their own [...] that could compete with the Kagyüpa medical traditions," (Czaja 2013, 86) which had been firmly established in eastern Tibet (Kham).[90]

It was in the midst of a political struggle at the time of the Fifth Dalai Lama, Ngawang Lobsang Gyatso (1617–1682), that the practice of making *tsotel* and precious pills was introduced to Lhasa. This resulted in what we can see as an example of how Sowa Rigpa practice played out within the power struggles between Buddhist schools. Czaja (2013, 83–86) details the story of how the Gelukpa were keen to receive the *tsodru chenmo* transmission from the Drigung Kagyü school of Tibetan Buddhism in order to establish their own tradition of processing mercury and producing precious pills

90 See Stacey van Vleet's doctoral thesis (2015) for details on the medical schools in Tibet before and after the Fifth Dalai Lama and their alliances to different Buddhist schools.

in Lhasa. Precious pills were not only taken as medicines, but also worn as amulets. Their strong religious emphasis and acclaimed spiritual protection, especially from (at times politically motivated) poisoning, proved to be a valuable asset for the Dalai Lama's Ganden Podrang Government.

The Fifth Dalai Lama and his regent, Dési Sangyé Gyatso, established various medical schools after 1643 (see Sangyé Gyatso 2010, 326). The most important one is known as Chakpori, named after the Iron Hill it was built on in Lhasa in 1696. These monastic medical schools "incidentally ensured that elite medical practice was an exclusively male preserve" (McKay 2007, 32–33). Medicine was one of the many areas in which a more centralized, institutionalized, and Buddhist-oriented government established its influence (Schaeffer 2003a; van Vleet 2015, 2016), but it was also a domain of debate and contestation (Gyatso 2015; McGrath 2017a, b). The Fifth Dalai Lama reformed the production of precious pills with an emphasis on the Zur medical lineage *(zur lugs)* (van Vleet 2015, 72, 151–157).

The first *tsotel* event under the Fifth Dalai Lama took place in 1669 (Dawa Ridrak 2003, 409/10; Sönam Bakdrö 2006, 46/7–10). Thereafter, the chief physician, Darmo Menrampa Lobsang Chödrak (1638–1710), who was trained by Drigung physicians and in the Zur medical tradition,[91] guided the making of *tsotel* in 1678, four years before the Great Fifth passed away.[92] Janet Gyatso (2015, 118) reports that the Fifth Dalai Lama, in an effort to locate and revive rare medical traditions, searched extensively for texts on mercury processing, and eventually located them at Nyanang in southern Tibet.[93] In 1678, Darmo Menrampa and his assistants made precious pills with precious stones the Dalai Lama had received as gifts while in Beijing in 1652; they also used jewels that had been gifted by Mongolian rulers (Czaja 2013, 84; Sangyé Gyatso 2010, 327).[94]

The two *tsotel* events of 1669 and 1678 also fall into the period of a renewed and intensified intellectual exchange between Tibetan and Indian scholars (1654–1681); according to the Fifth Dalai Lama's autobiography, approximately forty Indian scholars visited the court during that time, a few of whom stayed several years in Lhasa (Schaeffer 2011, 293). Some of them helped in *materia medica* identification, brought medical substances from the Kathmandu valley, and wrote medical treatises (2011,

91 See van Vleet (2015, 154–156) on Darmo Menrampa recording precious pill recipes of the Zur medical tradition in his own works.

92 His death was concealed for fourteen years by his regent, who ruled until he was murdered in 1705.

93 Sangyé Gyatso (2010, 328) mentions that texts on mercury processing from the Orgyenpa tradition were passed down to Namkha Lha from Nyanang and studied by Darmo Menrampa.

94 According to Sangyé Gyatso's *Medical History (Gso rig sman gyi khog 'bugs)*, they prepared "Rinchen Drangjor, Rinchen Tsajor, Tarima [pills, …] and others" *(grang sbyor/ tsha sbyor/ rta ri ma/* […] *sogs*; Sangyé Gyatso 1994, 370/15–18). See also Ngawang Lobsang Gyatso (1991, 155/20–156/2). Dawa Ridrak lists Rinchen Tsodru Chenmo, Rinchen Drangjor Rilnak Chenmo, Rinchen Tsajor, and others, made in 1678 (2003, 409/19–23). See part three of the Glossary for the names of precious pills and other formulas containing processed mercury.

296). Although not explicitly mentioned, through these channels the court might have received some of the ingredients necessary for making *tsotel* and precious pills. For example, in 1677, the Brahman Devānanda gifted yellow orpiment to the Fifth Dalai Lama (2011, 294). This is a form of arsenic *(ba bla)*, one of the "eight elements" and an important substance to bind mercury. Sangyé Gyatso himself writes that ingredients for making precious pills had to be procured from across Tibet's borders:

> Therefore, because gem pills were not being manufactured correctly, the Great Fifth decided to perform a great act of giving in order to guard and protect the lives of living beings. He put a great deal of effort into collecting medicines from many other sources in search of those ingredients not found in his own storerooms. Moreover, when he visited the country of Tangkün, people came to him like iron filings to a magnet to make offerings. Queen Dorjé Rapten Ma came from upper Mongolia, and Emperor Chung Wang also brought offerings. These offerings included many rare gems, holy relics of our Teacher [...], a handful of golden myrobalan, clockwise-coiled white conches, milk from a white lioness, whiskers taken from a live tigress, diamonds, beryl of various colors, amber, quartz, pearls, and other inconceivable vajra jewels of men, gods, and nāgas [serpent spirits]. All these he gave up without any sense of loss, as if they were stones on the ground, thereby seeding a wonderful and virtuous tradition that resulted in the large-scale production of many varieties of gem pills (Sangyé Gyatso 2010, 327, translation by Kilty; see also Ngawang Lobsang Gyatso 1991, 155/10–20).

From Sangyé Gyatso's description and the list of ingredients, it becomes clear that these substances were not part of the general *materia medica* that physicians could easily procure by themselves; it required the support of the state and/or wealthy donors. Stacey van Vleet (2015, 157) argues that by using these expensive substances in precious pills, the "Fifth Dalai Lama performed a grand gesture of literally redistributing wealth through a health-giving edible (or wearable) pill." Importantly, existing *chöyön* relationships (including with the Mongols) were greatly strengthened by the Dalai Lama's newly established state medical system (van Vleet 2015, 23), which in effect also strengthened the pharmaceutical nexus of mercury practices.

However, not all political rulers of Tibet who attempted to make precious pills were successful in procuring precious substances through their networks. For example, the "kings of Gyantsé (Rgyal rtse), allegedly failed in this because they had to rely on the water in which precious stones had been soaked rather than using the precious stones themselves" (Czaja 2013, 85).

After the time of the Great Fifth, the Dalai Lamas tried to continue manufacturing precious pills in Lhasa, with varied success, often interrupted

by political strife and warfare, such as the occupation of central Tibet by the Dzungar Mongols in the early eighteenth century. In 1754, the Seventh Dalai Lama made plans for manufacturing precious pills at Chakpori Medical College, which failed due to his early death (Czaja 2013, 88). In 1783, during the reign of the Eighth Dalai Lama, Jampel Gyatso (1758–1804) 400 ounces of mercury were refined after three years of preparation (2013, 89).[95] The event took place at Lhalu gardens, behind the Potala, involving his personal physician as well as several physicians and monks from Chakpori Medical College.[96] We can assume that after this, the tradition was discontinued in Lhasa until the mid-late nineteenth century, when the Twelfth Dalai Lama—the fourth in a row of short-lived Dalai Lamas—had to turn to specialists from eastern Tibet, where mercury practices still flourished. In 1875, he ordered the governor of Nyakrong, Pünrapa Tsering Penden, to bring physicians from Kham to Lhasa to make *tsotel* on a large scale. These eastern Tibetan physicians had just successfully made *tsotel* in 1872 under the guidance of Kongtrül Yönten Gyatso. However, the plan fell through when the Twelfth Dalai Lama suddenly passed away (Czaja 2013, 94).

This historical period demonstrates that a medical practice that depends not only on trained physicians but also on government support and the spiritual guidance of esteemed Buddhist teachers could easily deteriorate when one of these support systems faltered. Between the Eighth and the Thirteenth Dalai Lama, a century passed without a documented government-supported *tsotel* event taking place in Lhasa. The "state" (Seeberg 2012)—in Lhasa, the Dalai Lama and his Ganden Podrang Government and in eastern Tibet, influential governors—clearly functioned as an important player in the pharmaceutical nexus by supplying the expensive ingredients, financing the event, and inviting expert physicians.

Upholding the *tsodru chenmo* tradition also had political purposes. In 1872, governor Pünrapa supported the making of *tsotel* in eastern Tibet and used it for "enhancing his status and to present himself as a benevolent leader, as he was disputed and involved in unabating power struggles" (Czaja 2013, 93–94). *Tsotel* production is thus also an event with political and cosmic significance, impacting political alliances and creating a tamed—or more peaceful—environment. A similar, more contemporary example is making *tsotel* in Lhokha, in 1991 (Gerke 2013b, 131–132; Jamyang Lhündrup, n.d.). Dr. Yeshe Gelek, who participated in this event and who was teaching at the Men-Tsee-Khang in Dharamsala when we met in 2012, explained: "There is a belief that if you do the Great Mercury Purification successfully, it brings good crops and auspiciousness for the entire area. In Lhokha the local people prepared a feast afterwards and made offerings. That year they had a very good crop. People were very happy." [97]

95 Czaja uses ounce as a rough equivalent to *sang (srang)*, a Tibetan unit of weight.
96 Sönam Bakdrö (2006, 56/18) places this event in 1795, the wood-hare year of the thirteenth Tibetan *rabjung (rab byung)*. The names of the physicians taking part in the event and the pills made are listed in Czaja (2013, 89).
97 Interview, Dharamsala, October 30, 2012.

Table 1: Documented *tsotel* events under the Dalai Lamas in Lhasa (1669–1921)

| **Dalai Lama** | **Year** | **Place** | **Precious Pills made** | **Notes** |
|---|---|---|---|---|
| Fifth Dalai Lama Ngawang Lobsang Gyatso (1617–1682) | 1669 | Below the Potala | ? | Requested by Pöntsang Namkha Lha (Dawa Ridrak 2003, 409/11; Sönam Bakdrö 2006, 46/8). |
| Fifth Dalai Lama Ngawang Lobsang Gyatso (1617–1682) | 1678 | Lubug Lingka Grove near the Chakpori Hill | Rinchen Drangjor, Rinchen Tsajor, Tarima pills, and others (Sangyé Gyatso 1994, 370/15–18). | Chief physician was Darmo Menrampa Lobsang Chödrak (1638–1710). Jewels that were gifted to the Dalai Lama during his trip to China in 1652 were used to make the precious pills (Czaja 2013, 84). |
| Seventh Dalai Lama Kelzang Gyatso (1708–1757) | 1754 | Chakpori Medical College | none | Preparations were made but processing failed, probably due to the early death of the Seventh Dalai Lama (Czaja 2013, 88). |
| Eighth Dalai Lama Jampel Gyatso (1758–1804) | 1783 (Czaja 2013, 89)<br><br>1795 (Sönam Bakdrö 2006, 56/18) | Lhalu gardens behind the Potala | Rinchen Drangjor, Rinchen Tsajor, Tarima, 'Powerful Pills called Stupas of Crystal,' Dugjom Wangril, and Dugjom Mangjor (Czaja 2013, 89) | Guided by the Dalai Lama's personal physician Lamenpa Jamyang Zhenpen. The religious and administrative aspects of the event were supervised by Tri Nominhan and the Ganden Tripa Ngawang Tsültrim. 400 ounces of mercury were processed. Preparations took three years (Czaja 2013, 89). |

Table 1 *(continued)*

| Dalai Lama | Year | Place | Precious Pills made | Notes |
|---|---|---|---|---|
| Twelfth Dalai Lama Trinlé Gyatso (1856–1875) | 1875 | – | none | The governor of Nyakrong was asked to bring physicians from Kham to Lhasa to make *tsotel*. The plan fell through when the Twelfth Dalai Lama passed away (Czaja 2013, 94, quoting Jamgön Kongtrul Lodrö Thayé 2003, 178–179). |
| Thirteenth Dalai Lama, Tupten Gyatso (1876–1933) | 1893 | Norbulingkha Palace and Zhapten Lhakhang shrine room | ? | 770 ounces of mercury were processed; mercury was provided by the government of the Thirteenth Dalai Lama and Demo Rinpoche Ngawang Lobsang Trinlé Rapgyé (1855–1899) (Czaja 2013, 94). |
| Thirteenth Dalai Lama, Tupten Gyatso (1876–1933) | 1919 | Lhasa | Rinchen Mangjor Chenmo, Wangril 25, Rinchen Tsodru Dashel, Drangjor Rilnak Chenmo, and others (Dawa Ridrak 2003, 410/21–22; Sönam Bakdrö 2006, 47/13–15). | Guided by Trékhang Jampa Tupwang, the personal physician of the Thirteenth Dalai Lama. Khyenrap Norbu was present. |

Table 1 *(continued)*

| Dalai Lama | Year | Place | Precious Pills made | Notes |
|---|---|---|---|---|
| Thirteenth Dalai Lama, Tupten Gyatso (1876–1933) | 1921 | Norbulingkha Palace | ? | Guided by Trékhang Jampa Tupwang. Khyenrap Norbu, Tsultrim Gyeltsen from Chakpori, Nangrongshar Rikdzin Lhündrup Penjor, and others, took part. An explosion of pots took place (Jampa Trinlé 2000, 434/2–15). |

## *TSOTEL* EVENTS UNDER THE THIRTEENTH DALAI LAMA

Since the *tsotel* practice was introduced to Lhasa during the time of the Great Fifth Dalai Lama, all subsequent *tsotel* events were also strategic political tools for linking subsequent Dalai Lamas back to the power and authority of the Great Fifth.[98] Only during the last decade of the nineteenth century was this link successfully re-established by the Thirteenth Dalai Lama, Tupten Gyatso (1876–1933), who was a skilled leader, administrator, and—inspired by what he saw during his travels—an innovator, including in the area of public health (McKay 2007; van Vleet 2015). He made significant progress in the establishment of precious pill manufacturing in Lhasa and oversaw three *tsotel* events within twenty-eight years (see Table 1).

In 1893, after substantial renovations of the Chakpori Medical College, he commissioned the processing of 770 ounces of mercury, which were provided in part by the central government, and partly by the Demo regent, who ruled while the Dalai Lama was young. The physician Orgyen Tendzin Gyatso (b. nineteenth century) was invited from Tsurpu Monastery, the seat of the Karmapas, north of Lhasa, to guide the processing.[99] The event took place at the Dalai Lama's summer residence, the Norbulingkha Palace, and the accompanying rituals were performed in a nearby temple (Czaja 2013, 94). The precious pills they made with the *tsotel* were not only medicines but also royal gifts. A wall-painting in the Thirteenth Dalai

98 It is, for example, explicitly stated in the biography of the Eighth Dalai Lama that the *tsotel* event "should be seen in the tradition initiated by the Fifth Dalai Lama" (Czaja 2013, 89).

99 Dawa Ridrak (2003, 410/9–19). This is probably Lamenpa Orgyen Tendzin Gyatso, who also authored two texts on mercury (Orgyen Tendzin Gyatso 1986a, b), but Jampa Trinlé's biography of him does not mention any *tsotel* event (Jampa Trinlé 2000, 410–413). Orgyen Tendzin was later exiled to Bhutan.

Lama's shrine room apparently depicts him offering precious pills to the Chinese emperor when visiting him in 1908 (Aschoff and Tashigang 2009, 7–8). I could not verify this, but if true, this offering can be understood in the context of the negotiations between the Dalai Lama and the Qing emperor in Beijing in 1908, which became necessary with Qing aggression on the rise in eastern Tibet.

Tibet declared independence in 1911–1912 and instituted its own paper currency, postal services, and national flag. The post-independence years saw a strengthening of the field of medicine. In 1919, both the Thirteenth Dalai Lama and Trékhang Jampa Tupwang (ca. 1863–1922), his most senior personal physician and a monk of aristocratic background, oversaw the making of *tsotel* in Lhasa. The lineage and technical skills were passed on to several physicians, including Khyenrap Norbu (1883–1962),[100] who in 1916 became the founding director of the Mentsikhang in Lhasa, the first secular medical institute in Tibet (Dawa Ridrak 2003, 411/23; Sönam Bakdrö 2006, 47/15).[101] At the time, several kinds of precious pills were manufactured: Rinchen Mangjor Chenmo, Wangril 25, Rinchen Tsodru Dashel, Drangjor Rilnak Chenmo, and others (Dawa Ridrak 2003, 410/21–22; Sönam Bakdrö 2006, 47/13–15).

In 1921, Trékhang Jampa Tupwang made *tsotel* again at the Norbulingkha Palace (Dawa Ridrak 2003, 410/24–26). Apparently, the Dalai Lama co-financed the event through the state treasury office (Jampa Trinlé 1991, 420/4–16; 2000, 434/2–15). Despite an explosion during the sealed-vessel incineration of metals, the Dalai Lama continued to support the manufacturing. Jampa Trinlé writes about the event:

> One day, when they were preparing gold ash, they were unable to correctly seal the clay container. There was an explosion, and the clay jug was scattered into the sky and [pieces] fell in the middle of the Norling [performance] stage. The Thirteenth Dalai Lama said they should experiment again, and asked for more gold, etc., from the state treasury office to provide materials for doing it again, and thus he gave them confidence. Nangrongshar Gen Rikdzin Lhündrup told me about all this.[102]

100 See Tashi Tsering (2015) on recent biographical notes on Lamenpa Khyenrap Norbu. Lamenpa is the honorific title for the personal physicians of the Dalai Lamas.

101 In this book I use the spelling Men-Tsee-Khang for the Tibetan medical institute in Dharamsala and Mentsikhang for Lhasa.

102 Translated from Jampa Trinlé (2000, 434/8–14): *de dus nyin gcig gser thal bzo dus rdza dam kha yag po bkag ma thub pa'i rkyen gyis 'bar gas byung ste rdza dam nam mkhar 'thor ba dang / nor gling sding cha'i dkyil la babs pa'i gnas tshul byung rung / rgyal ba sku phreng bcu gsum pas bka' rtsad gnang ste yang bskyar tshod lta byed dgos pa dang / gser sogs rtse phyag las khungs nas sprod rgyu'i bka' khyab byas chog ces dbugs dbyung mdzad pa'i skor nyag rong shar rgan rig 'dzin lhun grub lags nas kho bor gsungs byung*. Thanks to Theresia Hofer for pointing me to this reference and sharing an earlier draft translation of the section.

## ELITE MEDICINES

Following the large government-sponsored *tsotel* event of 1921 in Lhasa, Lamenpa Khyenrap Norbu, along with his private student Künga Püntsok and others, apparently made *tsotel* for a wealthy aristocrat monk of the Changra House in the Ramoché area of Lhasa, who "needed *ngülchu tsodru chenmo*."[103] Unfortunately no sources or details are given, but—if accurate—this brief excerpt tells us that in 1920s Lhasa, rich individuals were in the position of requesting Tibetan physicians to make *tsotel* for them, something that has been described in earlier and later decades as well. Precious pills were clearly an elite medicine in Tibet, accessible largely to the rich and influential monasteries and the aristocracy.[104]

That precious and other blessed pills were abundant at the residences of wealthy Tibetan families in Lhasa is evident from a rare personal account by Tubten Khétsun (2008, 80–81).[105] The nephew of a senior Tibetan government official, he was imprisoned during the 1959 uprising in Lhasa and sentenced to forced labor. In his autobiography, he describes his experience with precious pills, which highlights the value that was attached to such pills and the extraordinary conditions Khétsun and his friend went through to preserve some of these pills in mid-twentieth-century Lhasa. In summary, Khétsun and his friend Jampa were ordered to empty the house of the Shatra, a long-standing wealthy landowning family in Lhasa, where they found large amounts of precious and other blessed pills. Jampa explained to Khétsun:

> Those are pills blessed by Tromo Geshe Rinpoche[106] and precious pills made in the time of the Thirteenth Dalai Lama, which we could scarcely have gotten hold of as free men, and now as prisoners, whatever mortal dangers we may face, or if we die before being released, there is no one to put a precious pill in our mouths at the moment of death[107] (Khétsun 2008, 80).

Khétsun decided to secretly swallow three of the precious pills since he could not hide them successfully in prison. He had a strong physical reaction and lay ill with vomiting and diarrhea for a few days at Téring prison, but recovered. Khétsun recalled:

> However, not only did I come to no harm, in the long run I came to believe that those pills had strengthened my body a good deal. As

103 This is only mentioned by Dawa Ridrak (2003, 411 / 3).
104 There might have been small-scale events in rural areas with the support of smaller monasteries that provided affordable precious pills to locals, but I have not yet found any documentation on this predating the 1950s.
105 Thanks to Jeremy Russell for pointing me to this story.
106 He probably refers here to the consecrated pills of Domo Geshe Rinpoche Ngawang Kalsang (1866–1936), the teacher of Anagarika Govinda (1898–1985).
107 He refers to the common practice among Tibetans to place a blessed pill into the mouth of a dying person.

> I have already said, the diet and especially the containers we had to use for food affected most people's health very seriously, but during my four years in prison I managed with whatever [food] I was given, whether hot or cold, wet or dry, old or new, and underwent conditions of great deprivation without becoming seriously ill, except for the occasional cold (Khétsun 2008, 81).

Even though we do not know exactly which type of pills Tubten Khétsun actually took,[108] his description illustrates that ordinary Tibetans had difficulty acquiring precious pills, while higher officials—such as his own uncle or the aristocratic Shatra family—appeared to maintain a stock for emergencies, including the moment of approaching death. The value people attached to these pills expanded their perceived preciousness far beyond their therapeutic use for severe diseases.

## *TSOTEL* EVENTS AT LHASA MEDICAL INSTITUTIONS, 1920s–1950s

The close succession of the two *tsotel* events of 1919 and 1921 under the Thirteenth Dalai Lama is particularly noteworthy, given the otherwise seemingly sporadic sequence of *tsotel* production in central Tibet. These two events fell within a time in central Tibetan history that was marked by state health reforms and an increasing interest in public healthcare by the Thirteenth Dalai Lama and his personal physician, Lamenpa Trékhang Jampa Tupwang. The health reforms of 1916–1924 might have played a role in organizing and procuring sponsors and governmental patronage to make *tsotel* and precious pills. During this time, funds flowed from various sources into the development of Sowa Rigpa, its public health program (van Vleet 2010–2011), vaccination, education, and the renovation of the old Chakpori Medical College. Such support declined after 1923–1925, apparently due to internal and personnel conflicts within Chakpori (Tupten Tséring 1986, 179; see also Gerl and Aschoff 2005, 53, 77) and perhaps also because of Trékhang Jampa Tupwang's passing in 1922. Regardless, it caused a rift between the two medical institutions, Chakpori and the Mentsikhang, with Lamenpa Khyenrap Norbu being replaced as head of Chakpori in 1924 (Choelothar 2000, 30/4–8), but remaining in charge of the Mentsikhang (Kloos 2010, 65). The public health program declined, and between 1924 and 1950 the Mentsikhang only received irregular financial support from the government (van Vleet 2010–2011, 371; Janes 1995). According to official accounts, no *tsotel* was prepared at the medical institutions of Lhasa between 1921 and 1953.[109] When I asked contemporary phy-

108 Since he describes the pills as individually wrapped, they were most probably precious pills.

109 Apparently, in 1933 *tsotel* was made in eastern Tibet under Jamyang Chökyi Lodrö (1893–1959) and Kesip Atsang (Sönam Bakdrö 2006, 57/8–9). There might have been other *tsotel* events in different Tibetan regions that are not recorded in physicians' biographies but are mentioned in other texts.

sicians about the cause of the long hiatus of *tsotel* manufacturing between the 1920s and 1950s, most highlighted financial reasons. Dr. Namgyal Tsering, a leading *menjor* expert trained at the Men-Tsee-Khang in India, explained, "In the 1920s, the Mentsikhang in Lhasa had no provisions for school fees. All medical students needed private sponsors, and there were no government funds. The Mentsikhang simply had no funds to make *tsotel*."[110]

With the loss of government patronage, the *chöyön* structure once again crumbled. Thus, the Mentsikhang faced great difficulties continuing the *tsotel* practice and had to look for new sponsors. The physician instrumental in continuing the lineage was the personal physician of the Fourteenth Dalai Lama, Lamenpa Tenzin Chödrak (1924–2001),[111] who made *tsotel* twice in Tibet before initiating the practice in exile in India.

## Making *tsotel* in a Chinese labor camp in 1977

The following example presents another form of state involvement in the pharmaceutical nexus of *tsotel* events. The story is based on two of the existing biographies of the Lhasa-educated Lamenpa Tenzin Chödrak and the eastern Tibetan physician and Buddhist scholar Khempo Troru Tsénam (1926–2004).[112] Both physicians became leading *tsotel* experts in the 1980s and are presented as the authoritative *tsotel* lineage holder in their respective biographies, Troru Tsénam for the PRC and Tenzin Chödrak for India. I analyzed these biographies in greater detail elsewhere (Gerke 2015a), but present a summary of the events here to highlight some of the challenges involved in this *tsotel* event, especially regarding the changing relationship between the state and Sowa Rigpa in the 1970s. In my previous analysis of these biographies, I also draw attention to how biographies can be politicized in an effort to emphasize an authoritative lineage of knowledge transmission. We thus need to keep in mind that these biographies are valuable in that they contain personal memories of past events; however, they are also problematic as a source of evidence since they were written with a certain agenda to establish an authoritative line of knowledge transmission.

The Chinese invasion of Tibet in the 1950s and the subsequent communist reforms and Cultural Revolution (1966–1976) changed the pharmaceutical nexus of Sowa Rigpa practices considerably, with many Tibetan

110 Interview, New York, October 13, 2014.

111 Tenzin Chödrak's biography was written by Sonam Rinchen (2000). Several other sources mention 1922 or 1923 as Tenzin Chödrak's year of birth. 1924, the wood-mouse year of the fifteenth Tibetan *rabjung*, is based on Sonam Rinchen (2000, 39/8).

112 This biography of Troru Tsénam was written by Lappendum Lozang Lodrö (2006). Troru Tsénam's dates here are according to Lappendum Lozang Lodrö (2006, 8/3, 276/11). Holmes (1995, 144) mentions 1928 as his year of birth.

physicians being imprisoned.[113] Lamenpa Tenzin Chödrak made *tsotel* together with Troru Tsénam and others under very difficult conditions in 1977 in a Chinese labor camp, with the support of Chinese government officials and a Tibetan regiment commander *(ru dpon)*.[114] After his graduation from the Lhasa Mentsikhang in 1952, Tenzin Chödrak became the personal physician first of the Dalai Lama's mother and then of the Fourteenth Dalai Lama himself. In 1959, this position led to his imprisonment and "re-education" for roughly two decades.[115]

Back in 1953, Tenzin Chödrak had received the *tsotel* transmission in a traditional *chöyön* setup. His teacher, the Mentsikhang director and personal physician of the Thirteenth Dalai Lama, Lamenpa Khyenrap Norbu, sent him to make *tsotel* in Phagri Richung Potok, a high-altitude settlement southwest of Lhasa, bordering Bhutan and Sikkim. A local lama, Tulku Dozher Tupten Lamzang, had offered to sponsor the event.

At Phagri, Tenzin Chödrak made *tsotel* with Penden Gyeltsen (birth date unknown, died in 1962),[116] who was a fellow student of Chödrak, but senior. The contemporary Tibetan author Sönam Bakdrö (2006, 47/17–21) argues that the Phagri *tsotel* event testifies that the *tsodru chenmo* lineage of the Lhasa Mentsikhang continued uninterrupted through the two students of Lamenpa Khyenrap Norbu—Tenzin Chödrak and Penden Gyeltsen.[117] At the time, Penden Gyeltsen taught medicine near Phagri in a medical school called Richung Potok Riteng Mentsikhang, and had eight medical students.[118] Having such a student workforce might have provided an additional incentive to make *tsotel* in Phagri.[119] Apparently, he was also sponsored by the ruler of Phagri and was able to distribute medicines for free.[120] Later, in exile in Sikkim, Penden Gyeltsen lacked such *chöyön* support because he was not well known and was unable to make *tsotel* again.[121]

The fifteen kilograms of *tsotel* made at Phagri were largely kept by the sponsor Tulku Dozher; Tenzin Chödrak presented two kilograms to his teacher, Lamenpa Khyenrap Norbu, back in Lhasa. It is often the

113 See Hofer (2018) on recent accounts of Sowa Rigpa medical practice in Tibet during this time.
114 Parts of this section appeared previously and in greater detail in another article, which also discusses the *tsotel* seeing transmission of Troru Tsénam and Tenzin Chödrak. See Gerke (2015a).
115 His statement on his imprisonment is available online. See United States. Congress. House. Committee on International Relations. Subcommittee on International Operations and Human Rights (1996).
116 There is one short biography of Penden Gyeltsen, which mentions his making of *tsotel* (Tashi Tenzing 2015, 47/14–15). Thanks to Tashi Tsering Josayma for providing this source.
117 The entire lineage transmission is a bit more complex. On Penden Gyeltsen's *tsotel* seeing transmission and further details on making *tsotel* at Phagri, see Gerke (2015a, 881–884).
118 Döndrup Wanggyel Khangkyil (2008, 34). Thanks to Tashi Tsering Josayma for this reference.
119 Tashi Tsering Josayma, personal communication, Dharamsala, July 9, 2014.
120 Tenzin Thaye, personal communication, McLeod Ganj, December 7, 2012.
121 Tashi Y. Tashigang, interview, Delhi, March 4, 2016.

case that the sponsor receives the largest amount of the *tsotel* produced. After Phagri, Lamenpa Khyenrap Norbu wanted Tenzin Chödrak to teach mercury processing at the Mentsikhang in Lhasa, but with the post-1951 annexation of central Tibet by the Chinese Communist Party, the opportunity did not arise. In 1959, Tenzin Chödrak was imprisoned.

With the drastic political changes of this period, the social support networks of *chöyön* were greatly strained and the pharmaceutical nexus of producing *tsotel* and precious pills was repeatedly refigured, with Sowa Rigpa falling in and out of government support. According to Craig Janes (1995), the attitudes of the newly established PRC governing bodies towards Sowa Rigpa changed several times after the Chinese invasion of Tibet. In central Tibet—from 1951 to 1962—Tibetan medicine was largely ignored, while from 1962 to 1966 it was integrated into the official public health system, even receiving government funds. During the Cultural Revolution (1966–1976) it was delegitimized and attacked by the Red Guards as one of the "Four Olds," and the Mentsikhang's activities were interrupted. The lowest point for Sowa Rigpa at the Mentsikhang was in 1973 (Janes 1995, 20), but things began to change in 1974 when Tibetan medicine was officially taught again in Lhasa (Hofer 2018).

In 1973, Tapkhé Püntsok, who was known as the Great Medicine Provider of the Mentsikhang in Lhasa supervising the stock of raw materials, accomplished the burning of the eight metals and eight elements in Kongpo,[122] in preparation for making *tsotel* a year later in Lhasa (Dawa Ridrak 2003, 411 / 11–13). It is not known who supported this event. He apparently trained Tendzin Namgyel,[123] who escaped to India in 1981 and worked as head of the Pharmacy Department at the Dharamsala Men-Tsee-Khang until his death in 1991 (Kloos 2010, 80, 88). Tendzin Namgyel made *tsotel* in Dharamsala with Lamenpa Tenzin Chödrak in 1982 and 1987 (MTK 2014).

Making *tsotel* at a labor camp in 1977, though historically situated at a time when Sowa Rigpa was in a devastated state, occurred also at the turning point of newly emerging Chinese strategies to use it in culturally compatible ways to serve rural populations.[124] The following encounter between Troru Tsénam and a Chinese official can be interpreted as part of wider efforts by Chinese officials to integrate traditional medicine into rural public health schemes, which began with the barefoot doctor campaign

122 Dr. Namgyal Tsering, former head of the Men-Tsee-Khang Pharmacy Department in Dharamsala, suggested that it was less difficult to burn the metals into ash in Kongpo, where wood was more easily available than in Lhasa. Personal communication, New York, October 13, 2014.

123 Dr. Dawa Ridrak, e-mail communication, May 31, 2014. Dawa Ridrak states that Tendzin Namgyel told him this personally. Other Men-Tsee-Khang physicians described Tendzin Namgyel to me as very experienced in *tsotel* preparations, but his previous training and *tsotel* transmissions were not talked about, perhaps out of respect for Lamenpa Tenzin Chödrak as the Dalai Lama's personal physician and the official lineage holder of the *tsotel* practice.

124 Janes (1995, 20). See also Hofer (2011, 154–156) on the changing status of Tibetan medicine in Ngamring in the early 1970s, and Hofer (2018, chapter 4).

in the early 1970s. Hofer reports that starting in 1974, a Tibetan medicine section was opened in the People's Hospital in Ngamring, training health workers and barefoot doctors to prepare Tibetan medicines, using the newly printed publications on Tibetan *materia medica* that presented Tibetan medicine as something new in revolutionary healthcare and not as part of the "Four Olds" (Hofer 2018, 134–140).

Thus a year later, when a Chinese official approached the young Troru Tsénam—who was undergoing "reforms" at Powo Tramo, one of the main detention facilities east of Lhasa[125]—he was probably looking for aspects of Tibetan medicine that could be implemented more widely in public health care. Their tussle over authority highlights how delicate this enterprise was. In the words of Troru Tsénam's biographer, Lappendum Lozang Lodrö:

> [...] one day in the wood-rabbit year of the sixteenth Tibetan *rabjung,* 1977 [sic., 1975–1976], an official who had arrived from the security office in Lhasa approached him [Troru Tsénam] and asked, "What is most important [and] precious in Tibetan medicine?" He replied immediately that the most important among Tibetan medicines is the Great Mercury Refinement. He said, "If you have *tsotel* from the Great Mercury Refinement, only then is one able to prepare and make all the varieties of precious pills. Therefore, the real precious pill is actually this *[tsotel]*. Without it, just saying 'precious pills' means nothing; that's it." Following that, he [the official] asked, "Can you make this so-called *tsotel*?" Khempo Tsénam replied in a matter-of-fact and confident manner, "If I have both the materials and authority, then certainly I can make it." In response the official immediately shrank back and said, "Oh well, he acts as if he needs authority!" Realizing that the official had misunderstood the meaning of what he had said, Khen Rinpoche [Troru Tsénam] responded, "When I say, 'I need authority,' I don't mean political authority at all. I meant the authority to organize the preparation of medicine. If I don't have the authority to direct the entire manufacturing practice as it should be done, there will be great difficulty in preparing the medicines, and there is even the potential danger that I would not be able to complete the preparation process." The official then understood the situation, and only then said, "OK, from now onwards you can begin arranging the materials to prepare the medicines."[126]

125 The camp is still located in the town of Tramo in Powo, Kham, today administered under Nyingtri prefecture, Kongpo.

126 Translated from Lappendum Lozang Lodrö (2006, 173/1–174/2): *de nas bod rab byung bcu drug pa'i shing yos spyi lo* ཀྲཝཨ *lo'i nyin zhig la/ lha sa'i spyi bde las khungs nas yong ba'i 'gro khrid zhig gis khong la/ bod sman las 'gangs rtsa che shos ni gang red ces dris pa la/ khong gis myur phral bod sman las 'gangs che shos ni dngul chu btso bkru chen mo red/ dngul chu btso bkru chen mo'i btso thal zer ba de yod na/ gzhi nas rin chen ril bu'i rigs thams cad sbyor bzo byed thub pas rin chen ril bu dngos kyang de red/ de med na rin chen ril bu zer ba stong pa rang red ces*

Another reason why Chinese officials began supporting the making of *tsotel* has also been attributed to some Tibetan physicians successfully treating Chinese officials with their medicines. Lamenpa Tenzin Chödrak, who was breaking stones in a labor camp, was asked to set up a small prison clinic after successfully treating some local Chinese leaders. A group of other physicians, which included Troru Tsénam, was working in a small prison clinic at Powo Tramo. One of them, Amchi Tsültrim, was appointed part-time doctor at the clinic after curing a high military officer (Sonam Rinchen 2000, 102).[127] Apart from Chinese support—which was partly motivated by personal therapeutic gain, partly by new party plans for including traditional medicine in public health—the Tibetan regiment commander named Tségyel, who was sympathetic to the prisoners, also played a significant role. In 1974, Tségyel was appointed health director at Powo Tramo, where he built a small prison clinic (2000, 102). They financed this clinic by making medicinal syrup decoctions *(khenda)*, which they traded with the Mentsikhang in Lhasa for other medicines. Together, these doctors felt the need to make precious pills, for which they had to process mercury. They decided to search for old *menjor* texts as well as experienced senior doctors who had survived the Cultural Revolution and remembered how to make *tsotel*.[128] They eventually found a copy of the eighteenth-century *tsodru chenmo* manual written by Degé Drungyig Gurupel, which is based on the oral instructions of Situ Chökyi Jungné (1699/1700–1774) and was later reprinted in India by Tashi Tsering (Degé Drungyig Gurupel 1986). The only experienced doctor they could find was Lamenpa Tenzin Chödrak, who was working at a stone quarry. Tségyel was instrumental in securing permission for him to join the others in Powo.

The two biographies of Tenzin Chödrak and Troru Tsénam portray the event, which took place in the fire-snake year 1977, with different emphases on how the two physicians were personally involved in the supervision of the manufacturing process and how they solved enormous technical challenges, which I describe elsewhere (Gerke 2015a). Nevertheless, the

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*zhus/ des kyang khyod kyis btso thal zer ba de sbyor bzo thub bam zhes dris pa'i lan du/ mkhan po tshe rnam gongs nas babs brling dang yid ches brtan po'i sgo nas rgyu cha dang dbang cha gnyis yod na bzo thub nges zhes zhus tshe/ 'go khrid des de ma thag tu rnam 'gyur grang shur shur gyis/ 'o/ kho la dbang cha dgos mdog 'dug zer/ mkhan rin po che nas khong gi bsam don nor song dgongs nas/ nga la dbang cha dgos zer ba de chab srid kyi dbang cha zer ba gtan nas min/ sman sbyor bkod sgrig gi dbang cha zer ba yin/ gal te sbyor las thams cad ga 'dra byed dgos pa'i dbang cha med na/ sman sbyor bzo la dka' khag chen po theg pa dang / tha na sbyor bzo mi thub pa'i nyen kha yod srid kyi red ces zhus/ 'go khrid des gnas tshul ha go rjes/ gzhi nas 'o ya da nas khyod kyis sman bzo rgyu gra sgrig gyis gsungs.*

127 I think this Amchi Tsultrim possibly refers to Tsultrim Sangyé (1940–2011), better known as Amchi Gege, who set up the Bonpo medical school near Kathmandu (see last section of this chapter). According to his student, Amchi Nyima Sampel, Amchi Gege was an inmate at Powo Tramo and made *tsotel* with Troru Tsénam. Amchi Nyima Sampel, personal communication, IASTAM conference, South Korea, September 11, 2013.

128 I describe in detail how they found the text and Lamenpa Tenzin Chödrak elsewhere (Gerke 2015a).

dire situation of the *tsotel* practice and its being on the verge of extinction undoubtedly comes through in both narratives. At Powo Tramo they made approximately nineteen kilograms of *tsotel* in about forty-five days (Lappendum Lozang Lodrö 2006, 241/7; Troru Tsénam 2001, 515/8). It is not clear where and how they made precious pills and how they got the precious stones and other rare ingredients, but Sönam Bakdrö reports that Rinchen Drangjor, Rinchen Mangjor, Ratna Sampel, Yunying 25, Jumar 25, Rinchen Wangril 25, and other precious pills were made at Powo Tramo (Sönam Bakdrö 2006, 48/10–11).

Even with the challenging conditions of medicine production in a labor camp, the *tsotel* event had a cosmological significance. Tenzin Chödrak recalls in one of his memoirs:

> The medicines were ready by the time of the harvests, which proved to be excellent, much better even than in preceding years. A Tibetan woman came to inform me of it. I answered with a knowing smile: "The texts say that to obtain a good harvest, you must first purify some mercury. It's even better if you also prepare other metals." The woman left reassured and henceforth they thought of me as a sage and a fine interpreter of supernatural things (Chödrak and van Grasdorff 2000, 259).

In the 1980s, following political relaxations, the conditions for Sowa Rigpa in the PRC changed considerably. Khempo Troru Tsénam thoroughly trained dozens of physicians and established the *tsotel* practice across many pharmacies in Tibet, the details of which are beyond the scope of this book.[129] Lamenpa Tenzin Chödrak came to Dharamsala and taught *tsodru chenmo* at the Men-Tsee-Khang in 1982 (see below).

To highlight two key points from the above historical explorations: first, *tsotel* events demonstrate the fluidity of "the state" as one of the central *chöyön* players of the pharmaceutical nexus. We have seen how state support can change drastically in different political climates and can make a pharmaceutical practice vulnerable in terms of knowledge transmission and manufacturing.

Second, the *tsodru chenmo* practice also operates within a larger field of what Sienna Craig (2012) refers to as "social ecologies," which includes the making of medicines as interactive with the surrounding environment, thus creating multiple synergies of potency. The above example of refining mercury producing good harvests illustrates how social ecologies are integral to the pharmaceutical nexus of *tsotel* events.

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129 Sönam Bakdrö (2006, 57/12–21) reports at least seven *tsotel* events between 1980 and 1996 at various Tibetan pharmacies in the PRC. The actual number is probably higher considering potential small-scale undocumented events. The senior physician Gyayé Lobsang Nyima (b. 1933) at the Qinghai Provincial Tibetan Medical Hospital has made *tsotel* more than thirty times in his lifetime (Tawni Tidwell, personal communication, October 4, 2019).

To continue my investigation of the pharmaceutical nexus of *tsotel* events across time, the next section offers examples from the contemporary exile situation in which Tibetan government bodies have held little power and control over *tsotel* events. While *chöyön* networks have continued to play a role, in these examples, they do so in varying ways.

## Making *tsotel* in exile

*Chöyön*, as a complex support system "ideologically compatible to historical forms" (Klieger 1992, 16), has been flexible enough to survive the "democratic reforms" in the PRC and extreme limitations of resources in exile, notwithstanding the challenges. In the following, I sketch the main *tsotel* events at Tibetan medical institutions and several private clinics in India and Nepal post-1959, demonstrating the *chöyön* relationship between Buddhist monasteries, religious and political leaders, and Tibetan physicians. I also analyze how the exchange of social and financial support that we have seen in the *tsotel* events in Tibet have been altered in India. Notably, *chöyön* relationships have continued to enable some of the small-scale practitioners in exile to process mercury and—as we shall see later—also appear as an important player in interactions between Sowa Rigpa institutions and their professionals with modern science and its representatives (Chapter 7).

*Tsotel* practices in exile are tied to a changing pharmaceutical nexus of politics, economics, and monopolies that come with the institutionalization of pharmaceutical practice. The alteration of patronage and resources among Tibetan exile communities has had significant consequences for the knowledge transmission of *tsodru chenmo* to the younger generations of physicians. The following sections discuss who made *tsotel* in exile and where, and offer the first ever comprehensive documentation of these events and their players, including historical photographs generously provided by the Men-Tsee-Khang. My analysis of these events also illustrates how both institutionalization and small-scale production play a role in the continuation and survival of traditional medical practices in Asia.

### INSTITUTIONALIZATION OF *TSODRU CHENMO* IN INDIA

#### THE MEN-TSEE-KHANG IN DHARAMSALA

Lamenpa Tenzin Chödrak was instrumental in the revival of the *tsotel* practice at the Men-Tsee-Khang in Dharamsala after his arrival from Tibet in 1980. He immediately resumed his position as personal physician of the Fourteenth Dalai Lama and was appointed chief physician at the Men-Tsee-Khang and member of its governing body (Kloos 2010, 80). In 1981, Tendzin Namgyel arrived from Lhasa, was appointed head of the Men-Tsee-Khang Pharmacy Department, and joined the efforts to make *tsotel*.

Under the harsh refugee circumstances, it was initially very difficult for Tibetans to make *tsotel* and precious pills. Before 1982, they made very few precious pills (Yunying 25, Jumar 25, Rinchen Mangjor Chenmo), all without *tsotel*.[130] According to Dr. Namgyal Tsering, in the 1970s they once used a simpler type of processed mercury called *kardül* to make Rinchen Mangjor Chenmo.[131] Being able to make *tsotel* and precious pills was so significant for the Tibetan community in Dharamsala that the Tibetan government in exile, the Men-Tsee-Khang, and the Fourteenth Dalai Lama himself collaborated to make it happen. The pharmaceutical nexus here was similar to the Dalai Lamas' support for making *tsotel* back in Tibet, albeit in a new territory with different access to resources and within the challenging political climate of exile. The role of the Dalai Lama, his special blessing pills, and precious ingredients provided by him have continuously added to the perceived spiritual efficacy of the precious pills produced by the Men-Tsee-Khang since 1982 (Gerke 2017a).

The first *tsotel* event was so significant that—beginning on April 28, 1982—it was prepared in the guarded compound of the Dalai Lama's residence at Thekchen Chöling. Lamenpa Tenzin Chödrak, Tendzin Namgyel, and Lamenpa Jamyang Tashi (of Tsona) worked as the three senior physicians alongside seven other physicians and eleven assistants. Twenty-one years after its establishment in exile in 1961, the Men-Tsee-Khang for the first time prepared sixty kilograms of *tsotel*. This was a special occasion, the excitement of which was felt all over Dharamsala. Between 1982 and 2014, *tsotel* was made six more times (see Appendix B), with increasing production figures, peaking in 2014 with 138 kilograms made under Dr. Jamyang Tashi, with ten physicians and twenty-seven assistants.[132]

There is little published documentation of the 1982 event. What follows, incorporates that with interviews I conducted with Men-Tsee-Khang physicians. According to Lamenpa Tenzin Chödrak's biographer Epa Sonam Rinchen (Sonam Rinchen 2000, 126/18–127/20), the Dalai Lama gave a special order to the Men-Tsee-Khang to make *tsotel*, but it was extremely difficult to gather all of the ingredients, such as chalcopyrite *(gser rdo)*[133] or marmot fat *(phyi ba'i tshi lu)*. The Men-Tsee-Khang director at the time, Jigme Tsarong, travelled to Ladakh specifically to collect the sour berries of seabuckthorn called *tarbu (star bu)*, needed for processing

130 Dr. Pema Dorjee, personal communication, Chontra, July 14, 2014. Note that Yunying 25 is still made without *tsotel* but has processed cinnabar as an ingredient and Rinchen Mangjor Chenmo now has *tsotel*. Jumar 25 does not contain *tsotel* but cinnabar as an ingredient in the form of *tselkar* in some formularies, for example, in Khyenrap Norbu (2007, 170/10). At the Men-Tsee-Khang in Dharamsala Jumar 25 was also coated with *chokla* (roasted cinnabar) up until the end of 2010, when *chokla* coating of pills was discontinued.

131 Interview, New York, October 13, 2014.

132 Official Men-Tsee-Khang pharmacy record in Tibetan (MTK 2014), provided by Dr. Jamyang Tashi, May 15, 2015. See Appendix B.

133 Identification according to Dr. Tsering Norbu, Materia Medica Department, Men-Tsee-Khang, Interview, Dharamsala, March 22, 2015.

Figure 18: The metal caldron made especially to boil mercury. Lamenpa Tenzin Chödrak (right) sealing the caldron, with Lamenpa Jamyang Tashi (middle) and Dr. Tendzin Namgyel (left), Thekchen Chöling, 1982. Photo: Men-Tsee-Khang (Men-Tsee-Khang 1982 / CC-BY-SA 4.0).

mercury. Moreover, the clay vessels from Ladakh broke during the many hours of burning copper (twelve hours) and gold (fifty hours), and the physicians had to experiment with various types of vessels in which to burn the metals. The pot to boil the mercury was specifically designed and made in Amritsar, and was thought to be "stronger than iron" (see Fig. 18).[134] The same caldron is still used today, but on a gas stove, which makes it easier to regulate the heat (see Fig. 19).

I interviewed three physicians who processed mercury in 1982. Their memoirs demonstrate the social, spiritual, medical, and personal importance of this first *tsotel* event in exile and the significance of the role of the Dalai Lama in it. Dr. Pema Dorjee, who sadly passed away in 2015, remembered the event when we met in 2012:

> An unfortunate accident happened when we were collecting ingredients. People said it was an obstacle, *barché*. I was badly injured, but alive [one monk and one student were killed during the accident]. His Holiness gave me confidence that we could overcome the obstacle and make *tsotel* successfully. It was with his blessings that we could make it well.[135]

134 Dr. Namgyal Tsering, Interview, New York, October 13, 2014.
135 Interview, Dharamsala, February 9, 2012.

Figure 19: Since 1982, the same caldron has been used to boil mercury, and since 1987, a gas stove to better regulate the heat. The shield around it protects the gas flame from air currents. Photo: Men-Tsee-Khang (Men-Tsee-Khang 2011 / CC-BY-SA 4.0).

In 2014, I met Dr. Namgyal Tsering (see Fig. 20) in New York. He made *tsotel* several times (in 1982, 1987, and as the head of the Men-Tsee-Khang Pharmacy Department in 2001). He remembered how the Dalai Lama took interest in the processing which was taking place just behind his residence, in 1982:

> Many times His Holiness came to see us. Sometimes he came to see quietly, hiding, sometimes he came and joked with us. [...] To protect ourselves from the poison, we had to chew meat, and drink *chang* [Tibetan fermented barley beer]. Sometimes His Holiness came and joked with us, saying "now all of you are drunk, not making *tsotel*?" [he laughs].[136]

Dr. Tsewang Tamdin, who was a young graduate doctor at the time working in Delhi (he later became the director of Men-Tsee-Khang and visiting physician to the Fourteenth Dalai Lama), remembered:

> In the beginning, His Holiness came to bless the event, and when he had time, he came sometimes to see how we were doing. He was very interested. This is one of the very important practical things in Tibetan medicine. We say, "If you do not know *tsotel*, you do not know how to make medicine." You learn about all the minerals and

136 Interview, New York, October 13, 2014.

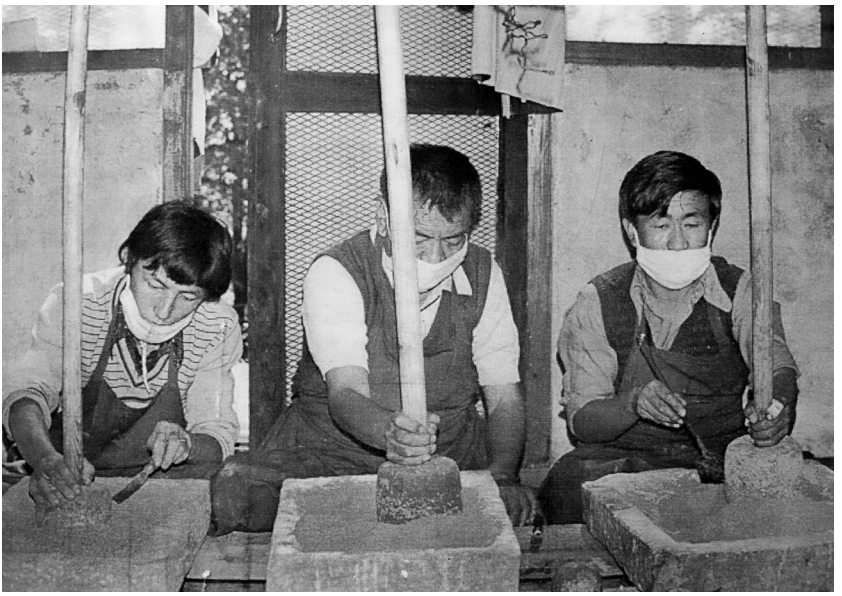

Figure 20: Dr. Namgyal Tsering (left), Dr. Lobsang Chöpel (of Phagri) (middle) and an assistant (right) grinding herbal powders for mercury processing in 1982. Photo: Men-Tsee-Khang (Men-Tsee-Khang 1982 / CC-BY-SA 4.0).

> then know how to use them in other medicines, too. If you know *tsotel* then you know how to make other medicines as well. It is like in the army, if you did the training but you never did the parachute jumping, you are not on the top. Similarly, in Tibet you learn to make the medicine, but if you never learned how to make *tsotel*, you do not know anything.[137]

The Dalai Lama also had a supportive role in financing the *tsotel* event of 1982. Dr. Tsewang Tamdin explained:

> We tried to make it ourselves. Men-Tsee-Khang bought the materials for making *tsotel*. But some of the precious stones came from His Holiness.[138] When people come from Tibet they make offerings to him, even herbs, like ginseng, which he often receives as a tonic. He gives these substances to us. If we need them as medicines, we use them. His Holiness never keeps anything for himself. He helps us with his encouragement. He says making precious pills is useful for humans. He knows the value of *tsotel*. With the *tsotel* of 1982 we

137 Interview, Dharamsala, May 15, 2015.
138 The official Men-Tsee-Khang website states that the office of His Holiness funded the 1982 event. See MTK (2011b).

> could make six types of precious pills. We made an offering of precious pills to him. He takes them regularly.[139]

The Dalai Lama, who is known for his curiosity in science, also showed deep interest in the technicalities of the process. Lamenpa Tenzin Chödrak remembered:

> Since Gyalwang Rinpoche ["Precious King of Victorious Ones," an epithet of the Dalai Lama] has had great interest in Tibetan medicine since his youth, he came to observe the entire mercury refinement process and frequently asked a number of precise questions regarding the burning of gold, silver, copper, iron, and so forth. Moreover, in order to make [Gyalwang Rinpoche] understand, I [Chödrak] also introduced the different stages of burning the gold and silver. [I] explained how the different stages appear, and showed, and frequently clarified, how the substances and [their] potency change by the time the gold, silver, etc., were burned, and so forth. One time, when burning the copper, [we] noticed that the copper had turned into ash, but the cloth that the copper was wrapped in had remained the same. When [we] showed this to the Supreme Gyalwang, he repeatedly said, "The potency of the substance is absolutely amazing." Later, the Supreme Gyalwang discussed this during the cabinet meeting of the Sakya ministers. With Gyalwa Rinpoche's immeasurable compassion and kindness, and together with the great effort of all the senior and the junior doctors, [we were] thus able to accomplish the mercury *tsotel* practice well in a little over two months.[140]

In 1982, it was very auspicious to have the Dalai Lama himself initiate the trituration of mercury with sulfur. This was done in a large stone trough, which to this day is kept at the Men-Tsee-Khang pharmacy, filled with myrobalan fruits and wrapped in special orange-colored silk cloth. Dr. Tenzin Thaye, who currently is one of the visiting physicians of the Fourteenth

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139 Interview, Dharamsala, May 15, 2015.

140 Translated from Sonam Rinchen (2000, 128/14–129/6): *ལ་ rgyal dbang rin po che sku na chung dus bod sman la thugs snang chen po yod stabs thengs 'di'i dngul chu sbyor bzo'i rgyud rim cha tshang la gzigs zhib tu phebs te gser dngul zangs lcags bsregs stangs sogs la thugs zhib kyis bka' 'dri yang yang gnang / gus nas kyang gang gi bzhed dgongs lhun gyis grub ched gser dngul bsregs pa'i rgyud rim ngo sprod zhus par ma zad/ skabs mtshams kyi gnas tshul ji byung dang / gser dngul bsregs sgrub zin mtshams skabs babs rdzas nus 'gyur ba ji byung sogs spyan 'bul yang yang zhus/ thengs shig zangs sreg skabs zangs rnams 'tshig ste thal bar song yang / zangs sgril ba'i ras cha dag sngar rgyun ltar lhag/ 'dug pa ལ་ rgyal dbang mchog la spyan 'bul zhus par de skabs ལ་ rgyal dbang mchog nas rdzas kyi nus par ya mtshan chen po byung zhes yang yang gzungs la phyis su sa skya'i bka' blon lhan rgyas mjal 'dzoms skabs su'ang de skor gsung gleng gnang song / ལ་ rgyal ba rin po che'i tshad med pa'i thugs rje'i bka' drin dang sman pa rgan gzhon rnams kyi 'bad brtson 'og khyon zla ba gnyis lhag gi dus yun nang dngul chu btso thal gyi lag len dag legs grub byung ba red//.*

Figure 21: Dr. Jamyang Tashi, current head of the Men-Tsee-Khang's Pharmacy Department (left), and Dr. Tenzin Thaye, one of the visiting physicians of the Fourteenth Dalai Lama (right), showing the stone trough used by His Holiness in 1982 to initiate the trituration of mercury and sulfur. Dharamsala, May 2015. Photo by author (Gerke 2015 / CC-BY-SA 4.0).

Dalai Lama, and Dr. Jamyang Tashi, current head of the Pharmacy Department, showed me this stone trough in 2015 (see Fig. 21). They explained: "It is important to have a high lama begin the trituration of mercury and sulfur because things can go wrong. We see it as auspicious if it is done by a high Buddhist lama." Dr. Jamyang Tashi kept the trough like a treasure in his office and acknowledged, "We have kept this stone trough from His Holiness since 1982."[141] He received the *tsotel* transmission from Lamenpa Tenzin Chödrak in 1994 and from Dr. Namgyal Tsering in 2001. He then supervised the Men-Tsee-Khang *tsotel* events in 2008, 2011, and 2014, and was publicly honored for these achievements by the Dalai Lama during the Men-Tsee-Khang centenary celebrations in 2016 (Gerke 2017b).

Dr. Tsewang Tamdin later explained the importance of the Dalai Lama triturating these substances: "His Holiness came to bless and even grind the substances for a few minutes. To bless here means that whatever we have prepared, it will be beneficial for the people. Having His Holiness do this

141 Interview, Dharamsala, May 15, 2015.

Figure 22: The young Toding Rinpoche (left), is washing vessels that were used to burn the eight metals with the assistant Trinlé (right) during the mercury processing near the Fourteenth Dalai Lama's residence in 1982. Lamenpa Tenzin Chödrak is standing in the center. Photo: Men-Tsee-Khang (Men-Tsee-Khang 1982 / CC-BY-SA 4.0).

adds purity and authenticity."[142] After 1982, the Men-Tsee-Khang took the spiritual support of other lamas to carry out the required rituals and to triturate mercury and sulfur during the making of *tsotel*. In 2008, this lama was Toding Rinpoche, also known as Tupten Gyeltsen, who was a young monk during the 1982 *tsotel* event (see Fig. 22) and later became a physician at the Men-Tsee-Khang and participated in the *tsotel* events of 1994 and 2008.

Since 1982, the batches of students have become larger, and not every male physician graduating with a *menpa kachupa* degree from the Men-Tsee-Khang receives the opportunity to make *tsotel*. Making *tsotel* is not even part of the medical curriculum of the senior *menrampa (sman rams pa)* degree (Pasang Yonten 1988, 231). Of the approximately fifty physicians who took part in making *tsotel* between 1982 and 2014, to my knowledge none has made *tsotel* outside the Men-Tsee-Khang.

While the Dalai Lamas and their governments played an active role for more than 300 years (between 1669 and 1982) in the organizing and sponsoring of *tsodru chenmo*, the place of the *chöyön* support within the

142 Interview, Dharamsala, May 15, 2015.

pharmaceutical nexus of *tsotel* events has significantly changed since then in terms of power negotiations, financing, and physicians' agency. As a showcase of the institutionalization of Sowa Rigpa (Kloos 2011), the Men-Tsee-Khang in Dharamsala is able to independently train specialists and finance the manufacturing of substantial amounts of *tsotel* (138 kilograms in 2014), and also produce eight different precious pills (MTK 2017c). A certain monopoly and secrecy is maintained by selectively passing on the skills to a few amchi as part of their specialized *menjor* training. This is different at the Sowa Rigpa Department in Sarnath, where making *tsotel* and certain precious pills are included in the Sowa Rigpa curriculum and funded by the university.

## MAKING *TSOTEL* AT CIHTS, SARNATH

The Sowa Rigpa Department at the Central Institute of Higher Tibetan Studies (CIHTS), previously CUTS (Central University of Tibetan Studies), is located in Sarnath, which is near Varanasi in the Indian state of Uttar Pradesh. Founded in 1993, it has a teaching faculty with an extensive library, a small hospital, and a pharmacy. It offers a five-year course for the degree of Bachelor of Sowa Rigpa Medicine and Surgery (BSRMS, previously BTMS). The university provides the funds for the practical training of students, which includes making *tsotel*. Even female students are taught most of the process (see Chapter 5).

Kloos (2008, 32) points out one of the most significant institutional characteristics: "CUTS [CIHTS] is under the authority of the Indian Department of Higher Education (rather than the Tibetan exile-government), which means that it is able to operate in complete autonomy from the Men-Tsee-Khang [...] with considerable funding from the Indian government." This means they have their own syllabus, exams, and certificates (although examiners often come from the Men-Tsee-Khang). This considerable independence has also translated into a more open style of knowledge transmission, which some Tibetan physicians see as its hallmark, "compared to the closed and secretive nature of the MTK" (Blaikie 2014, 274).

Gen Rinpoche Rakdo Lobsang Tenzin (also known as Rakdo Rinpoche), who has been teaching at the CIHTS Sowa Rigpa Department since 1993 and became full professor there in 1998, taught *tsodru chenmo* three times between 1998 and 2008, together with Dr. Dorje Damdul, a Men-Tsee-Khang graduate of 1988, who observed part of the *tsotel* process at the Men-Tsee-Khang in 1987 while on a pharmacy internship.[143] At CIHTS, only a small amount of *tsotel* is made. Funded by the university, it is made to train students and to make precious pills in their own pharmacy, and prescribed only in their own clinics.[144]

143 Dorje Damdul, interview, Sarnath, December 21, 2012.

144 Rakdo Rinpoche, interview, Sarnath, December 22, 2012. At CIHTS they make the precious pills Rinchen Dangtso, Rinchen Mukkhyung Gugül, and Rinchen Ratna Gugül. The first was formulated by Khempo Troru Tsénam and the

Rakdo Rinpoche received the *tsotel* transmission directly from Khempo Troru Tsénam in Lhasa around 1983–1984, when Lama Khempo Öser came from Degé in Kham with his female student Do Dasel Wangmo (b. 1928, see Chapter 5). Together with Troru Tsénam and his nephew Sönam Chimé they made about two kilograms of *tsotel* in a vacated residential area of the Lhasa Mentsikhang. This was made possible through traditional *chöyön* networks: Khempo Öser possibly sponsored parts of the event since he took most of the *tsotel* back to Degé, Jampa Trinlé at the Mentsikhang generously provided the equipment and ingredients, and Troru Tsénam passed on the lineage and "seeing transmission."[145]

At CIHTS, Rakdo Rinpoche's incentive is to create independent medical practitioners. But for various reasons we discussed during an interview, none of the graduates has opened his / her own clinic as yet.

RAKDO RINPOCHE: *Students who study at this university should be independent. They can teach, check patients, [and] make medicines themselves. Tibetan medical doctors need this kind of education. Our teachers used to mention this. Tibetan doctors need to know all things so they can do everything themselves.* [...] *All students graduating here learn how to make medicine. Of the thirty-six amchi graduated [by 2012] all can make their own medicines.*

BARBARA GERKE: *Do they do it?*

RAKDO RINPOCHE: *It is like this. Some of the students work in Men-Tsee-Khang clinics, some have their own clinics in Nepal, some went to the United States for further studies and do not practice. Some go to Ladakh and they only teach* [...] *all those things. They did not open their own pharmacy as yet.* [...] *but they could do it. They are very knowledgeable and could open a pharmacy by themselves. No doubt.*

BARBARA GERKE: *But it is not so easy to open a pharmacy these days.*

RAKDO RINPOCHE: *My message is the same, there is no change. If people really study, then they can do it independently.*

BARBARA GERKE: *All your students can make* tsotel*?*

RAKDO RINPOCHE: *They were all taught from scratch how to make it. They have the knowledge and practical experience. The problem is they lack the financial support.*[146]

Regionalism has played a significant role in the transmission of *tsotel* knowledge. Back in Tibet, *tsotel* techniques involved a pharmaceutical and

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second and third by Rakdo Rinpoche. E-mail communication Dr. Zamyou Penpa Tsering, CIHTS, October 21, 2017.

145 Rakdo Rinpoche, interview, Sarnath, March 16, 2015. The so-called seeing transmission is one of several ways to transmit knowledge, explained further in Chapter 4.

146 Rakdo Rinpoche, interview, Sarnath, December 24, 2012.

political monopoly (e.g. Gelukpa interests in Lhasa versus Kagyü practices in Kham). This still reverberates to some extent in exile. Rakdo Rinpoche at CIHTS follows an open teaching policy similar to Khempo Troru Tsénam from eastern Tibet. This contrasts with the Men-Tsee-Khang's more conservative approach in Dharamsala, instituted by Lamenpa Tenzin Chödrak, the official *tsotel* lineage holder and the Dalai Lama's personal physician from central Tibet.

While both institutions, CIHTS and the Men-Tsee-Khang, have been able to manufacture *tsotel* without financial support from Tibetan governmental and monastic bodies, receiving the *tsotel* training at either of these two institutions does not mean that physicians would establish this practice after graduation. In fact, to date, none of the students or physicians trained by any of the above institutes has made *tsotel* independently. Some graduates run independent clinics, but do not make *tsotel*. The reasons for this are complex, but my observations are that the absence of *chöyön* relations—while ensuring a certain independence in these institutionalized settings—leaves a void; this lack of support for the new generation of Tibetan physicians graduating from these institutions limits their opportunities to make their own medicines. Rakdo Rinpoche clearly pointed to this lack of support at the end of our interview above. While the commodification of medical practice or a university affiliation seem to be ways of ensuring economic and professional independence from the more traditional Tibetan support systems, they have not provided the complex nexus of support traditionally necessary to make *tsotel* and precious pills.

## PRIVATE CLINICS MAKING *TSOTEL*

Sowa Rigpa has been known for its rural and small cottage industry practices across the greater Himalayan regions operating in very different social ecologies (Blaikie 2014; Craig 2012; Hofer 2018). Below, I introduce some physicians who were able to make *tsotel* in small-scale private practice. In contrast to medical institutions, privately working physicians of the older generation have established themselves as active entrepreneurs and / or have drawn from traditional *chöyön* support systems. They have thus been able, to some extent, to make *tsotel* and precious pills.

### YESHI DHONDEN MAKING *TSOTEL* IN MCLEOD GANJ

The Tibetan physician Dr. Yeshi Dhonden (1927–2019; see Fig. 23) studied with Lamenpa Khyenrap Norbu in Lhasa. In exile, after working at the Dharamsala Men-Tsee-Khang for eighteen years (1961–1979), he established a private clinic in McLeod Ganj in 1979. During his years at the Men-Tsee-Khang, there were no funds and no ingredients available to make *tsotel*.[147] Running a successful clinic and seeing patients internationally, as

147 Interview, Dharamsala, December 3, 2012.

Figure 23: Dr. Yeshi Dhonden at his residence in McLeod Ganj in 2012, aged eighty-five. Photo by author (Gerke 2012 / CC-BY-SA 4.0).

well as his reputation (he was the personal physician of the Fourteenth Dalai Lama for twenty years) enabled him to finance the processing and manufacturing of several precious pills. In 1985, after working independently for six years, he made *tsotel* in his own pharmacy with a group of around seven, which included Yeshi Dhonden and his chief *menjorpa*, Lobsang Tenzin.

Yeshi Dhonden's nephew, Dr. Kelsang Dhonden—a Men-Tsee-Khang graduate and also taught by his uncle—now runs his own pharmacy. He told me that Yeshi Dhonden made *tsotel* in Lhokha, south of Lhasa, with Penden Gyeltsen and others. Yeshi Dhonden himself remained evasive during a short interview about where exactly he learned how to make *tsotel*, but emphasized that he shared the same lineage, textbooks, and teachers with Tenzin Chödrak. I asked him whether he gave his *tsotel* lineage to some of his students. He answered: "I gave it to many students, but they did not practice it. Many students know the method, but they are not using it. Maybe it is too difficult. It is all written in the text very clearly,

but they are not practicing."[148] Yeshi Dhonden was the first physician to express that the textual descriptions were very clear. Other physicians I spoke with rather rely on their teacher's and personal notes and find the published texts too ambiguous.

Despite his advanced age, in 2012 Yeshi Dhonden was still working as a physician, seeing many patients a day. As he began attending to patients' records and letters with his assistant, I continued the conversation with Lobsang Tenzin, who has worked with Yeshi Dhonden since 1964. He told me that they still use the *tsotel* of 1985 to make their precious pills,[149] which would mean they add *tsotel* only in miniscule amounts. According to Lobsang Tenzin, Yeshi Dhonden has not processed mercury since 1985. He does not make *kardül* or *drangdül* and does not use *chokla* (roasted cinnabar) to coat his pills. This is what Yeshi Dhonden himself told me during a short interview that was very difficult to schedule.[150]

There were also additional sources of *tsotel*. According to Amchi Tashi Y. Tashigang (see next section), at some point Yeshi Dhonden brought some *tsotel* from Lhasa and gave some to Tashigang.[151] He also received some *tsotel* as a gift from the Tibetan aristocratic Trétong family in the 1980s.[152] As mentioned before, aristocrats were part of the *chöyön* network back in Tibet; gifting *tsotel* to a private physician in exile, who is then able to make precious pills, is a highly valued practice in Tibetan society. To donate medicinal substances (usually unprocessed ingredients) rather than money to a physician is called a victorious donation *(rgyal ba'i sbyin)*, and is considered virtuous.

Yeshi Dhonden's situation is a rare example of a private medical practitioner outside the institutional and monastic setting who managed to make *tsotel* within his own establishment or receive it readymade through his *chöyön* networks.

## MAKING *TSOTEL* IN DELHI AND KATHMANDU

The medical career of Amchi Tashi Yangpel Tashigang (born 1938) is an example of the geographical territory that Sowa Rigpa physicians often have to bridge to gain access to medical knowledge if they are trained outside institutions.[153] Born in Ladakh into a family of physicians, Amchi Tashigang first received training through his family lineage. Later, he had access to the large corpus of Tibetan medical literature when he worked under Gene

148 Yeshi Dhonden, interview, McLeod Ganj, December 3, 2012.
149 Lobsang Tenzin, interview, McLeod Ganj, December 3, 2012.
150 Yeshi Dhonden, interview, McLeod Ganj, December 3, 2012.
151 Tashi Y. Tashigang, interview, Delhi, March 4, 2016.
152 Chöphel Kalsang, personal communication, McLeod Ganj, December 4, 2013. Tashi Tsering Josayma later told me that Trétong Gyurmé Gyatso (1890–1938) held important positions back in Kham, where he might have had access to *tsotel* that the family later took to India.
153 This account is based on interviews with Amchi Tashigang in Delhi in December 2011, August 2012, and March 2016. For a short account of his life see Pasang Yonten Arya (n.d.).

Figure 24: The author with Amchi Tashi Yangpel Tashigang at his clinic in Delhi, April 2016. Photo: Thomas K. Shor (Shor 2016 / CC-BY-SA 4.0).

Smith's supervision at the Library of Congress in Delhi (1968–1985) before establishing his own clinic and pharmacy in Delhi (see Fig. 24). After 1986 he travelled to Lhasa on many occasions to collect Tibetan medical texts and receive instructions from Jampa Trinlé, the director of the Mentsikhang, as well as Karma Chöpel, who took part in making *tsotel* at Powo Tramo in 1977 (Gerke 2015a, 890).

Amchi Tashigang's *tsotel* training was two-fold. First, Amchi Karma Chöpel gave him private theoretical instruction in Lhasa. Second, he received the practical *tsotel* transmissions from Amchi Kunsang Kunphen (1924–2006) of the Tibetan Nyalam region, who had been trained in *tsotel* manufacturing by the medicine compounder, or *menjorpa*, Topgyel of Lhasa Mentsikhang. Amchi Kunsang Kunphen settled and established his clinic and pharmacy in Kathmandu in 1973 after successfully treating King Tribhuvan of Nepal.[154] He later built the Nyalam Medicine Factory in the Tibet Autonomous Region (TAR), which currently produces the *tsotel* for the precious pills made at Kunphen clinic in Kathmandu.[155] In return, some batches of precious pills are sent to Nyalam, since the factory currently

154 See the official website of the Khunpen clinic on its history (Khunpen 2019).

155 They produce 163 types of medicines, among them eight precious pills: Rinchen Drangjor Chenmo, Ratna Sampel, Mangjor Chenmo, Tsodru Dashel, Yunying 25, Jumar 25, Jumar 70, and Chakril Chenmo, as well as "miracle pills" and *chülen* pills. Florian Ploberger, personal communication, February 1, 2015. See also Khunpen (2018).

does not produce precious pills itself.[156] Sometime around late 1985, Amchi Kunsang Kunphen came to Delhi to make *tsotel* with Amchi Tashigang.[157] They were open to innovation and experimented with machinery to facilitate the grinding and burning processes until they came up with workable results, in the process also experiencing actual explosions of clay pots while burning the eight metals.[158] Amchi Tashigang has gone on to produce precious pills for the European market without *tsotel*. He also produced reformulated mercury-free precious pills for a German migraine study (Aschoff and Tashigang 1997). The precious pills he provides locally to his patients in India, however, sometimes contain *tsotel*.[159]

Amchi Tashigang and Amchi Kunsang are examples of independent physicians who became entrepreneurs, establishing their own clinics and pharmacies, relying on their own networks, finances, and expertise to be able to produce *tsotel* and make precious pills. Amchi Kunsang had royal patronage from the king of Nepal, which helped him to gain recognition in Nepal, but otherwise both amchi seem to have made their medicines outside traditional Tibetan *chöyön* structures.

## MAKING *TSOTEL* IN LADAKH

Skilled physicians who are able to finance a *tsotel* event by themselves—such as Yeshi Dhonden, Amchi Tashigang, and Amchi Kunsang—have been exceptions. As a member of an established Tibetan aristocratic family, the Nyingma lama and Tibetan physician Sampel Norbu Trogawa Rinpoche made *tsotel* back in Lhasa, financed by his father.[160] In exile in India, he relied on existing *chöyön* networks; two of his *tsotel* events were sponsored by Buddhist lamas linked to his lineage.

According to Amchi Lobsang Tsultrim (1921–2004?), Trogawa Rinpoche made *tsotel*—"about the size of two high thermos flasks"—in 1954, in a group of nine physicians and attendants at Trogawa House in Lhasa (Stephens and Tsarong 1992, 12). They were taught by Nangrongshar Rikdzin Lhündrup Penjor (1889–1986?), who held the Chakpori lineage and ran a private school and clinic in Lhasa. He was Trogawa Rinpoche's main medical teacher and was present during the 1921 *tsotel* event in Lhasa (Pasang Yonten 1988, 178/3–4).

Trogawa Rinpoche came to India in 1956 and taught at the Men-Tsee-Khang in its early years (1964–1967), where conditions were not favorable to initiate the making of *tsotel*. In 1992 he founded Chagpori Tibetan Medical Institute (CTMI) in Darjeeling, which became a recognized NGO in 1993.

156 Calum Blaikie, email communication March 16, 2016. See also Blaikie and Craig (forthcoming). According to Amchi Tashigang, in the past Amchi Kunsang did make *tsotel* and precious pills both at Nyalam and in Kathmandu (personal communication, Delhi, March 10, 2018).
157 He also once bought *tsotel* from the Mentsikhang in Lhasa. Interview, Delhi, March 4, 2016.
158 Tashi Y. Tashigang, Interview, Delhi, March 4, 2016.
159 Tashi Y. Tashigang, Interview, Delhi, March 4, 2016.
160 Tsewang Trogawa, personal communication, Darjeeling, December 7, 2018.

After Trogawa Rinpoche's demise in 2005, his nephew Teinlay Palsang Trogawa was elected as CTMI director. Teinlay Trogawa's son (b. 2006) was recognized as the reincarnation of Trogawa Rinpoche in 2016.

In 1992, I completed the first year of medical studies at CTMI in Darjeeling. At that time, students were involved in making medicines, but we did not use mercury. In 2001, on invitation of Trogawa Rinpoche, Rakdo Rinpoche from CIHTS taught the making of the shorter mercury processing techniques *kardül* and *drangdül* to CTMI students.[161] Notably, several of the early CTMI graduates have established their own pharmacies in India and Nepal. Tenzin Phelgye, a graduate of the first batch of CTMI who received the *tsotel* lineage from Trogawa Rinpoche in Ladakh in 2002 and currently directs the CTMI pharmacy, has prepared precious pills with *tsotel* that Trogawa Rinpoche made in Ladakh. Sherab Tenzin, also a first batch graduate, established a clinic and pharmacy in Nepal and sometimes bought ready-made *tsotel* from eastern Tibet through connections with a Rinpoche in Nepal.[162]

The case of Trogawa Rinpoche making *tsotel* in Ladakh demonstrates how *chöyön* relationships have supported small-scale *tsotel* events in exile. Beginning in 1992, Trogawa Rinpoche developed strong ties with amchi in the village of Nee, situated upriver from Leh in the remote Changthang Rong region of Ladakh (Fig. 25). The Ladakhi Amchi Nawang Tarchin stayed with Trogawa Rinpoche for many years, eventually graduating from CTMI, and Rinpoche often went to Nee during the summer to make medicines. Ladakhi amchi told me that Ladakh has no living tradition of making *tsotel* and depends on visiting specialists from outside. Trogawa Rinpoche made *tsotel* twice in Nee, in 1994 and 2002. Both events were sponsored by Buddhist lamas, relying on traditional *chöyön* networks. In 1992 and 2004, Trogawa also presided over an extensive *mendrup* ritual[163] to compound and consecrate Dharma nectar medicine, or *dütsi chömen (bdud rtsi chos sman)*, and in 1992 he bestowed the Yutok Heart Essence empowerment, known as Yutok Nyingtik (G.yu thog snying thig) (Gerke 2018b).[164] He is still highly respected in the area (Fig. 26).

In 1994, Trogawa made 1.1 kilograms of *tsotel* in Nee with eight amchi and lamas, all from Ladakh.[165] They prepared the precious pill Tsodru Dashel.

161 Rakdo Rinpoche, interview, Sarnath, March 16, 2015.

162 Sherab Tenzin, personal communication, Kathmandu, November 19, 2011.

163 *Mendrup* rituals are widespread in Tibetan societies. They are performed by amchi to consecrate general Sowa Rigpa formulas, but special *mendrup* medicine is also compounded and consecrated during *mendrup* rituals, usually at monasteries, and distributed to the public. *Mendrup* medicine is attributed with a variety of physical and spiritual benefits. See Cantwell (2015), Garrett (2009), and Sehnalova (2018) for examples.

164 This is a Nyingma spiritual practice for amchi that enables them to consecrate their medicines and perfect themselves as tantric and medical practitioners. See Garrett (2009) and Ehrhard (2007) on its history and van Vleet (2015, 2016) on its importance in different medical and Buddhist schools.

165 The following amchis were present: Amchi Lama Rigzin, Amchi Lama Wangchuk, Kairy Amchi Tsering Paljor, Amchi Katak, Amchi Karma, Amchi Padma Tsetar,

Figure 25: The remote village of Nee, Ladakh, on the upper Indus River, where Trogawa Rinpoche made *tsotel* twice, in 1994 and 2002. Photo: Thomas K. Shor (Shor 2018 / CC-BY-SA 4.0).

Figure 26: A photo of Trogawa Rinpoche at the old temple in Nee, Ladakh. Photo: Thomas K. Shor (Shor 2018 / CC-BY-SA 4.0).

They stayed together in a retreat-like situation and kept their manufacturing a secret. One of the participants told me informally that they made the clay pots themselves (Fig. 27) "with a special clay brought from far away and boiled the mercury in a stone pot rarely found in Ladakh." Trogawa Rinpoche had brought small gold nuggets, and they took them to a goldsmith to make them "as thin as bee wings." The event was sponsored by Amchi Lama Rigzin, head of the monastery in Nee.[166] Trogawa Rinpoche kept some of the *tsotel*, some was offered to the Gyalwang Drukpa Rinpoche,[167] and the Nee Amchi Society received some as well, of which they currently still own 500 grams.[168]

In 2002, Trogawa Rinpoche made around seven kilograms of *tsotel* in Nee.[169] The CTMI graduates Amchi Lhakpa Ngödrup and Amchi Tenzin Phelgye were trained at the event. Following traditional *chöyön* structures, which also link lineages across (re)incarnations of Buddhist masters, the event was sponsored by Dzongsar Jamyang Khyentsé Rinpoche (b. 1961), whose previous incarnation was Trogawa Rinpoche's root guru and spiritual teacher, Dzongsar Khyentsé Chökyi Lodrö (1893–1959). When I interviewed Dzongsar Khyentse Rinpoche about this event, he said, "It was my idea to sponsor *tsodru chenmo*." On my asking why, he responded: "I know, Trogawa Rinpoche is great, and I wanted him to make it, that is the only reason. I know *tsodru chenmo* is really, really special. That is the only reason." Recalling from other events how the sponsoring lama receives most of the *tsotel*, I asked whether he received any. Unsurprisingly, he said, "I got almost all of it.[170] I keep it in Bhutan, in a marble box. I hope it is not rotting."[171] Dzongsar Khyentse had no time to explain the ritual purposes for which he would use the *tsotel*. As a precious substance, *tsotel* can be placed as a *jinlap* (*byin rlabs*, a form of blessing and consecration) inside of Buddhist shrines and statues. It is also added as a "fermenting agent" called *papta (phab rta)* or *papgyün (phabs rgyun)* or an "add-on" substance called *khatsar (kha tshar)*[172] to other blessed substances that are made at monasteries, not pharmacies, such as the popular "accomplished medicines,"

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Amchi Nawang Tsering, and Amchi Nawang Tarchin. Amchi Lama Rigzin, personal communication, Nee, August 24, 2018.

166 Teinlay Palsang Trogawa, personal communication, Darjeeling, October 29, 2012.

167 This refers to the Twelfth Gyalwang Drukpa, Jikmé Pema Wangchen (b. 1963), who is the current head of the Drukpa Kagyü lineage of Tibetan Buddhism.

168 Amchi Nawang Tsering, personal communication, Nee, September 21, 2018.

169 Amchi Nawang Tsering, personal communication, Nee, September 21, 2018. Parts of this event were described by Blaikie (2014, 276). The same Ladakhi amchis participated as in 1994, except Amchi Karma and Kairy Amchi Tsering Paljor, who only came for parts of the process. Teinlay Palsang Trogawa was also present. Amchi Lama Rigzin, personal communication, Nee, August 24, 2018.

170 Of the seven kilograms that were prepared, the amchi in Nee received one hundred grams of *tsotel*, which they still preserve. Amchi Nawang Tsering, personal communication, Nee, September 21, 2018.

171 Interview, Bir, April 29, 2015.

172 *Papgyün* refer to small amounts of a compound that are added to future batches as a way of transmitting lineage and potency across many batches of medicines. *Khatsar* can be an (un)processed substance but also a blessed ingredient adding *nüpa* to other compounds (Gerke 2018a).

Figure 27: Some of the earthen clay pots that were especially made for Trogawa Rinpoche's preparation of *tsotel*, such as for burning the eight metals and eight minerals. They are still kept at the Nee Amchi Society (Ogyan Sorig Tsogspa), established in the 1970s. Photo: Thomas K. Shor (Shor 2018 / CC-BY-SA 4.0).

called *mendrup*. In Nee, in 2002, the amchi could not make precious pills, but prepared the formula Dashel Dütsima adding some of the *tsotel* and following Trogawa Rinpoche's secret transmission, which included adding some of his own *khatsar* to the formula. In 2004, some *tsotel* was added as a *khatsar* to the *dütsi chömen*, which Trogawa Rinpoche prepared during a *mendrup* ritual.

With the passing of Trogawa Rinpoche, the Ladakhi amchi lost an experienced medical and spiritual teacher. None of the amchi trained by Trogawa Rinpoche has since been able to make *tsotel*. Funds are easier to get than a trained specialist. One of the Ladakhi amchi, who was a student assistant in 2002, said:

> A sponsor can be found. Collecting all the ingredients is expensive. We can collect the money. But you cannot collect the knowledge. [...] You need a very good teacher and guide who is skilful, confident, and doubtless, who can decide what is the right material.[173]

The manufacturing of *tsotel* described above was a small-scale private affair in a rural village in Ladakh and not connected to the medical school at the Central Institute of Buddhist Studies (CIBS) in Choglamsar, or to any of the other small-scale hereditary lineage pharmacies (Blaikie 2014).

173 Interview, Kathmandu, December 14, 2011.

Similar to the Himalayan region of Lahaul-Spiti and Nepal, Ladakh did not have any monastic or institutional medical schools before the 1990s (Besch 2007; Blaikie 2014). Since the recognition of Sowa Rigpa under AYUSH, they are receiving more government funding, and they now offer a six-year diploma course in Sowa Rigpa (Bhot Buddhist Medical Sciences).[174] However, they do not teach *tsodru chenmo*. According to Blaikie, precious pills have a different status among Ladakhis: "The most well-known types of precious pill are familiar to many Ladakhis, but are nowhere near as popular as they are in Tibetan exile communities across India and in China" (Blaikie 2014, 274). The reasons seem to be varied. From the perspective of the amchi they are largely economic, since rural Ladakhi amchi prefer "to spend what cash they have on raw materials and ordinary medicines" and do not keep precious pills in stock. *Tsotel*-containing precious pills are available only in Leh at the Men-Tsee-Khang branch clinic, and are particularly popular amongst the Tibetan refugee population (2014, 275).[175]

This raises questions for future research of whether, how, and why the making of *tsotel* is such a unique Tibetan cultural practice that has not (yet) been established in other countries or geographical areas where Sowa Rigpa is widely practiced, largely by non-Tibetans, such as Ladakh, Nepal, Bhutan, Buryatia, and Mongolia. The closely-knitted lineage relationships that shape the *chöyön* dynamics in the above examples, along with the individual and selective, secret knowledge transmissions, provide at least parts of the answer.

## LOSING, RE-GAINING, AND CONTROLLING *TSOTEL* SKILLS

The previous sections introduced *tsotel* events that received state, institutional, or other forms of traditional *chöyön* support, or in a few cases relied on private entrepreneurship. What happens if such support fails to materialize, if knowledge is not transmitted, and educational settings face too many challenges to facilitate a full transmission? I first take the example of two amchi in Nepal to illustrate how failing *chöyön* networks in exile and challenges of procuring ingredients have contributed to the loss of *tsotel* skills.

I met Amchi Wangchuk Lama, introduced in Chapter 2, during the Kathmandu Sowa Rigpa workshop in 2011. During an interview he told me how he made *tsotel* in 1955 at the Drakkar Taso Monastery in his home region of Kyirong in southwestern Tibet. The teacher and sponsor was the monastery's last acting lama, Kargyü Tendzin Norbu Rinpoche (1899–1959).[176] They made two to three kilograms of *tsotel*, which were kept at the monastery. Since the Rinpoche fell ill it was not possible to

174 The syllabus is published on their website. See CIBS (2018).

175 See also Blaikie (in press) on the popularity of precious pills among the high-altitude Changthang nomads.

176 See Sernesi (2019) on the history of the abbots of this monastery. See van Vleet (2012, 2015) on the medical traditions at Drakkar Taso and one of their abbot's

make *tsotel* a second time.[177] Shortly after, the Chinese invaded the area and Amchi Wangchuk fled to Kathmandu. Now in his seventies, he remembers, "Of all the amchi I made *tsotel* with, I am the only one still alive. It took us twenty-eight days with a group of six or seven amchi. We were able to make two types of precious pills with it."[178]

Amchi Wangchuk has not been able to prepare *tsotel* since he came to Nepal, but feels confident he could make it if the required infrastructure and financial support were there. For a while, he made *kardül* for his formula Ngülchu 18 with mercury traded from Delhi, until mercury became too expensive. He sometimes bought ready-made *tsotel* from other pharmacies, mostly from Tibet. "But the price is high," he complained in 2011, and "since it is an ash you cannot tell if they really put in the expensive gold or not. So I stopped buying it." He still had a stock of 500 grams at his home in Kathmandu, which he showed me one day, and even gifted me a small sample, which I greatly treasure. In 2019, he made several precious pills with *tsotel* from Degé.[179]

In Nepal, most amchi are trained through apprenticeship and are not linked to any of the large medical institutions in India. They still struggle for the Nepal government to recognize Sowa Rigpa (Craig 2007), a cause which Amchi Wangchuk was actively involved in through the Himalayan Amchi Association (Craig 2008). He took part in the Kathmandu workshop, where we also discussed mercury processing (see Blaikie et al. 2015, 190–191). During the workshop, the visiting physicians from Tibet told us that they had the advantage of having received extensive *tsotel* training and the lineage from Khempo Troru Tsénam. The Himalayan amchi requested the four co-organizing anthropologists (Craig, Blaikie, Hofer, and myself) to organize a *tsotel* workshop to be held in Lhasa. Being able to make precious pills themselves would enable them to treat more diseases and improve their financial situation. The idea was so well received that some of the physicians wanted to contribute their own funds to pay for the gold. However, thinking through the management and expense of a three-month workshop in Lhasa made us quickly realize that it was financially impossible. In the end, the idea of a *tsotel* workshop faded behind the more pressing issues of practicing Sowa Rigpa in Nepal. In summer 2015, when the main co-organizing anthropologist at the workshop—Sienna Craig—again visited Nepal, the idea of the *tsotel* workshop with invited experts from Lhasa was still expressed to her as an important program to organize, even in

medical writings, which includes texts on mercury processing and precious pills.

177 Follow-up interview through Jan van der Valk, Kathmandu, September 23, 2019.

178 Interview, Kathmandu, December 17, 2011.

179 He prepared Rinchen Tsodru Dashel, Yunying 25, Rinchen Mangjor Chenmo, Jumar 25, Chakril Chenmo, and Rinchen Da-ö. Note that some of these formulas do not require *tsotel*. Follow-up interview through Jan van der Valk, Kathmandu, September 23, 2019.

Kathmandu.[180] Clearly, the Himalayan amchi in Kathmandu are still actively looking for an authoritative lineage transmission and *chöyön* support (foreign sponsors), as well as specialized teachers from Lhasa, to gain the skills and opportunities to manufacture *tsotel*. In the PRC, new types of *chöyön* support networks have been established, but it is beyond the scope of the book to include them here.[181]

Amchi Tsultrim Sangyé (1940–2011) was the head of a Bonpo medical school in Dhorpatan near Kathmandu, the so-called Bonpo School of the Four Medical Sciences of the Early Tradition (Sngar srol gso rig 'bum bzhi'i slob gra). He was better known as Amchi Gege and had received *tsotel* training in Tibet. His student, Amchi Nyima Sampel (born 1969, Jharkot, Mustang) told me that Amchi Gege's first *tsotel* training was with Troru Tsénam at the Powo Tramo labor camp, where Amchi Gege was an inmate for many years. After settling in Nepal in 1983, he tried for several years to collect the ingredients to make *tsotel*, but did not succeed. He also wanted to send Amchi Nyima Sampel to eastern Tibet to receive the *tsotel* training from Bonpo amchi in Dechen, but Amchi Gege's sudden death in 2011 disrupted these opportunities. Through connections with the Bonpo amchi community in Dechen, Amchi Nyima Sampel received some *tsotel* and precious pills, but has not been able to be trained in *tsotel* production.[182] Amchi Wangchuk Lama and Amchi Nyima Sampel only used the shorter mercury processing methods to make *kardül,* and they knew how to process cinnabar rock into *chokla* to coat some of their pills.

The examples presented above document the changing pharmaceutical nexus of *tsotel* training and manufacturing in exile. They raise questions regarding opportunities of medical knowledge transmission among amchi living in India and Nepal and the continuity of the *tsotel* lineage transmissions. Pordié and Blaikie (2014, 364) observe in their analysis of medical education in Ladakh that knowledge transmission, especially in the newly emerging institutional settings, "suits the preparation of professional physicians, but is inadequate for the training of competent practitioners in terms of pharmacy." Their observations reverberate in the data presented here in that none of the institutionally trained physicians in India or Nepal have been able to make their own *tsotel*, and those who make *tsotel*-containing precious pills rely on *tsotel* from Tibetan manufacturers.

180 Sienna Craig, personal communication, 2015.

181 There would be many examples in the PRC. I documented two: a recent Bonpo *tsotel* manufacturing event in the region of Dechen in eastern Tibet indicates a continuation of *chöyön* structures, somewhat modified to integrate PRC government requirements on the county level, which has also helped amchi to receive more official recognition for their formulas and practices (discussed in Gerke 2013a). In some cases, small-scale *tsotel* manufacturing has contributed to the affordability of precious pills for rural Tibetans. The Tibetan physician Jamyang Lhündrup documented the making of *tsotel* in Lhokha, southern Tibet, in 1991, which cut the price of precious pills by 80% for local patients (Jamyang Lhündrup, n.d., 6/20; this is also discussed in Gerke 2019c).

182 Amchi Nyima Sampel, personal communication, September 11, 2013, IASTAM conference, South Korea.

Medical institutions that are able to make *tsotel* without *chöyön* support have the advantage of keeping the entire amount of *tsotel* to make medicines, and thus control production, price, and knowledge transmission. Currently, the largest production of *tsotel* in India is at the Men-Tsee-Khang in Dharamsala (see Appendix B), which also provides the largest amount of precious pills.[183] While smaller clinics in India and Nepal make precious pills themselves by acquiring *tsotel* through connections in the PRC,[184] this has not empowered those physicians to (re)gain the necessary lineage transmissions, *menjor* skills, and *chöyön* support. Overall, we can observe that while *tsotel* and precious pills have gained political, economic, and spiritual potency, the lack of *chöyön* support has contributed to a decline of the *tsotel* practice in exile outside large institutions. Although the contexts vary, this finding supports what Pordié and Blaikie lay out for Sowa Rigpa in Ladakh (2014), where individual *menjor* skills give way to more institutionalized learning and production of medicines. The pharmaceutical nexus here captures these multiscaled dynamics of a pharmaceutical practice in transition to more institutionalized settings. This also raises questions of how changing transmissions of taming skills correlate to ideas of safety. We shall see in Chapter 6 how the consumption of *tsotel* by the head of the Pharmacy Department after successful processing becomes a public statement of trust in the institutional production of *tsotel*.

In the PRC, precious pills are driving a large-scale Sowa Rigpa pharmaceutical industry, often with a complex ownership of different shareholders and different manifestations of lineages in local and moral economies, the study of which is beyond the scope of this book.[185]

During the last decade, new global actors have entered the pharmaceutical nexus of Sowa Rigpa mercury practices, introducing their concerns about mercury toxicity, which did not feature in the histories told above. The new generation of Tibetan physicians opening their own pharmacies have to decide whether to use mercury in their medicines at all, and if so, how. Most private amchi I spoke with, especially those who send their medicines abroad, want to avoid colliding with toxicity debates and border controls in countries where the use of mercury in medicine is illegal. Chapters 6 and 7 present further examples and an analysis of how different

183 The list of *tsotel* events at the Men-Tsee-Khang in Appendix B shows the increase in frequency and amounts manufactured. Production of *tsotel* more than doubled from sixty kilograms in 1982 to 128 kilograms in 2014. Data on precious pill manufacture at the Men-Tsee-Khang is only partially available online (MTK 2017d). Because demand is higher than production, sales are currently controlled (Gerke 2017a).

184 I have not heard of *tsotel* from the PRC openly for sale in India. Some pharmacies, e.g. the Qinghai Provincial Tibetan Medical Hospital in Xining, strictly regulate their *tsotel* distribution (Tawni Tidwell, personal communication, February 21, 2016).

185 Stephan Kloos, email communication, November 19, 2018. Tawni Tidwell, personal communication, Vienna, February 2019.

notions of safety and toxicity shape, "tame," regulate, and endanger the continuity of *tsotel* practices in the twenty-first century.

The next two chapters explore textually and ethnographically when and how the *tsodru chenmo* practice was introduced to Tibet and how its knowledge was transmitted. How have ideas of gender and secrecy affected related knowledge transmissions and the writing and publication of *tsotel* manuals in the past and today? Chapter 5 focuses specifically on how ideas of taming mercury have influenced perceptions of its safety and how this translates into the exclusion of women from the practice, with some notable exceptions.