Part II: Present Practices

Collectors, Producers, and Circulators of Tibetan and Chinese Medicines in Sichuan Province

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Abstract

The act of prescribing pharmaceutical drugs to patients is normally the site of judgments about the drug's efficacy and safety. The success of treatments and the licences for commodities depend on the biochemical identity of the drugs and of their path and transformations inside the body. However, the 'supply chain' outside the body is eschewed by such discourse, and its importance for both pharmaceutical brands and physician-centred historiographies is ignored. As this ethnographic fieldwork on Tibetan and Chinese medicines in Sichuan shows, overlooked social actors ensure reliable knowledge about medicinal things and materials long before patients take their medicine. This paper takes a step back from the final products—clearly defined as 'Tibetan' or 'Chinese'—and introduces those who produce and distribute them. Via observations of particular regimes of circulation and processing, the actions of collecting, manufacturing, transporting, and educating appear as the first and foremost acts of efficacy and safety.

Keywords

materia medica – Sichuan Province – East Tibet – ethnic mapping – occupational relations – history of pharmacy and botany – nationalities in PRC history – scalability

Reliable knowledge about the identity and quality of medicinal materials is a crucial criterion to evaluate the efficacy and safety of medical treatments.¹ Suppliers in present-day China carry out various roles as collectors, manufacturers, distributors, and educators to produce and exchange their materia medica knowledge within and across their different cultural, occupational, and historical contexts. To this end, the labels of medicinal materials, in both Chinese and Tibetan terms and phrases, specify 'authentic' (*daodi* 道地) chains of supply with reference to producers and trusted suppliers. Such content can be read in prefixes and suffixes of names for medicinals, it is named on the labels by giving sites or regions of supply—and it can be reconstructed more thoroughly by ethnographic fieldwork. Based on my own fieldwork, I pose the following questions on how do diverse suppliers share or carry out a number of roles, how do they select information for labels on the packages of their products, and how do they communicate with each other in day-to-day trade relations about materia medica, medicine, and pharmacy? This paper demonstrates the crucial role such ethnically diverse suppliers in Sichuan Province (*Sichuan sheng* 四川省) play in collecting, producing, and circulating high-quality medicinals that are—as these insiders agree—specific to this province. Not just the commodities are regarded as authentic, but suppliers have prestige for their artisanal know-how and exclusive insights into the materiality of high-quality drugs (smells, taste, dry/oiliness, colours, fresh, mouldy, or well-preserved textures). However, their crucial roles in the process of manufacture and circulation have so far been underestimated, overlooked, and undertheorised in regard to both their heterogeneous economy, their respective educational training of identification, collection, and manufacturing techniques, and their skill in cultural translations between different languages and ranges of knowledge about how to ensure efficacy and safety of the medicinals used. Acting outside the realm of the major licensed brands

1 My interviewees and colleagues in China and East Tibet have made this research possible. I am grateful also for critique by the reviewers, the editors, and by several audiences and speakers: at the EAST*medicine* seminar series 2012/2013, at a panel in three sessions at ICTAM 2013 in Korea, at workshops 2014 at the University of Westminster and at the University of Vienna about the material turn in migration and cultural studies, and my fellow panellists at the annual conference of AAS 2014. My fieldwork (in 2012, 2014, and 2015) that this article is based upon has kindly been supported by the Wellcome Trust via Volker Scheid's grants including mainly our current collaborative project 'Beyond Tradition: Ways of Knowing and Styles of Practice in East Asian Medicines, 1000 to the Present'. Additionally, I have been supported in 2012 by a fellowship awarded by the D. Kim Foundation for the History of Science and Technology in East Asia, and a fieldwork grant from the Dean of the Faculty of Philological and Cultural Studies at the University of Vienna in 2013.

of pharmaceutical products, and lacking a single scientific lingua franca, the Tibetan and Han-Chinese suppliers in Sichuan both claim cultural authenticity of their expertise, labelling their products accordingly.

Background: Archives and Science in ‘Han-Territory’ and in ‘Kham’ on the South-Eastern Tibetan Plateau

Materia medica in China is a multi-ethnic field—increasingly globalised and highly contested—where different official and informal suppliers find and use common labels for their products. By reducing the complexity of ethnic origins, they selectively recognise ethnic boundaries. Yet they communicate, across these demarcations, about medicinal materials and their identities and qualities. ‘Chinese medicinals’ (*zhongyao* 中藥) are comparatively well established in China and beyond with respect to their ethnic ‘Han’ (漢) background. These things carry myths about identities and origins that are conjured up by suppliers to guide current communication and multi-ethnic exchange. However, they do not indicate to the scientist or anyone straightaway what their identities are exactly *per se*, and they have a number of scientific names: in Chinese and in Latin, used in pharmacy on ethnically particular terms, or in botany, and recognised in economic regulations of various branches in China and in other world regions. Nor do the medicinal things disclose directly to the historian what the facts of their distant cultural background might be, as archives are structured historiographically along grammars of identity/alterity.² Medicinal things circulate in economies that do not strictly separate ethnic gifts from market commodities.³ As ‘singularities’⁴ they can be exempt from monetary evaluation: they circulate via a different kind of symbolic and material economy. As commodities, these things have identities and qualities that require prior knowledge and careful reading of materiality. For industrial commodities also, the specific making of material matters—as with the 1950s Citroen car of Roland Barthes’ *Mythologiques* (1957) that turns into a Goddess of shining materials to be exhibited and touched by the visiting admirers, or the types of washing powder that give different textures to the life-worlds of actors by the fabrics washed in these chemicals.

2 See Thomas 1963 for the classic call for contributions of anthropological theory to the history of society and economy with the aim to investigate such myths and take the ‘total’ of gifts, for instance, into account.

3 Strathern 1988.

4 Appadurai 1986; Karpik 2010.

As my fieldwork shows, suppliers of such Chinese medicinals in the Tibetan area of Sichuan Province, known as Kham among Tibetans,⁵ identify plant, animal, mineral, or metal materials and compounds broadly by their origin in 'Han-territory' (*Handi* 漢地). Thus, speaking in Chinese, Tibetans and Han identify as 'Han'—that territory as well as that realm of medicine—all the regions of China and specifically in their province Sichuan that are not situated within autonomous ethnic territory of Tibetans and other non-Han minorities (i.e. counties, prefectures, and the Tibetan Autonomous Region TAR). They rarely speak about distinct 'Chinese medicinals' in their communications about supply. Furthermore, in Tibetan language the things broadly named as 'medicinal materials' (Tib. *khrog sman*) are crude and may have been imported from outside the region of Tibetan culture and medicine production. They are grouped together in Tibetan discourse among the diverse suppliers not according to any ethnic 'essence' but just as imports from any region. Below follow examples of this use of language by physicians, *menpa* (Tib. *sman pa*), and producers of Tibetan medicine in East Tibet. At the same time, other suppliers, or sometimes the same ones even at the same site, successfully sell and physicians prescribe 'Chinese medicinals' as 'Chinese medicine' treatments in standard formulas. Such overlaps of Tibetan and Chinese supply occur not only at the medicinal markets throughout Sichuan but also in the practice of Tibetan and Chinese prescription of medicines. The sheer availability of these Chinese medicinals—as well as citations in science publications and also their historiographical background in East Asia—makes 'Chinese' (*zhong* 中) the most widely recognised framework for labels of non-biomedical, so-called 'traditional' medicinals. Hence, besides biomedicine, 'Chinese' or 'Han' medicine constitute the second most important framework for communicating the identity or quality of medicinals in China. Two Chinese terms in particular are used to demarcate this field: 'materia medica' (*bencao* 本草) means both medicinal materials and textual records (in Chinese language) about them. They are not just restricted to Chinese medicine; therefore, the multi-ethnic range of Chinese medicinals just being called 'materia medica' remains unclear and may include and integrate any medicinals from non-Han contexts that are available for any medical treatment throughout China's territory that are held to be efficacious and safe.

The names and labels of non-Han medicinals such as Tibetan ones—even though they, too, are used and traded throughout the territory of the modern Chinese state and, in the case of Tibetan medicine, refer to a well-established

5 Kham lies mostly in the area of Sichuan, refers to local Tibetan dialect and identity as 'Khampa'.

textual archive⁶—are less widely recognised by clients for a particular cultural way of products and prescription. ‘Tibetan medicinals’ (*zangyao* 藏藥) have an adjective in Chinese that identifies their ethnicity as ‘Tibetan’. When suppliers, on the other hand, speak in Tibetan language, they do not call themselves ethnically Tibetan. Asked about their occupational name or title, they humbly reply that in Tibetan they should be ‘physicians’ (*menpa*). Rather than an ethnic distinction, between Tibetan versus Han suppliers for example, the distinction in this conversation is occupational. Ideally, suppliers of Tibetan medicinals should also understand medicine and pharmacy well enough to diagnose patients and prescribe the (Tibetan) medicines. Similarly, the medicines they supply do not have an adjective for a particular ethnicity either and, in Tibetan, are ‘medicine’ *men* (Tib. *sman*). Tibetan and Chinese medicines both are more established than the so-called ‘nationality medicines’ (*minzu yiyao* 民族醫藥). These connote ‘minority nationality’ (*shaoshu minzu* 少數民族) and lack an archive of scholarship—such as the ones in Chinese and in Tibetan languages. As a consequence their present-day socioeconomic recognition are significantly less easily identified or labelled.⁷ Some of their cultural demarcations are still in the making.⁸ Therefore, at the current state of ethno-economic labels of medicinals in contemporary China, both Chinese and Tibetan medicines are operating alongside of biomedicine and constitute a second, and sometimes even a third, regime of circulation and identification: they both conjure up existing networks of supply and, behind them, centuries of history and regulative naming of materia medica.

Ambiguity in the material identities and labelling of crude drugs indicates the cultural inventiveness and rich repertoire of Sichuan materia medica. However, suppliers need to mould this medical pluralism into products with clear and meaningful names. Identifying reliable raw materials and processed medicinals for safe and efficacious treatments thus requires the work of highly skilled suppliers extending from the collectors of raw products to the manufacturers of processed drugs, and thence to the various traders, middlemen, markets, and licensing institutions. Together these various social actors establish criss-crossing networks of circulation in which medicinal substances and multi-component pharmaceuticals move from one site of production to the next. For each medicinal product, the exchanges mediated through and within these networks constitute distinctive chains of supply, manufacture, and

6 Chen and Cai 1997, esp. ch. 3, p. 140; Czaja in this special issue; Hofer 2014.

7 For an exceptional linguistic reference tool of an ethnic minority, on (partly medical) plant knowledge in Dongba language, see Mueggler 2011.

8 Farquhar and Lai 2014.

labelling. Such chains frequently spread across vast distances and, in doing so, cut across political boundaries and ethnic territories. Based on multi-sited ethnography and fieldwork over a period of four years, this article examines the sites of such processing of medicines, and reveals the traffic by producers from one site to the next in contemporary Sichuan province.

In Sichuan, the west of China overlaps with the south-east of the Tibetan Plateau; that is, with the major part of the region called 'East Tibet' in Tibetan studies. In the Tibetan highland of Sichuan, known as Kham among Tibetans, just as in the provincial capital Chengdu in its basin, suppliers are aware that these Sichuan medicinals are undergoing several transformations in transit between these two regions. In this unique pluralistic cultural region, raw medicinal substances and ethnically unmarked products finally become either Tibetan or Chinese medicines. This article focuses on a particular regional Tibetan perspective to counterbalance scholarship dominantly on Chinese medicine, and on ethnic mapping that restricts the scale of Tibetan medicine in Kham to that territory only.

Exploring the movement of crude medicinals through the intersecting networks of exchange and processing, we gain insights into the workplaces of this rural industry.⁹ This allows us to appreciate the roles of local artisans from specific ethnic and occupational backgrounds in Tibetan Kham- and in Chinese Sichuan-medicines. The appropriate theory of this kind of collection, production, and circulation discusses the materials as 'singularities' whose values follow qualitative ranking and personalised judgement.¹⁰ On the other hand, modern science defines regimes of efficacy and safety of these medicinals as they are packaged and registered as pharmaceutical products (highly decontextualized from cultural backgrounds of supply). Pharmaceutical brands do not mention the cultural or local backgrounds of 'raw' or 'crude' materials, decontextualizing the packaged drugs and their compounded materials to a high degree. They instead claim the authority of randomised controlled trials (RCT) or their trade licences as the only valid criteria for efficacy and safety. The 'economy of singularities' and the roles of various suppliers are thereby not communicated on the packages distributed by major brands. The actual situation in the field of manufacture and supply, and the labelling of Tibetan and Chinese medicine, match neither the pharmaceutical brands nor the official classification of 'minority nationalities' and 'Han' (medicine) in

9 For PRC history of rural industries (in the People's Republic of China since the 1950s), see Eyferth 2009.

10 Karpik 2010.

the People's Republic of China (PRC).¹¹ Still, suppliers work like scientists or 'naturalists'; collectors of medicinals are quite similar to botanists and geologists who are collecting specimens. In spite of unclear botanical and other scientific identities or economic standards, the current ethnic labelling manages to endow Tibetan and Chinese medicine with strong identities and status as historically founded medicines with textual records and also contemporary marketing industries. These suppliers also decontextualize supplied materials and produce their respective authentic medicinals. The following three sections introduce how they are playing more than one role on a multi-directional chain of supply, manufacture, and labelling in Sichuan.

Sites of Production

At first sight, both Tibetan and Chinese medicinal products end up on globalised markets mostly via transfer centres such as Chengdu City (Chengdu shi 成都市), the provincial capital of Sichuan. However, Tibetan Buddhists in the field of Tibetan medicine in Kham have a different social map and hierarchy in their minds. Within their 'traditional' Tibetan medicine (they frequently use this adjective *chuantong* 傳統 in Chinese conversation with me), the status of practical pharma-work—i.e., of the pharmacist-cum-physician who collects, processes, and compounds Tibetan formulae—is currently much higher than at more commercial or official institutions of either Tibetan or of Chinese medicine. According to my findings, particular sites in Kham provide monastic and vocational education in Tibetan medicine as well as hospital care for the local population in that region. One and the same Tibetan pharmacist-cum-physician—just as skilled as scholarly medical person—may execute the roles of prescriber (physician) and dispenser (pharmacist) of Tibetan medicines. His position is firmly established within the Tibetan medical system quite contrary to the fragile position of an artisan manufacturer of Chinese medicinals. Generally, in Chinese and East Asian medicine a history of 'deskilling' has prevailed such that literate physicians and modern intellectuals have disregarded the skilful pharmaceutical expertise of apothecaries, so-called peasants, or wildcrafters. A similar development in Tibetan medicine has not yet wiped out artisan manufacturers.

My fieldwork data demonstrate how the different actors coexist in the process of collecting and producing, of distributing the materials, and also educating about their materiality and culture. While they often do not know each other personally and do not mutually comprehend each other's specialised expertise and terminology, the continuously processed and re-evaluated

11 Mullaney 2011.

materials remain the same material to a striking extent. The technology of producing and distributing has not changed that much *per se*, although the division of labour, workplaces, skills, and occupational lives has intensified dramatically. Both at local sites and in increasingly specialised professional structures, the following different steps are carried out:

Collectors

- 1) Collection, or harvest
- 2) Transport of things such as plant and animal parts, minerals and metals
- 3) Processing (first stage)
- 4) Storage
- 5) Labelling as particular materials

Producers

- 6) Processing (second stage) and packaging (as commodities for trade transport, and as gifts for rituals or specific relations)
- 7) Prescription, or self-medication

Circulators (Distributors and Educators)

- 8) Ethno-economic scope of ingredients
- 9) Sociocultural range of knowing

Final Processes

- 10) Packaging for the clients/patients
- 11) Processing by the client/patient, or consumption of ready-made product

I accessed those life-worlds via narrations about workplace, labour relations, and education, mostly in Chinese, by both Tibetan and Chinese manufacturers and prescribers of medicines.¹² I conducted field and textual work, including unofficial historiographies and cultural cartographies. While historians of medicine have accumulated a growing volume of studies about regional and transregional networks among physicians, the practice of Chinese medicine requires substantial relations between prescribers (physicians) and suppliers (pharmacists), which belong to a different map of circulation in medicine and pharmacy. Suppliers collect, manufacture, and circulate each medicinal product via more than one 'site of production' (*chandi* 產地).

¹² Transcripts of recorded interviews served as *primary sources* for this ethnography: with monks and nuns at the Larung Gar Buddhist Academy, with traders and collectors on the road, at markets and a vocational Tibetan school, at county clinics, and with medical historians of Sichuan province.

'Rural' Workplaces and 'Folk' Delicacies: A Closer Reading of Tibetan and Chinese PRC History

In the ethnic market of medicinals in China, everything connects to everything else. Medical and economic pluralism is lively and multi-directional. For suppliers carrying out the exchange processes in Sichuan province between East Tibet, on the one hand, and Han-territory, on the other hand, reliability is important. Specifically, either Chinese or Tibetan medicine constitutes a strong framework for the identification of materials within and between the two regions of Sichuan. Suppliers use names in Tibetan and in Chinese to circulate medicinal materials and reach prescribers of final treatments who are situated in the cultural and economic context of materia medica produced within South, East, and Central Asia rather than having to follow the global regulations that control biomedical pharmaceuticals. Other ethnic groups and recognised nationalities in China are also actively involved in the supply and export of medicinal materials to India or Thailand, for instance, and just to the neighbouring Tibetan Autonomous Region (TAR). Still, as the conversations of my informants in Sichuan show, the range of relevant knowledge is not as broad: in our conversations my informants raised Ayurveda or other 'minority' medicines, yet they regard them as less established within Sichuan than biomedicine, Chinese medicine, and less than Tibetan medicine.

Neither Asian medicines nor biomedicine fall neatly into general patterns of nationalistic essences—the static Chineseness of modernised TCM, a reified medical tradition of a monolithic Tibet, or the so-called 'Western' biomedicine that serves as a complementary other to modern 'Chinese' medicine. The historical and economical background as seen from the perspective of Chengdu is intertwined, and my fieldwork in East Tibet demonstrates how Tibetan and Han suppliers together maintain specific chains of distribution, manufacture, and education. From a mainstream, East-Asia-centred historiographical point of view, Chengdu is neither a very old nor a firmly established 'pharma-capital' (*yaodu* 藥都). In respect to its cultural heritage, it has other stronger identities and is not economically marginal when compared to the other so-called pharma-capitals in China that are situated in the eastern provinces in otherwise quite economically marginal cities, i.e., in Hebei 河北 (Anguo 安國), Anhui 安徽 (Bozhou 亳州), and Jiangxi 江西 (Zhangshu 樟樹).¹³ The perception of Chengdu as a pharma-capital is much weaker than that of other aspects of this city that echo longer and more elaborate cultural histories or that are more influential in the politics of urban planning and tourism. In trade, Chengdu

13 Kong 2012, ch. 1, p. 1.

is a site where skills from throughout the province have been collected since the late Qing through the Communist period.¹⁴ The whole province of Sichuan rather than its capital Chengdu is thus regarded as China's pharmacy. The volume of materia medica exported from this province is comparatively greater than any other part of China, according to histories of medicine that are based on provincial records.¹⁵

Chengdu is also a centre of science. Pharmaceutical and systems biology research have been promoted in this provincial centre by investments in research infrastructure and networking. This recent development echoes the long-standing history of scholarly realms in East Asia. Sichuan is not only renowned as the supply region of materia medica historically and in present-day China, but also has a historical legacy that medicinals have been especially well-understood here in respect to their particular 'pharmaceutical nature' (*yaoxing* 藥性). Such generalizations concern regions within a sino-centric history of Chinese medicine writ large; they do not differentiate between the various ethnic groups and their particular artisanal or folk understanding of efficacy. Tibetan medicine is similarly not addressed in these provincial- and East Asia-centred histories.

Nonetheless, international TCM students visit the city to enjoy Sichuan's ethnic diversity, and they learn from masters, scientists, and scholars who place themselves as belonging to a Chengdu school ('current' *liupai* 流派) of Chinese pharma-medicine and pharmaceuticals research that is different from elsewhere in modern China. Thus, scholarship, science, and the legends about masters of martial arts and current roles of ritual masters in Sichuan¹⁶ show why Chengdu, rather than just a node of market networks, is also a transfer centre for the exchange of educational goods and a building-site for long-term experiences of trust between prescribers and suppliers. In the context of UN discourse, the city is even a contact zone where botanists, pharmacists and other representatives of academic theory attempt to identify the 'traditional knowledge holders' of medical praxis, with the aim to represent and safeguard

14 Eyferth 2009.

15 *Medical Chronicle of Medicine and Pharmacy of Sichuan Province* (四川省醫藥衛生志) 1991. Today certainly the other markets of Bozhuo and Anguo are equally influential but such comparison is not part of the provincial historiography of Sichuan's image.

16 Liao 2007. I use 'ritual master' for *fashi* 法師 (rather than *wu* 巫 and its derogatory connotations) first, since Nyingma nuns, monks, and Tibetan scholars used this term in Chinese communication with me, and second, following Sivin 2015, p. 95. He sometimes refers to the part-time clerics who served their own communities as 'popular priest'. This is consistent with multiple religious and socioeconomic roles of *khenpos* or Tibetan monks in Nepal. See Gaerrang 2015; Ramble 2008.

their knowledge on the biodiversity of medicinals.¹⁷ For circulators of medicinal materials in the Sichuan region, Chengdu is a site where products tend to be reliably quality-controlled by suppliers and may be known to them as either Tibetan or Chinese.

In Chengdu, as in cities throughout China, and even in Tibetan territory, we find similar, mostly Chinese pharmacy-shops. Amidst the touristic remake of old-style wooden houses near the Chinese Wuhou Temple (*wuhou si* 武侯祠), I was introduced to one of the suppliers there. He claimed decades of relationships with suppliers throughout Sichuan and beyond, as well as rich experience by visiting sites to evaluate the territory (or authentic 'terroir') where his suppliers collect certain medicinal plants. He also has occupational friends at the major Chengdu market for medicinals. This market has moved a few times in recent years and is now located in a modern indoor mall with endless rows of little shops (fig. 1).

During my fieldwork in other provinces, I came across manufacturers-cum-prescribers who especially appreciate their reliable supplier companies in Chengdu. They showed me the product labels with the registration number of the respective Chengdu companies. There is no hint that these companies have any expertise or special supply chain for Tibetan medicinals, since Chengdu-companies claim to offer the best medicinal materials from all over China. At this point and place, a number of the raw materials and crude drugs collected from Tibetan-populated territory have become transformed into general Chinese medical products. From such a broad China-centred perspective, the route and supply chain from Tibetan territory into Chinese medicine is complete. The Tibetan origin is more or less obliterated in the final Chinese product. Labels and names do not specify details of ethnic origins, just sometimes regional ones. *Chuanbei* (川貝) or *Fritillaria*,¹⁸ exemplifies this process: known for its properties and smaller shape it is identified by its comparison

17 The English term is used in the discourse of international trade conventions and specifically article 8(j) 'Traditional Knowledge, Innovations and Practices' of the Convention on Biological Diversity (www.cbd.int). It aims to safeguard the lifestyles of those who hold knowledge about natural capital such as materia medica and ensure their share in the economic profits of biodiversity knowledge. On the international legal discourse of TCM protection and individual (such as human) rights, or corporate rights (such as intellectual property), see Bachner 2010. Examples for botanical and pharmaceutical representations of medicinal biodiversity knowledge are Lee et al 2008 and compilations of 'nationality medicines' and formulas.

18 The six accepted botanical scientific names just for the *beimu* with the prefix meaning 'Sichuan' are *Fritillaria cirrhosa* D. Don, *delavayi* Franch., *przewalskii* Maxim. Ex Batalin, *taipaiensis* P. Y. Li, *unibracteata* P. K. Hsiao and K. C. Hsia, and *unibracteata* var. *wabuensis*

FIGURE 1 Rows of stands in the medicinal market mall of Chengdu.
PHOTO BY LENA SPRINGER, 2015

with elephant *beimu* (*xiang beimu* 象貝母 or *zhebei* 浙貝) from Zhejiang Province (Zhejiang sheng 浙江省). The one-character shorthand for Sichuan (*chuan* 川), however, only indicates that Fritillaria comes from Sichuan and is too general to indicate that it is only collected at high altitudes, i.e. in Garze prefecture in the Tibetan highland which reaches above 5000 metres, and not in the lower regions of the province, such as Chengdu which is below 500 metres.

To use Farquhar and Lai's findings, the 'wild' folk element of medicine has been constituted, rather than excluded, by establishing Chinese medicine as an exemplary case and model for the world's ethno-medicines: 'In the process of making ethnic medicine information: a certain wild outside to the rationalised medical resources that are being assembled and published—imagined as an embodied experience and a radically local knowledge—is coming into existence as the practical matrix of ordered information'.¹⁹ From a Chinese point of view, the authors point out, 'all organized forms of medicine are "ethno-medicine"' that need to undergo this process. A Nanning bookstore they visited shelved (Western) biomedical textbooks consequently next to Zhuang minority nationality medicine as 'foreign nationality medicine' (*waiguo minzu yixue* 外國民族醫學). According to their fieldwork:

A great many ethnic activists have a rich background in the world of TCM, and they know its history of being salvaged and sorted throughout the latter half of the twentieth century. TCM as a 'system' thus stands as a model for the development of minority nationality information and institutions.²⁰

Only at first sight does the story of a supply chain—from less-polluted and less-urbanised Tibet in the West towards the more developed Chengdu in the East—follow the familiar global paradigm of modernisation by exploitation of natural resources and rural industries. Besides such city-centred and Han-centred mappings, from a Tibet-centred perspective, the route of medicinal materials follows a different direction. Remarkably, in Sichuan, a socio-economic mechanism is in place that allows medicinals not only to travel from a Tibetan region into the East of the province, namely straight into Chinese medicinal products; the same can also happen vice versa, from the eastern

(S. Y. Tang and S. C. Yueh) Z. D. Liu, Shu Wang and S. C. Chen. (medicinal plant name service portal of the Royal Botanic Gardens in Kew).

19 Farquhar and Lai 2014, p. 420.

20 Ibid., p. 422.

political and economic capital towards the West, i.e., Eastern Tibet Kham. This view leads our focus away from—now distant and even culturally remote—Chengdu, or as Tibetans call it the Han-territory city (Handi 漢地), in conversations with me about medicinal supply, family dynamics of migration, and societal change. Chengdu thus becomes a political centre: a place to meet Han-neighbours from other regions in Sichuan just like Tibetans from diverse regions and countries, yet it is not a cultural centre for itself. The supply chain leads across the same landscape, via the hands and communication of traders, from collectors to educators at the same nodes of transfer, but westwards to Kangding city, Dartsendo in Tibetan, across the pass and past its peak into Tibetan-dominated territory (fig. 2).

This perspective on the supply chain of medicinals into Tibetan territory and into Tibetan medicine excludes other contexts and histories. For example, aconite (*fuzi* 附子) a speciality of Sichuan medicinal supply and prescribing strategies identified with this province, has strong religious connotations and

FIGURE 2 Routes of medicinal supply from/to Chengdu in Garze Tibetan Autonomous Prefecture, the Kham area of Sichuan province.

MAP DRAWN BY JOHN H. MEYER, 2016

was high significant historically in Song-dynasty China.²¹ It is not as central, however, to the prescriptions of other currents in Chinese medicine. Neither as central to the Tibetan medical culture, it nonetheless has its own history, names, and range of efficacy in Tibetan medicine.²² A connected history would include both and deserves writing by multi-lingual and multi-ethnically minded scholars.

Generally speaking, the labour of making medicinals is the act of turning raw materials into products. Factory processes in communist/capitalist Mainland China have been researched more thoroughly than have processing methods in craft production.²³ Yet producing drugs involves both factory and craft processing. Contrary to an industrial production process, supply and production are entangled, and division of labour is blurred. What, in industrial mechanised factories, is a 'production line' within one industrial building or site is, in the branch of medicinals, a combined chain of supply and sites for production. In the ethnobotany of Asian medicines, the supply side has been discussed as a 'value chain'²⁴ or a 'supply chain'.²⁵ Yet the production, called 'processing' (*paozhi* 炮製) in Chinese, starts already with collecting and the early stages of storage and conserving. Strictly speaking, having passed all these workplaces in the 'supply chain', manufacturing carries on up to the patients who need to prepare and take the compounds according to a specified time and diet as the prescriber instructed.

In Tibetan more than in Chinese medicine, the particular cultural notions of cosmology, climate, and landscape are taught to prescribers. Some Chinese pharmacists and botanists also increasingly take food quality standards, authentic environments, and cultivation into consideration to better include supply-specific knowledge into the textual records and scientific archive of medicinals. Therefore, the idea of a craftsman's singular workplace, where he carries out his manufacture of stored raw materials, does not apply anymore for medicinals in China. Such 'intangible heritage' (in supranational UN terms)

21 Wei 2014.

22 *bongnga* (Tib. *bong nga*; Lat. *Aconitum*) and *latsi* (Tib. *gla rtsi*) or 'musk'.

23 For examples of the 'practical turn' in studies about labour and skills in China, see Eyferth 2006; Flitsch 1997.

24 Booker et al. 2012.

25 Dejouhanet 2014. Steel or parts of mobile phones around the world are actually materials from China and are thus present in commodities and infrastructure throughout the globe. Yet even in the classic industrial sector of steel or high-tech manufacturing, traceability is not the rule and most customers as well as even regulators cannot trace the chain of supply and value of the increasingly manufactured and renamed raw materials and parts of technology.

is multi-sited rather than situated at or restricted to a particular village or an organised school. The drug regulatory law can hardly distinguish ownership of these webs of education and equipment. As research on skills shows, the 'enclosure' of sites for manufacture is not a traditional feature but a product of modern history in China. Nationalist and Maoist efforts, in particular, at first collected craft-knowledge from the people and then popularised it back to the population, at distinct workplaces,²⁶ via instructions and vocational textbooks, and histories.²⁷

Taylorist attempts at the mechanisation and agro-industrialisation of pharma-production have reified the division of labour among the various providers of medicinal substances. As a consequence, distinct occupations, disciplines, and even separate fields in science and the humanities deal with the same decontextualised substances. Although re-evaluated, they remain in fact simply objects from the different contexts where they have taken on values and meanings: ranging from plants that are sun-dried next to food at the edges of roads to materials in intricate processes of drying that lead to culturally complex modified properties; from bundles transported on a youngster's motor-bike to an apothecary's selection of partly processed roots, leaves, flowers, powders, pills, and tinctures. Such rural industries are a yet under-researched factor in the modern history of work and industry in China.²⁸ Previous studies on labour relations in China tended to focus either on discourses and disputes about urban work and industries or on isolated factory processes. Mobility—of migrants as well as of materials and commodities—challenges the expected modern future of urbanisation and a disappearing countryside. Since textiles, furniture, tea, and even electric devices and automobile parts are still produced mostly in rural settings such that the dichotomy between urban and rural has largely been a matter of political definition.²⁹

Against this political background of the artificial rural-urban divide in China's modern past,³⁰ fieldwork-based studies begin to cover what happens across it. At the dispersed workplaces of artisans along a medicinal production

26 Workplaces may be called 'factories' (*gongchang* 工廠) but in Chinese these may include not only industrial sites but also just an enclosure of stands or one-storey houses where, for instance, Uighur knives, stone sculptures, or furniture are manufactured.

27 Eyferth 2009; Duara 2015.

28 Eyferth 2006.

29 Harrison 2006.

30 Brown 2014.

route, researchers uncover neither production lines nor just supply and value chains in the urban industrialised sense.³¹

This multi-sited supply of drugs combines collection and production, and increasingly requires the cultivation of a division of labour via webs of informal relations of exchange among suppliers and producers. Concerning the people who produce, distribute, circulate, and prescribe drugs, I therefore differentiate carefully between the separate workplaces of the actors who carry out a series of tasks: identification and quality control, naming and labelling as well as determining the value in monetary and ethnical terms. Seemingly, these actors are now increasingly diffused: across the Sichuan landscape, and into regions across other provinces, countries, and even the world. But, in fact, the actors who produce and distribute medicines in China often still stick to workplaces in small-scale and kinship-related businesses.³² For the modern institutionalised version of Chinese medicine, academic disciplines and governmental control regimes have become decisive players in the control and distribution of pharmaceuticals. Similarly, institutionalised Tibetan medicine largely participates in the globalised pharmaceutical industries. On the other hand, the networks among physicians and traders of the local medicines I studied build on a long history of territorialised 'cultural nexus' in Chinese society.³³ Their work continues to be embedded in the informal and educational relationships of kinship, hometown, lineage, and apprenticeship.³⁴

'Minjian' Folk Delicacies in the PRC

'Decadent' behaviour and 'bourgeois' attitudes that used to be the target of revolutionary attacks and iconoclasm have found niches in post-reform China. Prescribers sell medicinals for fertility or wellness, for instance, well beyond strictly scientifically proven clinical needs. In this socioeconomic environment of tourism, self-medication, and 'nourishing one's life' (yangsheng 養生),³⁵ Chinese medicine is fundamentally different from local 'ethno-medicines' (*minzu yiyao* 民族醫藥), so-called 'nationality medicines' that connote highly localised minority ethno-traditions. The latter include Tibetan medicine according to official classification, yet its status is significantly higher than the

31 Booker et al., 2012; Dejouhanet 2014; Saxer 2013; Tsing 2015.

32 Eyferth 2009.

33 Duara 1988.

34 While Tibetan and Han kinship certainly have their own different origins, they share some striking similarities in respect of such cultural backgrounds of labour relations (cf. Hofer 2014, Schrempf this volume).

35 Farquhar 2001.

other 'ethno-medicines' under this rubric due to its textual tradition and early inclusion into the Chinese nation's five nationalities during the Republican period.³⁶ According to official ethnic classification, a strict boundary is maintained between Han-Chinese versus 'nationality-medicines'. The term 'minority nationality' (*shaoshu minzu* 少數民族) had been coined in early 1950s Communist China but continues to influence how 'ethno-medicines' are classified today.³⁷ Consequently, the artificial decades-old ethnic classification clashes not only with the reality of sociolinguistic variety, migration, and social mobility in China, but the project of classifying ethno-medicines in China itself has only recently begun.³⁸

Furthermore, even unlicensed (so-called 'folk' *minjian* 民間) practitioners, producers, and traders underline that they belong to either Chinese or Tibetan medicine to shore up their credibility. Literally, *minjian* means 'among the population' or folk.³⁹ As Nathan Sivin explains, even in 'classical' China of the Song Dynasty, 'popular' medicine may include not only the lower, peripheral, even unofficial social groups, but also the higher strata of society and scholarship.⁴⁰ Actually, Chinese medicine practitioners, just as Tibetan medicine practitioners, need to negotiate their personal relations with providers of Tibetan, Chinese, and other medicines themselves. As part of their daily work, they carefully ensure their distance to the ones deemed to be 'unsafe'—while at the same time making use of the 'reliable' effective medicinals.

36 Duara 2015, p. 87; Mullaney 2011.

37 Mullaney 2011. This project has, however, been influenced not only by the model of Soviet Union but also by British anthropological education. In France, the classification of ethnic groups could not become such an issue as a consequence of the static reified classification; contrary to the UK and after the resistance against collection of population data in present-day republican France, this is not allowed.

38 Farquhar and Lai 2014.

39 For perceptions of such healers in late imperial China, see Berg 2000. Contemporarily, the historical continuity is underlined by historical records just as contemporary characterizing them as 1) affordable, 2) well-tried and 3) handy (Liu et al. 2014, pp. 246 ff.). This is understood as the 'cosmological divergence between elites and states, on the one hand, and popular culture, on the other hand (...) as one of the most pervasive fault lines in society' (Duara 2015, p. 237). *Minjian* and '*guanfang*' (官方) are thus paired in present-day Chinese language as a pair of opposites. Duara positions popular culture and 're-emergence' of 'religious expression... in the ethnic margins of western China', i.e. Sichuan and East Tibet, for instance. He asserts that this was 'cautiously permitted in the Chinese heartland under the label of folk religion (*minjian zongjiao* 民間宗教)'. Similar labels are attached to '*minjian* medicines' (民間醫藥) in Sichuan.

40 Sivin 2015, ch. 5, pp. 93–128.

As I observed during my fieldwork in 2012, 2014, and 2015 at the medicinal markets throughout Sichuan (including a large part of East Tibet), suppliers and prescribers of local ethno-medicines often co-exist in close proximity with those of the more formalized Chinese and Tibetan medicines. At the same street-market in Kangding, the capital of Garze Prefecture, practitioners of Chinese and ethno-medicines buy similar medicinal materials themselves, which they then process and prescribe individually in their own clinics. On these regular, sometimes seasonal, street markets, untested plants and minerals of unknown origin with claimed healing effects are sold together with vegetables and various spices.

Chinese medicine, by contrast, is now strictly regulated by several local, provincial, and national decision-makers such that physicians purchase medicinal materials mainly via various pharma-suppliers. Therefore, Chinese medical practitioners, just as their Tibetan counterparts, only mention off-the-record purchasing medicinal materials from their local vegetable market. They, first of all, need to make sure—at least officially—that their supply is recognised as legal and pharmaceutical, rather than as ‘unprocessed’, ‘raw’, or ‘crude drugs’.⁴¹ The lively trade in medicinals outside the frame of ethnic recognition and pharma-brands belongs to the realm of mere ethno-delicacies.⁴² Carriers of pharma-knowledge and active ubiquitous suppliers are vulnerable. In the words of anthropologists, they are the kind of ‘ethno-preneurs’ easily made ‘disposable’.⁴³

The issue of belonging to the official system of Chinese medicine, and the identity as a Chinese medical practitioner, entails the claim of a linkage to the body of written archives, as contemporary suppliers and historians, or regulators, developers, and scientists recognise such a corpus of accumulated or transmitted knowledge in modern times, each on their own terms. Concerning local and translocal relations among prescribers and suppliers of Chinese medicines, the Chinese and Tibetan doctors and traders whom I followed in this study struggle with the problem of their contested professional status; regulators repeatedly negate or only temporarily grant their licences. These practitioners often have no formal university education in academic Chinese or Tibetan medicine. They neither fit neatly into the ethnic minority category of ‘nationality-medicine’ nor do they fit into the ‘big Han’ category.⁴⁴ Instead, they claim to constitute their own local category: within Han-Chinese or Tibetan medicine, but defined by a specific yet connected locality. They try to

41 Comaroff and Comaroff 2012.

42 Karpik 2010; Tsing 2015.

43 Comaroff and Comaroff 2009; Herzfeld 2004.

44 Mullaney et al. 2012.

eschew as best as they can the issue of being misfits that belong to neither TCM nor minority ethno-medicine in their day-to-day work although they remain on the radar of regulators.

Minjian practitioners are often confronted with the image of the 'barefoot doctor' (*chijiao yisheng* 赤腳醫生) of the Maoist period as comparable to their own today. In this respect, even scientific papers refer just to propaganda materials or to the role of Mao Zedong personally in creating barefoot doctors, thus dwarfing PRC medical history. However, *minjian* practitioners do not identify themselves either with this highly-politicized image of medical practice, which differs from their nuanced memories of difficult times and a culturally rich Chinese medicine, or with Tibetan medicine as practised during that time. Their personal recollections show clearly that there was much more to that history from the 1950s to the 1980s than campaign-driven periods closely linked with nation-wide political policies.⁴⁵

Belonging to neither local ethno-medicines nor institutionalized and reified Tibetan or Chinese entities, what then are the routes and relations these practitioners of unorthodox Chinese or Tibetan medicine deal with through the mobility of pharma-commodities and while cultivating networks to ensure reliable drug processing? Who are the actors outside of academia and at the edges of certified pharmaceutical industries? How do they manage to enable the transfer and transformation of raw things and materials into the realm of safe and effective medicine?

Between West and East in Sichuan: Crossing the Edge of the Himalayan Highlands and 'Han-territory'

The map (fig. 2) shows the distance from Chengdu to Derge close to the provincial border to the TAR, and the main feature of the landscape of this region: the gap in altitude between the Tibetan highlands and the lower Eastern part of 'Han-territory', i.e., the Sichuan basin (*Sichuan pendi* 四川盆地). The two routes—between Chengdu and Derge, and the route between Chengdu and Sertar—both lead via Kangding (Tib. Dartsendo) and Lhagang monastery. On the road to Sertar and Derge, the first pass crosses nearby Zheduo mountain peak (*Zheduo shan* 折多山), and further on the road to Derge the second pass crosses Que'er mountain (*Que'er shan* 雀兒山).⁴⁶

45 For memories of Chinese and Tibetan so-called barefoot doctors, see Springer 2016; Hofer 2015.

46 There is also a northern route, as you see on the map. The southern route leads also through Ya'an city (雅安市): an important site of suppliers in Han-territory (Chinese)

Towards Chengdu and the highlands, medicinals are circulated at the mixed Tibetan and Han sites of distributing, processing and education sites here. Kangding is significantly lower than the highland such that one encounters more Han-elements in lifestyle and visibly more Han-traders than on the significantly higher plateau. In this region, I followed suppliers at a smaller county (*xian* 縣) town on the road in the Kham Tibetan territory that connects the Tibetan plateau and Sichuan basin in north-western Sichuan.

Shops, Street market, and the Tibetan Language and Vocational School in the Prefecture Capital Kangding/ Dartsendo

Before travelling to Kangding, I had already met a Tibetan doctor at the county hospital in the small town further into the highlands in 2012. He had shown me an alumni-book celebrating cohorts of graduates from the vocational school in Kangding. It is the main school of its kind in Sichuan Province, attended especially by Tibetans, actually founded for Tibetans, and where classes are taught in the Tibetan language on the basis of the *Four Tantras*, the standard Tibetan medical text. Photos show him sitting among the very early cohorts of graduates of Tibetan medicine. Later I watch him teaching just his artisanal skills at that vocational school. Proudly, he recalls his own memories as a student and teacher as we look at the photos of recent graduates gathering to carry out rituals of the Tibetan calendar.

Each year, during the colder months, the Tibetan physician and sometimes his revered teacher from Bagang monastery in Derge live in Kangding. This prefectural capital has an educational centre where cohorts of Tibetans have achieved vocational degrees in a Tibetan cultural milieu. During a visit in 2015, teachers confirmed to me that they remember him well. Besides vocational training in language and culture, eight teachers including him teach a three-year curriculum in Tibetan medicine. This education requires memorising the complete *Four Tantras Gyüshi* (Tib. *Rgyud bzhi*), which was described to me as characteristic of *wuming* 五明 Tibetan Buddhism, and is also a feature of the Larung Gar Nyingma Buddhist Academy in Serta.

He is also the supplier-cum-prescriber at the Hygiene Centre in the town nearby on the highlands. He told me that the medicinals *xuelianhua* 雪蓮花 (*Saussurea*)⁴⁷ and *beimu* 貝母 (*Fritillaria*) are significant in this area. Thus I can retrace these local products on their route from motorcyclists' bags or the

medicine. This is a tea-supply site and it also the site signified by a prefix for its place-name to specify where the best quality Huanglian originates from (Ya'an huanglian 雅安黃蓮, or just Yalian).

47 Its three accepted botanical names are *Saussurea erioccephala* Franch., *Saussurea gnaphalodes* (Royle ex DC.) Sch.Bip., and *Saussurea gossipiphora* D. Don.

local town pharmacy to the shops and street markets here. Starting from 700 and 800 yuan per half a kilo at that county, the prices in Kangding range widely. Everywhere in Garze and elsewhere in Sichuan tourists are willing to pay ten thousands of Yuan for *hongjingtian* 红景天 (*Rhodiola*)⁴⁸ or *lingzhi* 靈芝 (*Ganoderma*).⁴⁹ Numbers show clearly that according to the usual economic pattern of adding value to raw materials and products throughout the labour process, the prices are getting significantly higher once we have followed the same substance from the county across the pass at the peak to the prefectural capital Kangding. Again, further down towards Chengdu, medicaments are being sold to the next trader at increasingly higher prices. In Kangding, Han-Chinese small-scale traders in specialised Chinese pharma-shops point out that suppliers were typically Tibetans, who appear to them to be wild-looking with filth in their hair, skin, and clothes. Yet the 'raw' or 'partly processed' (*shengyao* 生藥 or *yin pian* 飲片) products in the shops that these Han-Chinese run are ironically advertised as having a higher quality (and prices) because they were medicinals from the Tibetan-dominated area of the prefecture. The same Han-traders frown upon the more established Tibetan suppliers who run a single Tibetan pharmacy in this city. They were demanding ridiculously high prices, Han-traders complain and emphasize their own fairness. Often they paid fair prices for the same products that they bought directly from the Tibetan deliverers on motorcycles. Yet, the role of lamas for enhancing efficacy on Tibetan terms, or the rituals of empowerment of Tibetan drugs, are not part of these claims for fairness or of the labels that mark higher-priced products as Tibetan. As elsewhere in this Sino-Tibetan borderland, ethnic tensions are palpable in such markets where competitors come from different ethnic and socio-economic backgrounds.

At the city's street-market along the river-canal that cuts through the deep valley of Kangding, Han-Chinese sellers operate next to sellers of vegetables, animals, or everyday household products, with the same lack of official status via a licence or certificate. While the price they demand here in Kangding

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- 48 Four scientific names are used in reference works about medicinal plants (*Rhodiola algida* (Ledeb.) Fisch and C. A. Mey var. *tangutica* (Maxim.) S. H. Fu, *Rhodiola crenulata* (Hook. f. et Thomas.) H. Ohba, *Rhodiola kirilowii* (Regel) Maxim., and *Rhodiola rosea* L.). The scientific names from taxonomic sources, however, are *Sedum algidum* var. *tanguticum* Maxim, *Sedum crenulatum* Hook f. and Thomson, *Sedum kirilowii* Regel, and *Sedum roseum* (L.) Scop.
- 49 According to my own conversations with tourists in Garze, and according to personal communication with Tony Booker about his fieldwork among *hongjingtian* suppliers of the Yi nationality in Sichuan.

is already higher than what collectors get in the county on the road, neither Chinese nor Tibetan medical system or cultural identity marks what are the medicinals.⁵⁰ Instead, their origin and belonging is communicated pragmatically by Tibetan and Han-Chinese labelling that give either place names or names of supplying persons or institutions. Sometimes a few terms in Tibetan are added but the common language at this stage of the labour process, supply chain, and production line,⁵¹ is contemporary Chinese, which functions as a lingua franca grounded in cultural and scientific frameworks.

Hygiene Centre in a Town on a Road between Lhasa and Chengdu

In the smaller county town, various suppliers negotiate the ethnic cartography and operate in several scopes of distance, scales of supply, and ranges of knowledge. First, I needed to get to know local Tibetan seasonal labourers and farmers/herders (sa-ma-drog) who had turned into farmers/tourism-traders in order to finally be introduced to the Tibetan medicine practitioner who is widely recognised as the most knowledgeable collector, producer, and prescriber of medicinal substances in the area. As we have seen at the previous site in the capital of this prefecture, the same practitioner turns out to be a learned man who has both a second home and career as educator here. To clarify the context of the site where he runs his small-scale business, we need to sketch means of transport, schooling, and economic branches (as well as military presence) in this multi-ethnic and multi-directional place.

Geographically, the route connects two very different regions of Garze prefecture: between West and East, between Tibet-centred and China-centred territory, between Lhasa and Chengdu, respectively the capitals of the TAR and Sichuan province. The landscape and climate on the higher and lower side of the Zheduo mountain mark this border. It is the main landmark between Kangding and the smaller county town. The new road provides advantages for the long daily line of trucks, tourists in their buses, the military sent to control the area, and locals who rely mainly on a seat in vans, motor-cycles, or, increasingly, jeeps and larger agricultural vehicles.

Close to the pass lies the highest peak dividing the lower, increasingly Han-populated region of Garze and the higher, still mostly Tibetan populated region of Kham. Two kinds of new buildings along the road illustrate the

50 For similar selective naming of Japanese mushrooms, collected in North America or Yunnan Province, see Tsing 2015.

51 Processing has started already insofar as time and place as well as cosmology of collecting and first steps of storage and conserving begin determining the clinical usage of the medicinals, on Tibetan or on various Chinese medical terms.

Janus-headed development of the West.⁵² Once entering the more Tibetan, more nomadic and, in regards to transport infrastructure, more remote region, a ghost village of tiny concrete houses exemplifies the clearly biased state policies to urbanise the life of nomads. The buildings are dangerously unstable during earthquakes and also due to erosion of the sliding grass-or-stone landscape. They are wet inside and much too cold for anybody to live in. They look like the badly built stage setting of an ethno-movie. The fact that they cannot be packed up and moved around on horseback,⁵³ and so are basically useless to live in for nomads, is telling of the problematic story of resettlement and fencing policies in these Tibetan areas. Overgrazing of fenced land, limited herd sizes, urbanisation, and compulsory schooling seem to make nomadic life unsustainable. Along the same road through this county, another kind of building type exemplifies a more successful strategy and more beautiful face of this development. Designed in local styles, numerous households have built multi-storey houses with the preferred stones and colourful wooden terraces. Along the valley and up and down the hills, there are also increasingly more agricultural fields where Tibetan county-dwellers grow grain and corn.

Teenagers and young men drive along this road on motorbikes and three-wheel vehicles, or they ride horses, the same ones that they will rent to Han-tourists arriving in groups on bus-loads to ride a certain distance worth 50 or sometimes 100 yuan. Some of the male and female teenagers transporting baskets on motorcycles towards Han-territory showed me the medicinal plants they had mostly collected themselves or were transporting for a close acquaintance or relative. *Xuelianhua* or *beimu* mushrooms, if one knows where they can be found, are the only medicinal material here traded by such collectors with very limited skills. Mostly Tibetan, local traders around the centre of the county sell them, and the main pharma-shop offers them for a price-range of a few hundred yuan. *Hongjingtian* (*Rhodiola*) is popular as a blood-boosting pill that is used widely for Han-Chinese and other non-Tibetan visitors to better adapt to these high-altitude Tibetan regions. Tibetan providers of accommodation along the road leading through the town, for instance, had handed it to me upon arrival. Just like the oxygen I also inhaled with their help, this Chinese product is the typical medicinal of choice at this tourism site. It is a common pharma-brand package sold with a pharmaceutical registration number and TCM-instructions under the well-known brand of one of the large TCM-companies in Mainland China (fig. 3). It is also a well-known medicinal in

52 Dai 2009; Wang 2011.

53 Today, due to the climate, landscape, and transport infrastructure, the livelihood in this region is still fundamentally based on yak herders. See Gaerrang 2015.

other regions of China as well. In Tibetan medicine it is called *solo marpo* (Tib. *sro lo dmar po*, *Rhodiola sp.*), which is used in classical compound formulas to cure 'wind' (Tib. *rlung*) disorders. Recently, it is also sold as a drink in TAR to tourists to help them adjust to the altitude.⁵⁴

Collectors also include young Tibetan men I got to know who accept a number of 'jobs' (*dagong* 打工). They are similarly unskilled in medicine, pharmacy, or botany—beyond the exact knowledge of one medicinal at one or two sites, such as *hongjingtian*. During dinner at a local restaurant, they offered me their strengthening Chinese herbs in liquor while telling me that without ownership of land or animals, it was hardly possible for any of them to marry in the future. Besides seasonal jobs in the harvest of wheat and other grains, various jobs at building sites and private houses, and work as tourist guides for horse-trekking, collecting herbs, and selling them at the markets on the road towards Chengdu was one of the only other job opportunities available to them.

FIGURE 3 A registered pharmaceutical product for tourists adjusting to the high altitude in a predominantly Kham county on the road from/to 'Han territory'.

PHOTO BY LENA SPRINGER, 2013

54 Mona Schrempf, personal communication, 2 December 2015. Yoeli-Tlalim 2010.

On the other side of this network, the main supplier (i.e., collector, manufacturer, distributor, and educator) of local medicines is the Tibetan physician teaching at the vocational Tibetan school. He has established his own clinic right next to the county hospital or hygiene centre (*weishengyuan* 卫生院, a 'hospital' according to the locals). The Western medicine-practitioner from the neighbouring building comes over for a chat with the Tibetan doctor or says 'Hi' across the distance of just a few metres, both of them wearing the typical white doctor's coat.

The Tibetan doctor's clinic has a separate entry straight opposite the courtyard, a muddy area in-between the two hospital buildings. Across a sunny terrace, we enter a room with a sofa, television, an altar, cupboards, and a desk. On the ceiling above the sofa, three photos show his revered teacher who comes from the famous Derge monastery.⁵⁵ In the second room across the bunk bed, he has sorted his powdered Tibetan medicinal substances in small plastic bags. On the desk he writes down the prescription and dosage for the several formulas he hands out to his patients, which are to be taken at different times of the day and in relation to diet. He also carries out bloodletting treatments with a razor next to his terrace in the sunny daylight. His patients come from distant areas throughout the prefecture. Colourfully and respectfully dressed up for the occasion in their mix of traditional and casual clothes, they hand out the payment—on average, 90 yuan a month per person—for his treatments, customarily paying for the drugs, but notably not for his role as a diagnosing physician.

He and I drove in his car to collect medicinal herbs. First, we plucked just the flowers that he pointed out to me right next to the cows and horses grazing in the fields, close to the main road of the county. Then calling me late at night, he showed me medicinal plants next to an eerie site of an unfinished Chinese-Tibetan hospital that looked out to the dark sky from its glassless windows. Customs officers must not find the photos I took the other day, he warned me, and asked me to destroy them. Again and again, he recalled, the prefectural government and party required him to attend meetings and to lecture about the correct routes and times of the year to collect delicate medicinal plants. The database the government envisioned and wrote down, he is convinced, was practically useless and impractical as a guide for sustainable collection. A few days later, having shared another set of personal stories with me about

55 Tibetan physicians and scholars in Derge confirm that teacher's identity and I recognise his name and him on the photos. His student in the county on the road, however, wants to keep all this off-the-record.

family members and the local attempts by a company (located a bit further up the road from his clinic) to cultivate a specific medicinal plant, he invited me to his clinic again. He introduced me to his two nephews who are his part-time collectors. They spend the middle-school vacations with him, climbing the mountainous area for two to three days each time to collect fungal medicinals.

Taking me out on another trip to collect a medicinal plant that on our last attempt was not yet ripe enough to harvest, he recalled his first encounter with medicine and how it became his life's calling. Growing up as a poor peasant, unexpectedly, one day, his late teacher (a revered monk physician from Derge) visited his home and asked him to accompany him. His mother agreed and at first he spent hours with his revered teacher and, finally, ended up spending years walking and travelling with him, memorising time-periods and routes for plant collection, the changing parts of plants collected at certain periods of time throughout each year, and the colours, smells, and textures of animal, mineral, and metal medicinals throughout their various steps of processing. His Derge teacher's winter-home is in the capital of the prefecture Kangding. It is also his second home where his wife and son live. He regrets they could hardly spend a life with him while he is driving and walking, working day after day for long queues of patients, many of whom must return another day. Thus, this town is the home of his wife and son, winter home of his revered teacher, and it is also the site of his second occupational role as educator and transmitter of Tibetan knowledge in contemporary China. Here in the small county, he is therefore the person in charge of the drug supply. Individually he runs his own clinic within the official local hospital, including its dispensary, and he trains staff to collect medicinals so that he need not spend as much time as a collector himself.

In Kham—Garze Prefecture: Larung Gar Buddhist Academy, and Derge Tibetan Hospital

In spite of the prospering Tibetan households and impressive mansions in local Tibetan style, the presence of a few hundred Han-soldiers also shapes the first impression of anyone driving into Tibetan territory beyond the pass at the Zheduo mountain peak. They are living at a base between the backpacker's district and main buildings of one of the first counties here. Further along one of the two routes here that lead from Chengdu to Lhasa, we pass the Tibetan monastery of Lhagang (fig. 2). Up the river lies a second military base where, according to locals, the strikingly high number of 400 to

4000 Han-soldiers lived in 2012. In 2015, they had all left. Their presence though is still remembered and regarded as a kind of pollution and desecration of the monastery that is located further down by the river.⁵⁶

Larung Gar Buddhist Academy

Further along where there is breathtakingly beautiful grass along with snow-covered mountain ranges, we finally reach a unique Buddhist academy and monastery for men and women living and learning separately in male or female districts and schools: Larung Gar (Tib. *Bla rung sgar*) of the Nyingma school is well-known in Chinese and in global Western tourism as Sertar Larong Wuming Foxueyuan (色達喇榮五明佛學院).⁵⁷ What materia medica skills can one observe in this monastic settlement? While TCM-brands have a high status and powerful global value-standard, monks here at this Tibetan Buddhist Academy employ and transmit skills as well as teach and learn Tibetan medicine in sophisticated ways. This includes practical materia medica skills that are firmly established in this framework of education and knowledge. I have not come across any nuns in the convent, i.e. on the female side of the academy, who were studying medicine; it is still unusual for women to observe male bodies or pursue a career in medicine.⁵⁸ As I found out by staying and living with the nuns, the provision of Tibetan as well as Chinese medicine is their main source of health care, besides the use of biomedicine for minor surgery, oxygen, antibiotics, and antiseptic hygiene. The expertise among them of circulating and producing both Tibetan and Chinese medicinal substances is remarkably high. As scholars, nuns and monks, physicians and suppliers, this seemingly peripheral settlement has attracted highly skilled personnel from both medical backgrounds.

Concerning East Tibet in Sichuan province, further regimes of land usage are important in relation to medicinals. Land usage has its own history in communist or post-socialist countries such as China with specific histories of

56 Tibetans have a very hierarchical system of purity at the top and pollution at the bottom that encompasses the body, the landscape and, in particular, the sacred landscape that surrounds a monastery where traditionally hunting and killing is forbidden. Not only did the Chinese soldiers shoot guns but also use toilets upstream on the river next to the monastery adding to the sense of desecration of sacred space.

57 For an ethnography from the 1990s on the significance of this monastery not in exile but on Mainland Chinese territory, see Germano 1998.

58 I conducted fieldwork at the Buddhist Academy in 2012, kept in touch, was visited in Vienna, and during fieldwork in Derge 2015 met a group of students from here again.

land reforms and collective usage.⁵⁹ Monks at Buddhist Academies in Garze District such as Sertar and Derge need to build their own houses and to finance their personal life individually with the help of family, friends, or charity. Tibetologists have examined this overlap of religious realms and secular life (or political power), and of transmitted skills and other social, symbolic, and business capital in Tibetan culture.⁶⁰ In this respect, the Buddhist Academy is run fundamentally differently from a European monastery or nunnery where ownership is collective upon becoming a monk or nun rather than mainly remaining individual. Furthermore, if they specialize in Tibetan pharma-medicine, the area within walking distance from the monastery is the basis of the monks' daily education for years to learn how to collect and harvest plants. Ownership of that land and its resources is also not assigned clearly to an individual, the monastery/nunnery, or the Buddhist Academy.

Such personal histories of walks through the land and years of textual study, however, have not been recorded in the fragmented narratives of Sichuan or Chinese medical history. Historically, the science of botanical data collection feeds into the building of scientific herbaria first in Europe or into *materia medica compendia* that are today circumscribed by the framework of national pharmacopoeia.⁶¹ These Tibetan monks' *materia medica* collecting knowledge of local landscapes thus remains unacknowledged in the China-centred historiographies that rely only on Chinese language sources. We thus tackle the problem of how to reconstruct these hidden landscapes. The cost of not reconstructing them is not only symbolic or just an issue of social invisibility but one of irretrievable loss of medical knowledge. Medicines used by wildcrafters and Tibetan collectors alike may disappear completely if their knowledge of locations and substances is not recorded and transmitted.⁶²

Dispensary at the Tibetan Hospital

The Tibetan hospital at this monastery/nunnery is an important site for education in Tibetan medicine and also in the practicalities of running a dispensary in a safe way—supplying efficient drugs both on Tibetan cultural and on material terms. During his daily reception of a large room full of pilgrims, nuns,

59 On scalability of agriculture and history and supply, see Bray 2008, p. 325; Duara 2015; Tsing 2015.

60 Ramble 2008.

61 Mueggler 2011; Lee et al. 2008.

62 Cuomu 2014.

and monks, a living Buddha-Lama (Chin. *huofo* 活佛)⁶³ introduced the leading lama-physician of the Tibetan hospital to me as being the most versed in the ‘theory’ (Chin. *lilun* 理論) and practice of Tibetan medicine. That hospital is dedicated entirely to Tibetan medicine and to its inclusion into the monastery’s school of Tibetan Buddhism.⁶⁴ Visitors see this lama depicted at the entrance on a board with photos of staff and as having the highest ranking. In the interview, he outlined (via the translator) the education of Tibetan materia medica theory and skills and also pointed out the high amount of medicinals coming from territory outside Tibet. On another occasion, I was introduced to the monk responsible for the dispensary: he elaborated on the details of collection, storage, drying, and other processing techniques. I visited the shop where products are sold upstairs and traditional tools are still in use. The form handed out to clients followed the model of Chinese medical ones but allowed physicians to fill in very concretely just the symptoms, diagnosis, and prescription as carefully diagnosed and observed by them according to Tibetan medical knowledge. Biomedical terms are hardly used in this discourse. Neither do Chinese medical terms frame the exchange of drugs for money here. Labels written in Tibetan and Chinese show Derge often as the site of origin. Pharma-brands and the registration numbers that we encountered in the case of *hongjingtian* that is usually used by tourists on the road up into Tibetan highlands (fig. 3) are not part of this place and its discourse of safety, efficacy, and values. Finally, having visited all the rooms with the exception of the library, which is not open to visitors, I am introduced to the site of the ‘spiritual empowerment of medicines’ (*jiachili* 加持力).⁶⁵ Here medicinal substances become clearly Tibetan, with features and functions that belong neither to China nor science but solely to Tibetan medicine and, in this particular region and site, also belong to Buddhism. Mostly male patients come to the hospital, which is run by monks from the broader region, for various internal and external treatments with Tibetan medicinals, or to pick up prescriptions for their relatives.

63 He has published in Tibetan and in Chinese and uses his name in Chinese 丹增活佛. He has students in the USA, who joined him as he visited myself and colleagues at the Institute for South Asian Studies in Vienna to discuss versions of the *Heart Sutra* with philologists. He showed me two of his publications on Tibetan terminology for scientific phenomena and brain research.

64 Similarly, monastic colleges of Tibetan medicine exist in Xiahe (Tib. Labrang), Gansu province, and Taersi (Tib. Kumbum), near Xining, Qinghai province.

65 Craig 2013.

Commercial Trader Next to the Sacred Peak

Against the background of this scholarly, highly-skilled, and Tibetan religious and medical cultural expertise, the next site at this Buddhist Academy is a commercial shop that a Tibetan medicine-company from Qinghai runs. Situated right next to the sacred peak where pilgrims and tourists (among them many Chinese) as well as Tibetan nuns and monks meet, it constitutes the strongest contrast to the otherwise Tibetan scholarly and spiritual environment. Frowned upon by the lamas, monks, and nuns, they regret the comparatively short period of three years of commercial 'pharmaceutical' education in Xining 西寧 by this company. This crash-course contradicts the Buddhist Academy's expected 16 years of learning and causes the lamas severe worries and concerns. Still, Tibetan nuns visited the shop surprisingly often, as they tell me, even though the prices are very high compared to their often very small available funds. The other small clinic nearby, which offers Tibetan medicine in the nuns' district, is situated next to the hospital. Contrary to the sophisticated courses, library, and dispensary in the male district, this one is tiny and hardly attracts any patients or customers. Certainly, delicate gender relations between Tibetan nuns and monks extend into the medical sphere, which has resulted in separating the two districts and the gendered sites of Tibetan medical treatments.⁶⁶

Chinese Medicine: Dispensary at the Hospital in the Nuns' District, and Dispensary at a Female Chinese Doctor's Clinic

The nuns' biomedical hospital is nonetheless often frequented. Both the nuns and the monks have their own hospitals. The hospital in the nuns' district is run by a female Chinese eye-surgeon who attracts patients from throughout this county. She envisions clinical trials to test her nearly ten years of experience with injections of Chinese medical formulas for her patients with heart weakness. While oxygen treatment is an *ad hoc* treatment for visitors arriving too suddenly in this high place, she emphasises that Chinese medical modern 'poly-pharmaceuticals' (*zhongchengyao* 中成藥) are the most frequently prescribed and taken pharmaceuticals here at the hospital. In the storage section, I saw rows of shelves full of boxes with the globalised style and registration numbers of pharma-brands. At the hospital in the male district, about 60% of

66 On the particular gender situation and the role of charities for nunneries, see Robin 2015, and on her conversation with Nicola Schneider recalled from her fieldwork in the 1990s that the nuns described gynaecological health problems related to religious practices as a nun.

the Chinese medicines were also modern poly-pharmaceuticals according to what I was told at the Chinese dispensary there.

In this special high altitude environment, the recently ascribed and increasingly standardised lineages of Chinese medicine demonstrate inventiveness and flexibility, such as the 'Heilongjiang lineage' (*longpai* 龍派), or the 'Fire-Spirit lineage' (*huoshen pai* 火神派) that is claimed as typical for Sichuan medical history, and also taught and represented among practitioners outside China. What is safe and effective depends on dynamics within and across these lineages.

Just a few blocks away from the male district, without any sign visible from the outside, we find the clinic of a retired senior female Chinese medicine physician. A few alleys up the hill, a senior gentlemen lives close to the sacred peak with his wife treating patients at their home. Both have moved to the monastery from Heilongjiang province. She tells her story of belonging to a 'Heilongjiang lineage' elaborating her family history, textbook education, and the role of her teachers for her understanding of formulas until today. On the contrary, the husband underlines never having attended primary school and that instead of any textbook education he spent all his life learning about materia medica, modifying formulas, and acupuncture. He uses extraordinarily long needles, has long experience of treating high-altitude heart weaknesses, and uses a style of pulse diagnosis transmitted from his Heilongjiang teacher that includes high dosages of aconite. In contrast to his colleague also from Heilongjiang who, like him, came to retire here peacefully in remote surroundings, this doctor emphasises how extraordinarily high are the doses of aconite that he uses. She, however, underlines that due to the high altitude, and contrary to the style of the 'Fire-Spirit lineage', aconite should be used in a low dosage here. Like him and his wife, she moved here about a decade ago, planning to stay for the rest of her life.

Patients and personnel in the female doctors' clinic and its well-sourced and carefully managed dispensary are mostly Tibetan nuns from the Buddhist Academy, and people from the Tibetan nomad and agricultural households in the area. Very few staff and patients are Chinese since this is Tibetan territory. Let us reconstruct the route of medicinals from Han-territory to this Tibetan-territory clinic. In the clinic, a number of boxes with Chinese medical pre-processed drugs (*yin pian* 飲片) have been sent via the post to the clinic. Several nuns and monks confirm that charity is the main source of supply. The pattern is similar to the supply to the clinic in the male district: namely, a room in the monks' hospital is used for Chinese medical diagnosis and as a dispensary. The supply feeds into the manufacture at the female doctors' clinic here.

All animal products are substituted by plant medicinals, which is something both she and her staff underline. She finds it necessary to manufacture her style of honey balls one by one as well, to control the quality of her products, and to keep track of her frequently prescribed formulas. Graciously, she showed me the forms where she listed the ingredients of other formulas and explained her theories about them. The honey balls, however, remain products of her personal experience and so she has not recorded how to process them.

Derge: Hospital at the Site of the Archive of Tibetan Scripts

A second major site for Tibetan medicine and the supply of medicinals in East Tibet/ West Sichuan is Derge (Chin. Dege xian 德格縣). Derge is situated in remote Western Sichuan, close to the Tibetan Autonomous Region (TAR). The pass across Que'er mountain (fig. 2) obstructs the access for most Han tourists; the road has been improved to a great extent since I first tried to reach the city in 2012—but in vain, since the mud road had collapsed under heavy rainfall. However, the city is a promoted site with a tourism bureau and also a site related to the Long March of the Communist Party. Slogans celebrating the friendship and crucial support that Tibetan Lamas gave to the Chinese communist soldiers while on the run from attacks by Japanese invaders are exhibited on red placards over the main streets. Certainly, the main attraction is the archive of Tibetan culture that has endured five centuries on wooden printing blocks. In 1959 it was recognised as a cultural heritage site,⁶⁷ and in 2009 added to the UN list of intangible cultural heritage. A tourism leaflet (fig. 4) underlines Derge's significance with photographs of the various craftsmen still active today: they print with woodblocks themselves and repair individual characters or whole wooden blocks for printing.

Astonishingly, the leading personnel of Derge's Tibetan hospital had been unaware of their prominent introduction on this leaflet, which celebrates the so-called 'southern current' of Tibetan medicine (Chin. *nanpai* 南派; Tib. Zur).⁶⁸ The leaflet depicts the highly relevant process of producing mercury ingredients for Tibetan medicine, *tsotel* (Tib. *btso thal*) as well as one of the products which contains what are normally not recognised toxic medicinals that are an accepted part of Tibetan medicinals, of course, here in China today. The oral history of a series of successful revivals of this production process connects my interview-partners and their teachers to the central Tibetan medical

67 Hofer 2015, p. 60.

68 Garrett 2013.

FIGURE 4 Tourist leaflet on the history of Derge heritage site of Tibetan Buddhist printing, including photos of medicinal processing at the Tibetan hospital and the main current historical figures of revived tsotel processing.
PHOTO BY LENA SPRINGER, 2015

institutions in Lhasa.⁶⁹ That history which is not only politically sensitive but also sophisticated is not accessible for the tourist experience via the leaflet.

Not far from the entrance gate to the Tibetan Hospital is the People's Hospital of Derge. The dispensary on the ground floor is roughly the same size as a Western (biomedical) dispensary—standard for a hospital of this size—but it is empty of patients just as it is of drugs. On the first floor, I observed a project of TCM-colonisation. Students from remote Tibetan areas in Sichuan visit the two young resident Chinese medicine acupuncturists for a period of a few weeks or months to learn acupuncture and some '*tuina*' (推拿), mainly for treatments of cold-inflicted orthopaedic illnesses in the joints. The two instructors complain how hard it is to get to know anyone in the city and how the teaching is hampered by the fact that nearly all the patients walk on to the Tibetan hospital down the road, or they choose biomedicine.

My conversation with the leading personnel about the scope of Tibetan medicine in Kham revealed two aspects. On the one hand, economically, the scope is proudly small-scale. Prices stay low so that patients from the area can afford to buy the medicinals. Therefore, the Tibetan hospital rejects buyers or socioeconomic developers from cities such as Shanghai or Beijing and do not welcome or allow franchising of Derge products. In Lhasa, prices of products from Derge may be higher, but the Derge hospital does not get involved nor gain any profit from such a value chain. First of all, my interviewees emphasised that the availability of materia medica from the area is limited, and the Derge label is proudly retraceable because of the reliable and personally long-known collectors and suppliers of raw medicinals. This is how they established a reputation for safety and efficacy.

On the other hand, culturally, the scope is comprehensive and eclectic—like the scholarship at Babang monastery in Derge and the woodblock print-archive of scripts. Long conversations elaborate the scope of materia medica used as part of Tibetan medicine that reaches into the 'Arabic' world in the West of China, into India, or to the TCM market via Hong Kong. On the final day of my fieldwork, I learned about the foundation of a society for the study of Kham medicine in Kangding city. Thus the current quantity of eight teachers of Tibetan medicine at the language and vocational school there are connected to efforts at Derge to promote Kham Tibetan medicine. They know each other and are on good terms with regulators in Kangding. Historically, they see Derge as representative for the Kham region's Tibetan medicine and for the middle phase of Tibetan medical history: between the classical period—centred at Lhasa—and the currently powerful region of Amdo

69 Gerke 2013.

in neighbouring Qinghai province. This positioning echoes Luran Hartley's observation of the politics of Kham kings who had cultivated multiple links to Chinese and central Tibetan centres.⁷⁰ Also the archival importance of Derge lies not only in the scripts that can be reproduced from the woodblocks, but also in the contemporary practice at the Tibetan hospital. Instead of regional or local ethno-medicine, the scope of medicine here is understood as translocal and regionally inclusive—not just 'southern' in some regional sense (as the Chinese term connotes), but rather generally as a site of collection and transformation into Tibetan medicine. As a major site in Kham besides Larung Gar monastery, their reputation for reliable medicinals uses the label Derge but it extends beyond the scale of supply from within only Kham.

Medicinal Things and Materials in Sichuan: Who Names Them?

In conclusion, my ethnography in present-day Sichuan province highlights the significance of multi-ethnic medicinals in the Western Autonomous Tibetan Prefecture Garze, or Kham. For the production of high quality Chinese medicine products, that Tibetan region constitutes an important piece of the supply mosaic. Furthermore, suppliers from various ethnic medical backgrounds coexist: throughout the province at distinct sites of education and religious ritual, and at sites of production that are less ethnically particular. The highly interactive situation in Sichuan exemplifies how diverse suppliers communicate about materials, and how they collaborate to accomplish the circulation of medicinal things, and of knowledge about them via the trusted names and labels. Midway, they carefully select parts of the same thing, either for Tibetan or for Chinese products. They identify and name even the same material that may be used for production within Tibetan medicine, and within Chinese medicine. Transfer of materials and knowledge extends beyond these ethnic boundaries, and as a consequence Tibetan physicians and suppliers are versed in qualities and identities of medicinal materials that constitute reliable knowledge about the effects and safe origins of materials used in Chinese medicine.

The work, firstly, of collectors is to pick parts of plants and animals and handle mineral and metal materials for drug production. This is the first step and basis for the production of medicines in Sichuan province that are effective and safe. Finding and using the right names requires identifying the medicinal things first, and then suppliers can direct selective reference at only part

70 Hartley 1997. On relations of Tibetan monasteries with the local state, see Hillman 2005.

of the thing's manifold meanings. Collectors are highly skilled, but still are often neither officially recognised nor formally employed for their skills. Yet they constitute the most basic web of present-day Sichuan's chains of supply, including both Tibetan and Chinese medicines. The crucial roles of suppliers are obscured in the currently predominant socioeconomic outlook on pharmacy in China; it underestimates the rich resources of materia medica throughout the country's vast landscapes—a territory of closely knit relations within and across ethnic demarcations yet of strong topographic contrast. The various suppliers achieve this circulation and know how to transport and also exchange the materials for drug production among themselves throughout the province and beyond its current borders.

Secondly, manufacturers of Tibetan and Chinese medicine materials talk with each other on a daily basis about crude products and medicinal materials. Returning to their workshops and homes, in ethnically diverse Tibetan or Han occupational lives, they continuously enact the Sino-Tibetan frontier. Even on a level of economic diversity that differs from the significantly more large-scale and broader brands of licensed suppliers on the pharma-market, shared standards ensure efficacy and safety at this crucial and early stage of production.

Here, the suppliers step out of their multi-ethnic work together and talk on a more narrow scale using more specific ranges of knowledge about the identities and quality of materials. Within Tibetan and within Han-territory (Chinese) medicine, in Tibetan or in Chinese terms, they name materials according to regions or sites of origin. Thus they claim scales of medicinal products such as Kham within Tibet, or situate their production of high-quality yet affordable medicinal materials in Garze Prefecture within Sichuan province. This local yet transregional economic scale resists large-scale development and has limits so that the local population can afford to buy the products while the suppliers reject exports to rich cities such as Lhasa or Chengdu. Several suppliers in Garze pointed this out to me as complying with Tibetan ethics in particular. Judging from my ethnography throughout China, the safeguarding of high quality at the small-scale and moral obligations to the local population of the suppliers' occupational lives also echoes ethics and complaints of Han-suppliers who share very similar concerns.

Tuning in to the communication on these multi-directional supply chains and zooming in to grasp the role of these particular traders-as-translators provides crucial insights. This reveals that the high quality and nitty-gritty identities require decontextualisation, i.e., a specific name, a part of an object, or a method of processing for storage and transport to later achieve one pharmaceutical effect of the drug instead of other ones. Not only for the purpose of communication but also for the purpose of material construction, these

increasingly transformed things that become medicinal drugs retain a surprisingly high degree of resistance both to meaning that is attached to them and to material transformation. In a yet open-ended manufacturing process they remain mobile and can be recontextualised, to become clearly either Tibetan or Chinese medicines. Once identified as things that are effective and safe, the medicinal materials, in Sichuan, for example, become mobile among suppliers who differ ethnically but still share names to communicate with each other. As circulators of these drugs, they knowingly exclude all the other possible meanings and cultural backgrounds that they are familiar with or that they hear about frequently during wider communication among suppliers.

They move these things along their respective individual supply chains and further into different final destinations of drug production that is mutually exclusive. As the increasingly processed and translated materials turn into drugs, still they resist complete clarification but need to be handled at each site one after the other. The materials *per se* reveal what they are in the context of Tibetan or Chinese medicine; yet studies on ideas alone cannot reveal how these objects transform and move into the contexts of ethnic economy or scientific taxonomy. Their 'total' context—to use the adjective from discussion in anthropology about gifts and exchange relations—is not only food for studies, but it also allows for circulation via chains of re- and decontextualisation. Anthropology-inspired history writing can use such things—living and dead, full of meaning or just present—as a lens to study a whole prism of what are generally called economy, religion, medicine, or pharmacy. Through this lens, the Sino-Tibetan frontier is not a construct in the minds and discourse of elite scholars or powerful scientists and decision-makers. According to studies on things in various fields of research that concern monetary and cultural values other than the capitalist market ones, what connects or disconnects them all is their construction, in a rather literal sense of assembling pieces. Meanings used by the constructors, i.e., various suppliers, may therefore include identities and qualities from the sophisticated background of either Tibetan or Chinese medicine, and also biomedicine. Moreover, they may also be just names (in Tibetan or in Chinese) for plant parts, animal anatomy, minerals, and metal things. The language is either Tibetan or Chinese; however, both Tibetan and Chinese drugs include materials that can be renamed and transferred as things into different languages and ethnic contexts of medicine.

Above I examined the roles of social actors more than the roles of the things they handled. Years ago I had begun my ethnographic fieldwork from an East Asia-centred perspective based on our current insights into Asian medicines and studies on the text-based archives. What struck me in the field was not to find these reproduced again but quite on the contrary the resistance of things,

materials, and drugs to fit into the ethno-boxes of historiographic archives, structured academia, and ethnic classification.

My ethnographic research in Han and Tibetan areas of Sichuan province shows that collectors and producers of medicinal materials and drugs carry out a number of roles such as distributor and educator on specific ethnic terms, and translator of names and labels. Their techniques are not static, unchanging, or backward remnants from a vanishing rural past of traditional China or Tibet, nor are they merely part of the underdeveloped local sections of the world system (as are some stereotypes) but, actually, they are culturally sophisticated rural industries. Furthermore, as connoisseurs the suppliers are versed in a range of techniques, and in technology and science based on culture that includes, besides scattered bits and pieces of biomedicine, formalized Chinese and also Tibetan medicine. As for a *lingua franca*, Chinese medicine functions as a strong model that relies on its established archive and historiography of substance-techniques, terminology, and twentieth-century history. Furthermore, the small economic scale, which is judged marginal by mainstream political approaches to agronomy, still requires thorough expertise. Currently, small-scale suppliers function as circulators. In very different ethnic, economic, and geographic backgrounds, they function as distributors as well as educators. Tibetan suppliers manage dispensaries and train staff in convents or monasteries (Serta); they run them as part of Tibetan county hospitals next to the People's Hospital; and in conversation with both scholarship and regulations of diploma and drugs (Derge); or they collect for their own dispensary in their own clinic that is also the Tibetan section of a county health centre. They teach supply expertise to their staff or to students at the vocational Tibetan school of Sichuan in Kangding. Some just carry out simple jobs but travel across vast distances as self-employed autodidacts.

The key roles of these various social actors have been overlooked in the provision of effective and safe treatments. Not only do they produce drugs but they also find, identify, and collect medicinal materials themselves, thus carrying out the first and fundamental steps of producing and processing drug products. Economic diversity can partly explain this asymmetrical recognition of small-scale versus large-scale suppliers. The medicinal materials that these collectors and producers provide are singled out from the more prominent commodity market that is dominated by pharmaceutical brands. Names reflect the scales of circulation and ranges of education in the Chinese province, which is held to be 'the Chinese pharmacy': just Sichuan, or in particular Garze prefecture in Sichuan, or East Tibet and Kham.

In a nutshell, this account of how effective and safe medicinal materials are gathered, processed, circulated, and distributed in the Kham region of

TAR illustrates a general feature of ethno-economies of high-quality materials and delicacies. Similar to traders of rare Japanese mushrooms⁷¹ or to Austrian ‘technicians of concerts’ who tune the pianos for master performances,⁷² the seemingly obscure occupational niches actually ensure economic circulation and cultural exchange of material and symbolic resources that used to be disregarded as either primitive or decadent, but are now increasingly enjoyed and remunerated.

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⁷¹ Tsing 2015.

⁷² Frank and Cibis 2009.

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