Entangled Itineraries

Materials, Practices, and Knowledges across Eurasia

Edited by Pamela H. Smith
In memory of Ronald E. Smith (1931–2018),
whose love still journeys with me
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Chapter 7

The Itinerary of Hing/Awei/Asafetida across Eurasia, 400–1800

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The focus of this chapter is on the global itinerary of asafetida as a drug, spice, and plant, tracing the processes and contact zones where knowledge around it was generated, transmuted, altered, disseminated, or disregarded from the fifth to the nineteenth century. Asafetida’s long global history was inextricably entangled with the movements of peoples, money, rumors, religious activities, medical and culinary practices, and scientific inquiries across regions and continents in different periods. Asafetida was a malleable and mobile material, creating and depositing values and meanings in some—but not all—relational fields along its temporal and spatial trajectories. Its history reveals erratic and open-ended processes of knowledge integration and disintegration centering on the material that did not, however, add up to the formulation of any straightforward definitions of a single, discrete material. These processes demonstrate, instead, how asafetida “reflected an attitude about the vitality of the world” in contact zones where it was ascribed special properties or “cultural logics” as a drug, a food, or a plant.

Asafetida is described in modern European pharmacopoeia as the dried latex (gum resin) from the root of several species of the Ferula herb of the umbelliferous family, grown wild in dry, stony, mountainous regions in Central Asia, including regions between Lar and Yazd in today’s Iran, in the Qandahar region of southeastern Afghanistan, and in southern Uzbekistan. The product is also widely known in English literature as hing (of Sanskrit or Hindu origin). Having a strong stench, the gum-resin was used for centuries both as a spice and as a drug in Asia and in Europe. In Europe it was compared to and sometimes equated with siphium, which was believed to have been introduced to Europe from North Africa in the fourth century
BC during the conquest of Alexander the Great and was used in ointments by ancient Greek doctors. The material was then believed to have become rare until its “reemergence” as a plant in the sixteenth century. From then on, the plant producing the resin became an object of great interest for European naturalists. By the mid-nineteenth century, the resin was still used in Europe “as a stimulant and antispasmodic in chronic bronchitis, hysteria and typhus.” Little is known of its global circulation during the entire medieval and premodern period, however, partly because Western literature has paid little attention to the history of this Central Asian product in the rest of the world and especially in East Asia where it had a brilliant career in the premodern period.

Around the time that asafetida “reemerged” as a plant in Europe toward the end of the sixteenth century, Li Shizhen (李時珍, 1518–1593) in China compiled the monumental and globally translated Bencao gangmu 本草綱目 (Systematic materia medica 1596), in which asafetida was given lengthy descriptions as a drug coming from Central Asia or India. Under the heading awei (阿魏), as the drug was then commonly called in China, Li provided a list of Chinese transcriptions of foreign terms designating what was considered the same material: ayu (阿靈), xinyu (辛夷), xinyu (辛夷), hing-yu (形盧), and haxini (哈西尼). Berthold Laufer clarified in 1915 that ayu in fact transcribes the Persian term angeza(d), xinyu transcribes the Sanskrit term hing, and haxini transcribes Ghazni, a city in today’s Afghanistan. None of these terms, according to Laufer, was the origin of awei. For him awei is a phonetically exact transcription of ankuwa(d), a word in Tokharan B—an now defunct Indo-European language spoken north of the Tarim Basin (northern Xinjiang) from the sixth to the eighth century. This transcription suggests that the traders who introduced the product to China were probably a Tokharian-speaking people. Kuchen traders active in the Tarim Basin region between present Afghanistan and China in the seventh and eighth centuries were the most likely candidates.

Li Shizhen’s rich historical account of awei sums up the resin’s written history in China until the late sixteenth century when it was widely known in East Asian materia medica, bearing witness to its great mobility in the global market. The focus of this chapter is on awei’s itinerary as a material and on the ways in which knowledge was constructed around it as a resin or as a plant. Three characteristics of the substance are highlighted: its materiality as a drug, spice, and plant; the significance of the resin’s defining yet intangible stench; and its elusive authenticity and identity as a global commodity and as an object of scientific enquiry (see figure 7.1).

### Awei as Name, Material, and Knowledge in East Asia, Fifth–Tenth Centuries

Awei left Central Asia and India and began its new journey in China as xingyu (a transcription of bingu) in one of the first Buddhist vinaya translated from Sanskrit into Chinese in the fifth century, Shi song li 十誦律 (Sāvatthūdāva-Vinaya, Ten recitations Vinaya). This text was read and translated orally before being transcribed into Chinese by a team including Central Asian Buddhist monks such as Puyatara (波若多羅) from Kasmira and the great Kuchean translator Kumārajīva (鸠摩羅什, 344–413), in the city of Chang’an, capital of the non-Sinitic (of Qiang ethnicity) state of Later Qin (265–450), a great patron of Buddhism. The reading of the vinaya in Sanskrit by Puyatara followed by the translation into Chinese was attended by more than three thousand monks and novices at Xiaoyao yuan (遊道園), a huge
complex where Kumārajiva organized his translation projects. This incomplete translated text introduced the term *xinggu* as one of the five resins that a monk could accept from a donor, as a Buddhist code of practice for monks. The same passage also introduced new knowledge on other foods including syrups, greases, root plants, fruits, soups, most of which were transcribed into Chinese phonetically from Sanskrit as they had no existing Chinese names.

*Xinggu*, thus designating a common material in Indian Buddhist culture also expressed its foreignness in China. The three thousand monks attending the historic translation session in Chang’an, who heard of the material called *xinggu* for the first time, learned that it was a resin, without any idea about its physical appearance or nature.

The resin was physically introduced to China as a tributary trade item not later than the seventh century, under a new name, *awei*, as recorded by the official history of the Sui dynasty (581–618). This book was published in the 620s, and in the chapter on Central Asia (called in Chinese *xiyu*, the western territories) it is reported that the material *awei* was one of several crops and products of the tributary State of Cao (漕, known in Sanskrit as Jaguda, and Zabul in Arabic), which occupied the territory of today’s Afghanistan. By this time, the knowledge of the resin and of the State of Cao as a major producer was already well known in the Eurasian Buddhist world. From this point on, the term *awei* became the most common to designate the resin in Chinese texts of various genres, eclipsing all other coexisting Sanskrit, Persian, Arabic, and Mongolian terms including the first Chinese transcription *xinggu*.

The reception of the material *awei* as a medical ingredient in China was immediate. It was included in the first Chinese compendium of materia medica, *Xinxin bencao* 新修本草 (The new compilation of materia medica), published in 657 with imperial endorsement. For the first time in China, the knowledge about *awei* as a drug was crystallized in writing. It was recorded here as a drug of middle medicinal quality, spicy in taste, without poison but with a repelling smell. It was considered to be an effective vermifuge, useful in dissolving lumps and masses in the abdomen, dissipating bad *qi* (from the body) and protecting the patient against ghosts and bad spirits. It was said to be made from the “juice” of the root of a plant said to look like the indigenous Chinese plant *baizhi* (Angelica dahurica Benth. et Hook, another umbelliferous plant), after it is sun-dried and ground into a powder. But an inferior type consisting of segmented roots was also in use. Finally, without specifying the native place of this drug, the compiler of the compendium, Su Jing, highlighted the paradoxical and defining character of *awei*: having an unusual stench, it was efficacious in getting rid of foul smell.

Awei’s unique stench and ascribed efficacy as a vermifuge and its paradoxical effect of stopping foul smell flagged it as an occult drug in China in the eighth and ninth centuries. It was included in medicinal recipes in this period mostly for banishing disease-causing evil spirits and ghosts. Awei was sometimes made into pills that were burnt to fumigate the patient diagnosed to be possessed by bad spirits. Doctors also advised patients to take awei pills to prevent disease transmission by malicious *qi* emitted from corpses. It was used to exterminate vermin such as creeping bugs since the seventh century in recipes treating leprosy, believed to be caused by bugs pulling inside the body. One of the first doctors to introduce such recipes, Sun Simiao (孫思邈, 581–682), attributed this therapeutic use of awei to an Indian origin. Sun was also one of the first to include awei in composite recipes for dissolving lumps and masses inside the abdomen, establishing a long Chinese tradition of such use in subsequent centuries.

Wang Tao’s (王蕡) compilation of recipes based on his research in the imperial library, *Waitai miyao fang* 外臺秘要方 (Secret essentials from the imperial collection, ca. 752) was the first medical book to provide a series of recipes using awei for occult purposes such as expelling evil spirits. Together with another newly introduced resin from Central Asia, benzoin (安息香), and sometimes mixed with cow’s milk (a substance rarely used in Chinese medicinal recipes), awei was an ingredient in medicines to be taken for the ousting of evil spirits including ghosts and fox spirits that took the form of beautiful women and caused hallucinations such as intercourse with the spirits. Sometimes awei was mixed with toxic elements such as arsenic and various types of animal hair and bones into pills for fumigation to banish bad spirits from a patient or to prevent epidemics in a locality; the pills could also be hung in houses or carried on journeys as a charm to ward off bad spirits. The occult use of awei also appeared in Japanese pharmacopeia not later than the tenth century. *Ishinpo* 錯心方 (Essential medical recipes, 982), one of the earliest and most influential Japanese medical texts by Tanba Yasuyori (丹波康頼, 912–995) based on Chinese medical classics, recorded the use of awei mixed with alcohol in a recipe for the prevention of postmortem contamination (zhu).

Buddhist monks working in Chang’an probably played the key role in disseminating knowledge on awei in the early period. Other than their transla-
tion projects, several prominent Chinese Buddhist monks traveling between Central Asia and China continued to bring back new knowledge on the resin to their audiences in Chang’an. One of them was Monk Huirui (慧日, 680–748) whose discussion on xinggu shows the unique sensitivity toward the resin as a taboo in Indian culture. Another was Huilin (惠琳737–820), a linguist who had worked in major monasteries in Chang’an. In his major linguistic study, *Yiqie jing yin yi 一切經音義* (The sound and meaning of the Tripitaka), he explains that “xinggu (binga) is a ‘tree juice’ that people in the western region (India) put in food. It is what we [the Chinese] now call the drug awei.” Huilin here enriched the knowledge on awei by clarifying the distinction between hing as a food in India (with the name xinggu transcribing the Sanskrit term) and awei as a medicine in China. His interest in the resin had much to do with his role as a Buddhist monk: the resin was not only a well-known taboo food in Indian Buddhism but also a common drug stored in monasteries along the route he traveled between India and China, via the Kingdom of Khotan, on the southern edge of the Taklamakan Desert in the Tarim Basin. Chinese archaeological findings show that one of the common medicines stored in Buddhist monasteries in the Khotan region was awei. A document listing market prices of awei in the Turfan region in the year 743 illustrates the material’s full integration as an accessible commodity by this time in China’s medical culture: one liang (around 1.3 ounces) of superior quality awei powder was worth eight copper coins, and middle quality and inferior awei cost seven and six coins respectively, which were of the same value as the much-sought-after native ingredient the dried *poria* fungus.

Knowledge of the plant that produced awei, however, was not recorded in writing until the ninth century. Thanks to the curiosity of the literatus Duan Chengshi (段成式, 803–863) who interviewed Central Asian and Persian travelers sojourning in Chang’an, capital of Tang China (618–907), where he spent time as an official and a retiree, the plant was described in writing for the first time. In his influential treatise, Duan indicated the ingredient’s geographic origin: Persia and northern India, with the Persian name of the plant *anguzad*. Duan told his readers that the “awei tree could be as tall as 8–9 *zhang* [almost three meters],” with a yellow-greenish bark. “In the third month of the year it develops leaves that look like rat’s ears, but no flowers nor fruits. If one breaks the branches a tasty juice will come out that will, after a while, solidify as *awei*.” Duan informs his readers that this information was given to him by a Melkite monk from Central Asia, whereas Indian monks told him that the juice of the plant was mixed with rice and beans to make awei. Duan’s text has to be appreciated in the context of the cosmopolitan culture of the Tang capital at the eastern terminus of the Silk Road infrastructure at its prime. Chang’an evolved from a religious (Buddhist) center in the fifth century to a political and commercial hub of the Chinese Empire unified under the Tang dynasty from the seventh century, a setting that facilitated the global circulation of knowledge of all kinds, to and from Central Asia, by traders, monks, diplomats, and other sojourners who interacted freely with resident doctors, scholars, and officials.

By the ninth century, then, awei as a medical material was known in writings and was commonly used in China. The material knowledge constructed through it circulated along the Silk Roads, from today’s Afghanistan and northern India, via the Tarim Basin to western China, turning up finally at Chang’an at the eastern end, in monasteries, marketplaces, and imperial offices. From this cosmopolitan center, the resin was made known to all East Asian regimes, as *awei* in China, *agi* in Japan, *awei* in Korea, and *a ngui* in Vietnam. However, this knowledge on the material—kept in temples, sold in markets in the form of a powder or segmented dried roots, or in various mixtures—remained fragmented and elusive. No writer on the substance actually witnessed the herb or tree that produced the substance or the production process of the various forms of the material found in marketplaces. The early domination of the Tokharian B term *awei* for the commodity—eclipsing all other transcriptions (Sanskrit, Persian, or Arabic) that differentiate between the plant, its various parts, the resin, and its derivatives—greatly simplified knowledge construction through the material. It was precisely such fragmented and incomplete knowledge about awei that nourished imaginaries on its native place, physical form, materiality, and therapeutic qualities in the later periods that determined its value as a thing.

**Awei as a Popular Medicine in East Asia, Tenth–Fifteenth Century**

The importance of awei in Chinese materia medica continued to grow after the tenth century, as it now reached East Asia not only by land but also in increasing bulk by sea via Southeast Asia. By 1141, an imperial regulation allowed awei, along with eighty-six other spices and drugs, to be legally traded on the Chinese market. Historians attribute the explosion of medicinal recipes in this period to the great influx of Central and South Asian drugs via
land and sea. Robert Hartwell, using the data of extant fragments of an early fifteenth-century imperial encyclopedia to measure the medical use of foreign commodities from the seventh to the late thirteenth century, estimated that asafetida was used in 37 percent of recipes treating constipation-related syndromes between the eleventh and the thirteenth centuries (see figure 7.2). 31

Many such recipes were recorded in official compilations of medicinal recipes, including some state charitable dispensaries, such as the one-hundred-chapter Taiping shengbi fang 太平聖惠方 (Recipes of the Imperial Grace during the Great Peace, 992) and the Taiping huimin beiji ju fang 太平和勸局方 (Recipes of the Charitable Dispensary for Popular Relief during the Great Peace, mid-thirteenth century). Awei’s initial occult use in repelling evil spirits and stopping postmortem disease transmission was still common, but its main therapeutic use seems to have become as a solvent of blockages, a dissipater of phlegm, bad qi, and irregular growths including tumorlike lumps inside the abdomen. Its use was then extended to treating women’s reproductive disorders including obstructed menstruation and as an abortifacient. It had acquired a more constructive function by the tenth century when mixed with other ingredients, as shown by the “awei pill” considered to be effective in “boosting the vital qi of men, and blood qi of women,” recorded in the Taiping shengbi fang compilation. 33

The popularity of awei also reflects the global impact of Islamic medicine peaking in the fourteenth century. Similar pharmaceutical uses of the drug can be found in the Arabic tradition, as shown in Ibn Al Baytar’s (1197–1248) description of andjuran (the Arabic term of the asafetida plant), with a note on the beneficial warming and drying effect of the resin (known as batit in Arabic) on the liver and stomach, and its use in dissolving intumescence produced by heavy foods. 34 A purgative formula from around the twelfth century using asafetida and other ingredients, for instance, is found in the Genizah collection of Egyptian medieval medicine. 35 An early mention of asafetida in English in a late fourteenth-century translation indicated its introduction into Europe. 36 Meanwhile, the first compilation of Islamic medicinal recipes written in China, the Huibai yaofang 回回藥方 (Islamic medicinal recipes) published in the fourteenth century, contains recipes based on asafetida. A specialist of this text draws our attention to the similarities, in form and content, between this text and Islamic medical texts such as that by Avicenna (980–1037, known in China as abu Ail). 37 Unlike Chinese medicinal books, this text transcribed asafetida not only as awei but also in Arabic, Persian, and even Latin terms. The use of the drug were similar to those recorded in existing imperial compilations of recipes, especially in its use in dissolving phlegm and hard lumps in the abdomen. 38

The medicinal use of awei was also recorded in other non-Sinitic cultures in East Asia in this period. Some rare texts from the Tangut kingdom controlling parts of western China near today’s Xinjiang area between 1038 and 1227 indicated the popular use of awei as a medicine in that short-lived kingdom much influenced by China. 39 The Tibetan medical classic The Four Tan-
trás (rGyud-labs), considered a late eighth century compilation, printed for the first time in 1546) cited the use of awei as a vermicufuge and a Wind-dispelling drug, establishing the popular use of the resin in Tibetan medicine. It was in the Tibetan medical tradition that awei acquires an aphrodisiac quality (as in Arabic and Indian cultures) not explicit in other East Asian traditions.40

Sources in this period suggest that the product was a highly valued commodity and much appreciated by the imperial court. In the tenth century, the KhotoJ state offered two valuables to the Song court: white jade and awei. Like jade, awei was part of the lucrative black market trade in this part of Central Asia.41 One century later, a grandiose tributeary mission of the Chola dynasty of southern India in 1077 to the Chinese emperor offered awei together with other valuables such as frankincense, rosewater, cloves, borneol, pearls, and rhino teeth among other precious items.42 A Chinese scholar official complained in 1045 about the unreasonably high price of awei, which, for him, was only a mediocre and aggressive ingredient whereas milder drugs of finer therapeutic quality were much cheaper.43 This comment informs us not only about the drug’s high value in this period but also the mixed Chinese reception of this foreign thing as a medicinal ingredient. This concern seemed to be growing among experts and would explain the gradual decline of awei’s market value in subsequent periods.

This image of awei as a material may also be one of the reasons that it never posed the problem in Chinese Buddhist dietetic practice that it did in India and other non-Sinitic cultures. Believers did not need to avoid awei in meals as it was not an integral part of the Chinese or East Asian culinary tradition. A Chinese Buddhist text of the tenth century stated that of the five spicy herbs forbidden for monks—garlic, chive, green onion, scallion, and xinggu—only xinggu was not a food in China.44 Despite some sporadic evidence that parts of the awei plant were consumed as a vegetable in western China in the early tenth century, this use did not persist, largely because of its stench.45 In this regard, the reception of asafetida in China was similar to that in Europe.46 However, for a brief period in China under Mongolian control from the late thirteenth to the early fourteenth century, awei was used as a condiment and added to various soups and dishes with game and other meat to enhance the taste.47 This practice, however, was at best marginal and ephemeral in the Chinese culinary culture in its long imperial history.

Asafetida in the Construction of Modern Botanical Knowledge, Sixteenth–Nineteenth Centuries

Asafetida's global visibility increased suddenly from the sixteenth century onward, with new transoceanic routes facilitating the circulation of humans and materials and intellectual movements that inspired unprecedented global efforts to retrieve drugs recorded in Dioscorides's classic.48 Gathering, compiling, and sharing information and materials both heard about and witnessed firsthand, comparing them with those described in classic texts, European travelers and their native collaborators in different parts of the world created new networks of knowledge making.49 In the process, a new relational field formed, within which asafetida emerged as a plant.

One of the first global travelers interested in asafetida as a plant was the Portuguese Jewish doctor Garcia da Orta (1501–1568). In 1534 he sailed for Portuguese India as chief physician aboard a Portuguese fleet and in 1538 settled in Goa to practice medicine. Based on his Indian experience he authored the Colóquios dos simples e drogas he cousas medicinais da India, which reveals his extensive knowledge about Asian drugs and spices. He was one of the first Europeans to point out the different Arabic and Indian names for asafetida resin and for the plant, and he reported especially on the popularity of the resin as a food in India. But he also admitted that, despite his familiarity with the resin, he had never seen the plant, which grew deep inland, and did not know what it looked like. “No people known to me use anything but the gum which is obtained by making cuts in the tree.”50

It was probably the desire to penetrate this tantalizing myth about asafetida that drove the German doctor Engelbert Kaempfer (1651–1716) to travel all the way to the region of Lar along the Persian Gulf to witness the harvesting of the resin. Kaempfer belonged to a generation of European doctors in the service of European trading companies who traveled far and wide seeking out firsthand information on the natural world.51 Serving as a physician in the Dutch East India Company, he traveled to Russia, Persia, India, Siam, the East Indies, and Japan during the decade between 1683 and 1693.52 He published the observations of his travels, Ameoenumatum exoticaeum, in 1712 in which seventeen pages were devoted to observations on asafetida, including detailed drawings of the plant and its parts and an illustration of the harvest-
Kaempfer's identification of the plant and detailed description of the production of the resin formed the basis for subsequent descriptions and for discussions among European naturalists about the asafetida plant itself. Two important figures in this debate were Hugh Falconer (1808–1865) and his friend John Royle (1799–1858), both naturalists with medical training and global travelers as physicians in the British East India Company. Falconer identified Kaempfer's asafetida plant as *Ferula narthex Boiss.*, a plant that he not only observed in its natural site but also cultivated with seeds brought back from Persia, a common practice by naturalists of that time. John Royle fully recorded Falconer's account of the plant with detailed drawings of the various plant parts. He raised a new point about the fruit or seeds of the plant, importation in India from Persia and Afghanistan under the name Anjooodan and widely employed by Indian physicians. This implies that, contrary to previous belief, other parts of the asafetida plant besides the resin were also used as medicine or food in India.

European botanists continued to study what they believed to be the asafetida plant that was now cultivated in European botanical gardens with seeds brought back from Asia by various naturalists. John Balfour (1808–1884), professor of botany at the University of Edinburgh, in 1841 provided meticulous descriptions of the plants cultivated in Edinburgh, further differentiating the odor of the main plant (strong garlic odor), the flowers (sweetish), ripe fruits (asafetida odor), cotyledons and early leaves (not fetid), young root (bitterish taste).

Such new knowledge on the asafetida plant soon found its way back to East Asia. Japanese Rangaku (Dutch learning) scholars and doctors Otsuki Bansui (1757–1827) and Otsuki Banri (1785–1837) translated various European materia medica and compiled their translations in *Ran'en teikoku* 蘭嶺收集 (Extracts of Dutch botanical learning, 1815). This work includes a long section on asafetida, comparing knowledge collected by Kaempfer and other European naturalists with that on awei in Chinese materia medica. The Chinese translation of European materia medica, especially John Royle's work of 1876, was undertaken by British missionaries some seventy years later. The translator, while naming the text "Compendium of Western pharmacopeia," admitted that the asafetida from the plant *Nar'thes Asafoetida* of Falconer was indeed awei in China. However, such knowledge had little impact on contemporaneous Chinese pharmacology and definitely did not placate a growing Chinese concern about the authenticity of the drug that was found on the market.
The Defining Stench and Elusive Authenticity

Stench

The distinctive and defining stench of asafetida shapes its diverse careers as a food or as a medicine in different cultural contexts along its long spatial and temporal trajectories. The foul smell of the material was often the first thing that Chinese and European writers remarked on in their writings. Chen Cheng (陳誠, ca. 1365–1457), a diplomat sent to Central Asia by the Ming government (1368–1644) around 1415, provided the first Chinese eyewitness description of the plant. He found in the city of Shahrkia, more than 500 li east of Sarmarqand, a stinking herb... of about one chi in height. Its branches and leaves resemble an umbrella. It thrives in the spring and dies in the autumn. The stench is unbearable. The juice taken from it while it is still alive can be made into a paste that we call awet. Similarly, García da Orta wrote in 1563 that “The nastiest smell in the world for me is Assa-Fetida.” The Portuguese, he continues, called the resin “the food of devils,” whereas the Indians “have become accustomed to it.” It was also known as “Devil’s Dung” in Europe. John Royle told his readers that the “intolerable alicaceous odour” was what distinguished asafetida.

The East Asian and European aversion to its strong smell explains the material’s failure to enter their culinary traditions, differing from its long history as a condiment in India and Persia. We have seen that it was not a taboo food for Chinese Buddhists as it was for the Indians, because it did not tempt the Chinese at all as a food. Lucien Leclerc who translated Ibn Al Baytar’s thirteenth-century description of asafetida also commented, in the early twentieth century, that the “Orientals” (meaning Indians and Persians) had different types of andjodan for alimentary uses, whereas Europeans did not, as the odor was too strong.

However, it was precisely this stench that defined awet’s unique value in Chinese pharmacopeia. Strong odors of Central and Southeast Asian drugs introduced in China deeply influenced the ways in which Chinese experts analyzed and classified pharmaceuticals. Kou Zongshi (寇宗奭), the twelfth-century official responsible for procuring drugs for the Song government, in his influential book Bencao yanji (本草衍義) began to redefine the “qi” quality of drugs as their “odor”—rather than as their “nature,” as had previously been the case. Before this work, drugs were divided into five tastes (acid, salty, sweet, bitter, and spicy) and four “qi” (cold, hot, warm, cool). But Kou reinterpreted the meaning of “qi” as “odor,” divided also into four categories: fragrant, stinking, fishy, urine-like. He reinterpreted the four previous categories of “qi” as four “natures” (xing) of drugs. Awei, together with garlic, salty fish, and sweat-soaked socks were listed as examples of “stinking” matters.

More important, the “stench” of a drug was directly related to its specific therapeutic efficacy. Before the popular fourteenth-century saying on the value of awet pointed directly to its stench (“There is true awet amid much fake; that which stinks and removes stinking is the most precious”), awet’s healing power had already been explained in a twelfth-century recipe book, the Shengji jing (聖濟經) attributed to the Song emperor Huizong: “People do not know that the stench of a drug has a function... salty fish is beneficial to the intestinal organ, as its stench was great enough to scour blood stasis.”

Awei’s stench thus explained why it was efficacious in treating indigestion and lumps in the abdomen. This reanalysis of the “qi” of drugs as odor continued to develop in the late imperial period, and awet continued to represent the category of stench in pharmaceutical handbooks. The influential late Ming doctor Miao Xiyong (苗希雍, 1546–1627) further explained the quality of awet: “Fragrance facilitates the natural flow of Blood and qi, whereas stench reverses their flow; thus [to minimize the abrasive effect of reversed qi], one needs to reinforce the weak stomach and spleen of the patient first before awet is taken to dissolve lumps and stagnations.” The standard way of processing awet by Chinese apothecaries also revealed the concern of the stench as being an indication of abrasiveness: after being ground into fine powder in a clean bowl, it had to pass over a liquor heater to take up the aroma.

Asafetida’s unique stench was also a key to identifying the material in European medical culture. For centuries it was considered a variety of or a substitute for the ancient and highly valued Cyrenaic silphium, a superior resin thought to have become extinct. Nineteenth-century botanists attempted to fix its identity by quoting the Roman botanist Dioscorides (ca. 40–90), and the Islamic physician Avicenna (980–1037) who both thought there were two kinds of resin, one with a strong stench from Persia and another with a lesser smell from Cyrena. However, since the defining stench was intangible and could not be measured and since most East Asian and European users and writers on the material had seen neither the plant nor the processing of the
ingredient, the authenticity of the material remained elusive and became a perennial issue for both the consumer and the botanist.

Rumors and Authentication

The elusiveness of the “true” identity of awei was an issue for the Chinese as soon as it was introduced as xingwu. A fifth-century Buddhist sutra translated from Sanskrit contained this verse: “When one consumes xingwu, one should take the authentic (zhenshi, lit. “true, real”) product. If one consumes the fake and abandons the authentic, no good will be done. A thousand doctors would not be able to save such an idiotic person.” In other words, the problem of hing’s authenticity was known to the Indians and, through them, to the Chinese at the very beginning of the thing’s journey in East Asia. The problem worsened after the resin became a global commodity in the seventh century under the dominating term awei, which did not distinguish the plant and its parts from the resin, reaching a first crisis in the eleventh century when its use in medical recipes was rapidly expanding in East Asia. Materia medica books from then on sometimes illustrated awei with a nondescript tree-like plant called “Guangzhou awei,” suggesting that Guangzhou, the global port, was now taken to be the native place of the plant; others claimed that the plant also grew in Southeast Asia, southwestern China, and even the Yangzi region. Moreover, sources did not agree on the exact part of the plant that contained the resin, whether it was the stem, the leaves, or the root. The only thing that everyone agreed upon was the stench. The crisis soon generated techniques to verify the drug’s authenticity (see figure 7.4). Three methods were described: putting the product in a copper container overnight, and the copper would turn silver white if the thing was authentic; putting the product in a juice of avodou grass overnight, and authentic awei would be blood red in the morning; putting the resin on a pomelo tree and authentic awei would dry up the tree quickly.

Uncertainty about awei’s authenticity continued to grow, however, despite all the efforts. A thirteenth-century scholar official, Zhao Rukua (趙汝适), talked to Southeast and Central Asian merchants in Quanzhou (Fujian), a major trading port in southeastern China. He obtained the information that awei sold in China was mostly from Persia via the Samboja kingdom (today the southeast portion of the island of Sumatra). He also heard a widespread rumor that awei was in fact goat meat corrupted by the poisonous resin, which further thickened the shroud of mystery around awei (see figure 7.5). Later
 leaks to focus on the verification of its true identity. Sometime before the late sixteen century, another popular saying was formulated to highlight the difficulty of obtaining “true” awei, comparing this with the ease of getting true huangqin (scutellaria root, *Radix Scutellariae*)? Awei had by then become almost synonymous with counterfeit.

**Adulterated Commodity**

The Chinese concern about awei’s authenticity as a commodity was mostly triggered by changing market prices, especially when the ingredient was losing popularity in the East Asian pharmaceutical market. By the late fifteenth century, the official price of the drug was still high, in absolute terms, at two guan (about two taels of silver) per catty, but relatively low compared to five for myrrh, and three for ambergris. García da Orta observed in the sixteenth century that the high cost of asafetida was partly caused by the fact that the gum deteriorated quickly and the Indian suppliers manipulated the material to keep up the price. This remark hints at the common practice of adulteration of the raw resin in India before export, later confirmed by Japanese Rangaku authors of the eighteenth-century *Ran'ei tekibai*. They informed their readers that the high value of hing in India (where it was used widely as both a medicine and a spice) caused the flooding of fake and adulterated asafetida on the global market. In 1751 the Swedish merchant Peter Osbeck wrote in his travel notes that, in Canton (soon to become the only international trading port in China), “the Chinese get many commodities from several parts of Asia, and in particular parrots, ivory, tortoise shells, and asafetida.” Being the only one of the four imports with a questionable identity, asafetida’s value was probably maintained as an exotic import.

Nineteenth-century commercial information, including trade statistics from India, shed light on the circulation of the different types of asafetida in the world market that could account for the erratic prices. Such information provides important clues to the circulation of the commodities, which may help us understand, with hindsight, some of the earlier fragmented knowledge about awei in East Asia. Bombay was the world’s largest trading hub of asafetida in the nineteenth century, importing all types of resins from Persia and Afghanistan and exporting a part of them to the rest of the world after “manipulation.” From 1884 to 1889, 37,297 hundredweight (one hundredweight is about 40–50 kilograms) of hing were imported by sea, while 6,020 hundredweight hingra were imported by land from Kabul (hingra was the raw material...
of asafetida exported to Europe and probably also of awei to East Asia. Of the grand total of imports, only 8,586 hundredweight were exported. This export declined further between 1886 and 1890, when the total import held steady at 37,306 hundredweight, with only 2,014 hundredweight exported. These figures also demonstrate that India was the biggest consumer of hing, taking up roughly two-thirds of the total import. It was also the major "manufacturer" of hingra. Finally, it seems that all imported resins were adulterated in various ways before they were sold on the market.

Under the three main categories of imported "raw" resins in Bombay (hing from F. alliacea, Boiss.; Kandahari hing; and hingra from F. foetida, Regel), there were many categories of adulterated products on the market with great price differences. All the hings, especially the supreme Kandahari hing, were more expensive than the hingra that was mostly for export to the West and to East Asia. Good quality hing was worth as much as eighty rupees per hundredweight in the late nineteenth century. The average value was about fifty-five rupees. Hingra from Persia and Afghanistan was significantly cheaper, being valued at only about twenty rupees per hundredweight on the average. The prices were obviously determined largely by the biggest Indian market.

By the 1850s the Chinese were no longer concerned with awei's high prices but were baffled by its unreasonably low prices, which they interpreted as being the outcome of its adulteration. A famous doctor witnessed that, "in the shops, awei was faked with foreign garlic ... the provinces of Zhejiang and Jiangsu [where the doctor worked] are thousands of miles away from the Western countries [where the drug was produced], yet the price [of this gum] is very low. From this we can tell how much faked resin is being sold." The awei seen by the Chinese doctor was likely the same inferior material as was sold by the Indians to Europe.

Authenticated Plant?

European naturalists traveling widely in different parts of Asia after the sixteenth century searching for the "true" asafetida plant were increasingly frustrated by the difficulties of their quest. Ibn Al Baytar, García da Orta, and John Royle all admitted that there was a great deal of confusion created by the terms in different languages (Sanskrit, Arabic, Latin, Tokharian B, Chinese, and so on) designating the various plants producing the resin, their various parts, and the resin itself. Most European naturalists seemed to agree that there were actually two or more types of asafetida possibly from different plants, one more fetid than the others, also with different colors. John Fryer (ca. 1650–1733), the British travel writer and doctor who served as a surgeon of the East India Company in the 1670s, went so far as to claim that the asafetida produced in Persia and consumed in Europe was not Indian hing. The search of European naturalists for the plant from the seventeenth to the mid-nineteenth century further complicated the picture, because they could not show exactly which ferula plants furnished the resin sold in the European market. None of them had actually seen the production chain. Balfour's claim in 1860 that asafetida was furnished by Ferula Asafoetida of Linnæus and Ferula Persica of Wildenow was never substantiated. The resin had had a global circulation since the sixteenth century, but few consumers had seen asafetida in its natural habitat or witnessed its production and export processes.

For European botanists interested in the identity of asafetida, the problem underwent a dramatic turn after the mid-nineteenth century, when fuller records of Indian trade became accessible, and European trader naturalists began to interact more directly in the global network of indigenous merchants, artists, gardeners, and pharmacologists to direct the collection of botanical data to be sent back for analysis in Europe. The French pharmacologist Nicolas Guibourt wrote in 1850 that the Indian asafetida he obtained from a Parisian pharmacist was very different from what one could find in the European market. By the 1890s it seems a consensus had been reached among European naturalists that the mystery of the identity of the commercial asafetida in Europe was solved. In 1891 the British pharmacist William Dymock (1834–1892) wrote that, although sphenium of Cyrene could no longer be obtained, the gum resin that was sold on the European market—for a long time believed to be Asian (Indian) hing—was in fact something different. He believed that the asafetida in European commerce was indeed not Indian hing (from Ferula alliacea, Boiss.) but was what Indians called hingra (from Ferula foetida, Regel). The former, with a stronger stench, was from a smaller plant that grew on the hills of Khorasan (modern-day Iran), whereas the latter, as witnessed by Kämpfer in the late seventeenth century, was from a tall plant that grew in western Afghanistan. There were several key figures in the process of identifying the resin, a process that took place in the 1870s and 1880s between India and Europe. Dymock was the British military surgeon in Bombay; Ardesher Mehrban was a Persian merchant who procured the plant of hing for Dymock; Daniel Hanbury (1825–1875), a British phar-
macologist and botanist, studied the samples sent by Dymock to London; the
Swiss botanist Pierre-Edmond Boissier (1810–1885) confirmed the identity
of the plant producing hing as F. alliacea; and James Aitchison (1836–1898)
was the Scottish botanist who identified the plant producing commercial asa-
 fetida (hingra) in Europe as F. foetida. However, Dymock and George Watt
(1850–1930), a British botanist and reporter on economic products with the
Government of India, who both claimed that the mystery was solved, re-
mained ambivalent themselves as to the exact types of hing and asafetida
hingra that were available in the Indian and European markets. They identi-
fied asafetida as “certain species of Ferula yield[ing] either Hing or Hingra, or
both these drugs. . . . [D]ifferent systems of extraction and manipulation, or
diversified conditions of climate and soil, produce both Hing and Hingra.” In
other words, knowledge constructed by nineteenth-century European mer-
chants and botanists on the Ferula plants and resin justified rather than fully
clarified the confusion.

Looking back over the economic and medical itineraries of awei in China
from the perspective of this nineteenth-century information, we may want
to conjecture that the supply and price of awei have been much determined
by the Indian market since the fifth century. It would seem that relatively
unadulterated and expensive asafetida from Central Asia could be found in
China at the beginning of its importation in the seventh century until perhaps
the fourteenth century. This was the period when awei was widely used in
many medicinal recipes and, for a short time, in culinary practices. With the
global circulation of awei as a commodity, or commodities, from the sixteenth
century, a discourse of unverifiable authenticity developed around the materi-
al, while its use and value as a drug had already been declining in East Asia.

**Conclusion**

The long and looping global itinerary of asafetida as a drug/spice/plant begins
as an interaction of humans with certain biological, social, and cultural needs
with materials of various kinds in multiple temporal and spatial contexts.
Asafetida’s unusual stench becomes linked to an exceptional transformative
power on the human body and spirit and has led to its enduring significance
in religious and medical realms. In major hubs such as Chang’an, the mate-
rial known as hing (xingqu) or awei emerged in a written body of knowledge
in culinary and medical contexts that incorporated different cosmic logics in
Arabic, South Asian, and East Asian cultures. It was a desired spice, even an

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*Figure 7.6. The search for silphium goes on today. A modern imagined representation of silphium. *Horticulture* (F&W Media, 2010).*
aphrodisiac, and was at the same time taboo for Buddhist monks in South Asia. It was a key occult drug used for expelling evil spirits and vermin in all Asian cultures. In East Asia, in particular, awei redefined the explanatory paradigm of healing and medical theory, its unique stench again playing a key role. But the same stench disqualifıed it as an East Asian and European food.

This changing materiality did not disrupt its popularity in South Asian markets but, in East Asia, caused a gradual decline after the fourteenth century. Being a traveling material with an unknown raw state that went through uncontrollable production processes before it reached East Asia, awei was increasingly brought into doubt as a valued commodity, as demand for it increased from a global market. Confusing information about its provenance and authenticity was coupled with changing principles of drug use in East Asia. In centers such as Canton, Hangzhou, and Quanzhou, conflicting information was particularly abundant. Meanwhile, drugs perceived to possess drastic transformative powers lost their appeal and gave way to milder, often local ingredients. Asafetida’s unique stench, moreover, amplified its perceived abrasive nature.

Europeans picked up the global interest in and demand for asafetida, however, as East Asians were turning their backs on it, albeit in a completely different context. The opening of new transoceanic routes after the sixteenth century, combined with a search for ancient knowledge, ignited a search for materials mentioned in Dioscorides’ Materia Medica. To compare asafetida with the classical material known as silphium—and from there to unravel the differences between various Ferula plants—became a tantalizing project for traveling diplomats, doctors, merchants, local traders and gardeners, and natural historians in major European trading companies, medical faculties, and their botanical gardens, and in the nineteenth century in newly created laboratories. Silphium remains an object of research even today (see figure 7.6). As seeds and plants were exchanged, acclimatized to new regions, and the chemical contents of all types of asafetida were investigated, a whole new set of knowledge accumulated around the material complex “asafetida.” The “true” appearance of asafetida, its plant, and its manufacture remained more elusive than ever, however, even as knowledge about it was codified anew in a network of global hubs of trade and scholarship, including Bombay, London, Paris, Geneva, Edinburgh, Edo, and Canton.

Chapter 8

Smoke and Silkworms

Itineraries of Material Complexes across Eurasia

Pamela H. Smith, Joslyn DeVinney, Sasha Grafit, and Xiaomeng Liu

A remarkable sixteenth-century French compilation of mostly practical recipes for various art and technological processes contains much evidence of the movements of materials: both short-span itineraries within Europe—including silkworms and the blue dyestuff woad between southern France and Spain, dyes and pigments from Italy, amber from the Baltic, metals from Germany—as well as long-span pathways of dyestuffs such as turmeric and stick lac from South Asia, cochineal from Central America, and the tree resin, dragon’s blood from the Canary Islands and North Africa, techniques of damascening armor from the Near East, and “damasking” cloth by resist dyeing it with “Moresque” templates, likely derived from the Ottoman Empire. Among all this evidence of the movement of materials and techniques across Eurasia, there are two unusual and puzzling recipes which are the focus of this essay, one labeled “Medicine of the orientals against all maladies” and another with the heading “The Work done in Algiers.”

The anonymous manuscript in which these recipes appear is a 170-folio first-person account of processes carried out in a workshop, together with recipes and observations collected perhaps on visits to other workshops. Most of the manuscript is written in the same hand, although a scribe seems to have been involved in taking down some parts. The anonymous author is an experienced practitioner but does not appear to have been part of an identifiable trade association. He knows some Latin, although far from perfectly. Perhaps he is the son of a craftsman, trained in a workshop, with grammar school or even some university training, who then went to work for a rich merchant of Toulouse (where the manuscript seems to have been compiled), or for a noble