The Naming of Chinese Medicinals in English

中药英文命名之研究

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October, 2000 Revised edition June, 2001

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The Naming of Chinese Medicinals in English

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To this day, no standardized set of labels exists for Chinese medicinal agents in English texts, despite growing interest in Chinese medicinal therapy that makes it an urgent necessity. Latin pharmaceutical nomenclature, derived from the botanical and zoological nomenclatures, which ensure that all known plants and animals on our planet have a unique name, has not been universally adopted for the obvious reasons that the names are hard to read and write. Furthermore, no single Latin pharmaceutical nomenclature is agreed upon since differences in botanical and zoological names and differences in methods by which pharmaceutical names are derived from them are responsible for a considerable degree of variation. English names vary much more than Latin names and do not cover the full gamut of Chinese medicinals. Nevertheless, they are much easier to spell and pronounce than the Latin. Pīnyīn names are a potential substitute for Latin or English, but for the English-speakers unfamiliar with Chinese they are hard to pronounce and have no meaning. Despite this, they provide an indispensable cross-reference placed in parenthesis after an English or Latin name.

This paper discusses the problems of devising the most accurate and convenient terminology, and sets forth rules for the creation of Latin and English names which have been applied in the naming of over 6,000 medicinals. It concludes that, although Latin pharmaceutical names can provide an adequate nomenclature, English names that are shorter, easier to spell, and easier to pronounce can be devised for all of the Chinese materia medica. Whether a Latin or English nomenclature is used, the addition of Pīnyīn as a cross-reference is indispensable.

Note: The present paper is only intended for the discussion of principles. Anyone wishing to know the author's current choices of names of medicinals in English should consult *English-Chinese Chinese-English Dictionary of Chinese Medicine* (英汉汉英中医词典), Húnān Science and Technology Press, 1995.

Part 1: The Naming Problem

The naming of Chinese medicinals still remains a problem in the West. Differences in nomenclatures are a major stumbling block for those wishing to learn Chinese medicine. Even for the small gamut of 300 or so medicinals with which most Western students and practitioners are currently familiar, the variation in names poses considerable problems. Unlike other areas of Chinese medical terminology, the naming of Chinese medicinals in English has barely been discussed.

The present paper sets out the rationale that was applied in the names of the nearly 6,000 medicinals included in our medicinals database, which is eventually to be published in electronic form. In this database, we have included common English names and Latin pharmaceutical names, as well as the pronunciation of the Chinese names in both Pīnyīn and Wade-Giles (and in some cases Japanese too). Since the medicinals database contains far more items than any list ever to have appeared in an English-language publication, name selection in English and Latin has entailed a considerable amount of research. At a time when discussion of how medicinals should be referred to in English texts is growing in momentum, the fruits of our research may help the community of Oriental medicine to make rational decisions. Anyone wishing to access our suggested English and Latin names can consult already published work.

The extent of the problems created by different and complicated terminologies should not be understated. The diversity of names creates immense referencing difficulties for translators, students, and practitioners. English literature, far from applying a standard set of names, operates variously with English names, Latin names, and transcriptions of the Chinese—all of which can vary considerably from book to book. Latin names are derived from the names of botanical, zoological, and mineralogical entities, but they vary considerably depending on the name creation principles applied, the ever-changing classification and naming of botanical entities, and the different botanical and zoological entities used as the medicinal. Botanical and zoological Latin, far from its classical Latin roots, is a hybrid language that borrows heavily from Greek and contains proper nouns (place names and discoverers' names) hailing from a host of human tongues. Because of this, it is notorious for inviting misspellings. The English vernacular names that are used in some books are sometimes no clearer, especially when loose equivalents are used. English vernacular names for plants and animals frequently denote different things in different parts of the English-speaking world or in different professions. Sadly, the confusion experienced by many readers is not so easily dispelled by transcription cross-reference as might be hoped. Many medicinals have multiple Chinese names, and there are two distinct transcription systems.

A few examples of these problems should suffice to measure their magnitude. Hong-Yen Hsü, who applies a system of vernacular and Latin-derived English names and his own, somewhat inconsistent transcription scheme, refers to *bái tóu wēng* 白头翁 as anemone

because, unbeknown to many, *Anemone chinensis* is the old name for *Pulsatilla chinensis*. Some Americans refer to *dāng guī* 当归 as Angelicae Sinensis Radix, or simply Angelica Sinensis. Others even simply call it Angelica even though this term could refer to *bái zhǐ* 白芷 or *dú huó* 独活. Probably increasing numbers refer to it as *tangkuei*, in a pre–Wade-Giles transcription of the Chinese. Some call *gé gēn* 葛根 by its Chinese name; some call it pueraria. Some refer to it by its popular Japanese name kudzu—the name by which the whole plant is known to English speakers who use it for land erosion control. A few, aware of the culinary uses of the starch derived from it, also prefer to call it Japanese arrow root. *Guā lóu* 栝楼 is usually referred to as Trichosanthes Fructus, but some Chinese preparatory medicine factories will call it snakegourd (although this more correctly refers to *Trichosanthes anguina*). Those who know *shé chuáng zǐ* 蛇床子 as Cnidium Monnieri Fructus, or simply as Cnidium, may have communication difficulties with people who have studied with the Japanese, who use *Cnidium officinale* as *chuān xiōng* 川芎 (*sen kyū*). Of course, among the Chinese, *chuān xiōng* is the rhizome of *Ligusticum chuanxiong*, the new botanical name for *Ligusticum wallichi* and *Ligusticum striatum*. What some call Akebiae Caulis others call Mutong Caulis, perhaps because they do not recognize the use of plants of genera other than *Akebia*. For those accustomed to seeing *mù tōng* as Mutong Caulis, Akebia is more might be conused with *bā yuè zhá* 八月札, especially if the part name is not specified. Transcription over a large range of medicinals is a confusing alternative to the welter of Latin and English names for people who have not learned correct Chinese pronunciation and the different systems for writing it. The two main systems, Pīnyīn and Wade-Giles, use common letters to represent different sounds. For example, the sounds represented as *b, d, g*, and *zh* in Pīnyīn appear as *p, t, k*, and *ch* in Wade-Giles, while the same letters *p, t, k*, and *chi* are used in Pīnyīn to represent other sounds.

The confusion of names is exacerbated by the fact that it is not general practice in Chinese medicine schools in the West to tell students why a given medicinal is given such and such an English or Latin name, and why alternatives are acceptable or unacceptable. Nor is it practice to provide notions of Chinese and Latin that would help to reduce the incidence of error.

The problems go deeper. Not only do names of medicinals vary from book to book and writer to writer, but apparently without exception, name sets that have been proposed or used fail to convey differences implied in Chinese terms to one degree or another. For example, Shiu-ying Hu's *Enumeration of Chinese Materia Medica* provides English and Latin names for over 2,000 medicinals, but quite a number of the English and Latin names are duplicated. Although she lists the botanical sources for *huáng jīng* 黄精 and *yù zhú* 玉竹 in detail, she labels them both as Rhizoma Polygonati in Latin and as Solomon's Seal in English. This shows her greater concern for botany than for practitioners of Oriental medicine whose need is for a precise and unique label for all the items in their medicine chests. Those consulting *Commonly Used Chinese Herb Formulas with Illustrations* by Hong-Yen Hsü and Chau-Shin Hsü, without being familiar with other works by the same authors, get the impression that no distinction is made between cinnamon twig and cinnamon bark—no transcription is offered as a hint.

The problem of naming Chinese medicinals is highly complex. Three categories of labels are applied: transcription, Latin, and English. There is disagreement not only about which category of names is most suitable but also about which are the best names in each category. For practical purposes, adherence by a whole community to a single set of names ensures minimum communication difficulties. Since a problem of names such

as this can be solved only by the agreement between people who use those names, it is most likely to be solved in the best way possible if people make their choice consciously and rationally. One of the aims in creating the medicinals database has been to help the Chinese medical community reach a satisfactory solution to the problem by offering sets of names based on stated criteria, with deference (wherever these criteria allow) for convention where such exists. It includes Wade-Giles transcription as well as Pīnyīn, and offers Latin and English labels chosen for their accuracy and brevity. The following discussion of the advantages and disadvantages of Pīnyīn transcription, Latin names, and English names, and the criteria for the selection and formation of names is intended to help the community make a rational choice.

1.1 Pīnyīn Transcription, Latin, or English?

The persistence of transcribed, Latin, and English names stems from the fact each of these systems responds to a need not met by the others. Transcribed names are considered by many to be the ultimately only meaningful names for China's unique array of medicinals because many elements of the Chinese pharmacopoeia are alien to Europe and America, and have no vernacular English names. Latin pharmaceutical names are preferred by no fewer on the grounds that taxonomic classifications embrace all the known botanical, zoological, and mineralogical entities of the planet. English names are preferred by others on the grounds that they represent a lay classification that is closer in spirit to Chinese pharmaceutical classification than modern botanical and zoological classification is.

Let us look at these three systems in greater detail to see exactly the advantages and disadvantages of each, and assess the viability of each in terms both of theoretical principles and practical needs of students and practitioners.

1.1.1 Pros and cons of transcription

Two major transcription systems are current. The Pīnyīn system, which is characterized by zh/ch, g/k, b/p, d/t, z/c, has been used in mainland China since World War II and universally applied by the Western media for two decades. It has largely superseded the Wade-Giles system, characterized by ch/ch', k/k', p/p', t/t', ts/ts'. Wade-Giles is still the the standard in Táiwān, where until recently any innovation from the mainland was shunned as political heresy, but not necessarily for long. It continued to be used in sinological circles since it offered continuity, but in the meantime the advent of computer computer library cataloging that permits double transcription has allowed encouraged the adoption of Pīnyīn. The arguments for elegance, intelligibility, and economy of these two systems are more or less equally weighted. Pīnyīn, with the political force of its adoption, its academic tradition of providing tone indications, and its avoidance of sound distinctions that do not apply in modern Mandarin give it a cutting edge that even scholars, hitherto fearful of political turns in the Chinese world, now find hard to resist. Almost as prevalent as either Pīnyīn or Wade-Giles, however, is the "non-system" of transcribe-as-you-like. This is seen in the labeling of commercial products from the People's Republic of China (PRC), Hongkong, and Táiwān on the one hand, and in English literature by Chinese writers or Western writers unacquainted with Chinese on the other.

Of the two transcription systems, Pīnyīn undoubtedly has the brighter future, since it has been adopted in the West in the media and on maps, and has the advantage of using graphic tone markings that help those learning Chinese. Wade-Giles, as conventionally

used, does not include tone marks, but it is seen on rare occasions with superscript numerals. One drawback of the Wade-Giles system is that certain sound distinctions no longer apply in modern Mandarin. Another disadvantage is the marking of aspirated consonants with apostrophes that, lamentably, are all too often omitted so that no distinction is made between the sounds represented incorruptibly by zh/ch, g/k, b/p, d/t, z/c in Pīnyīn. This suggests that the significance of the apostrophe in Wade-Giles is not understood by people who have not received instruction in its use. When the dieresis, which systematically highlights one of the two distinct *u* sounds, is also omitted, as in Hong-Yen Hsü's works, *chuan* could be taken to mean *chuan, ch'uan, chüan*, or *ch'üan*. For those accustomed to seeing indications for each of the four tones in standard Mandarin, *chuan* could theoretically be pronounced in any of 16 different ways. Not that Pīnyīn is faultless. Pīnyīn transcription, which is an adaptation of the system developed by the Chinese communists after World War II to transcribe Chinese in Russian, is probably no better than Wade-Giles in suggesting to the untrained English speaker the Chinese sounds it represents. The *x* is pronounced as a soft *sh*, while the *c* represents *ts*. However, the difficulty English speakers may have in associating the correct sound with these letters will not induce them to make changes that the Wade-Giles system invites. The disadvantage of what seems to be an unusual choice of letters to represent certain sounds will be eliminated by increasing familiarity with this transcription system that the media will bring.

Both Pīnyīn and Wade-Giles are viable systems of labeling since they essentially represent the Chinese name in a way that is intelligible to Western readers who know no Chinese. As graphic systems, they can, even without tone indications, distinguish almost all the medicinals our medicinals database (amongst the thousand most commonly used, the distinction between *dà jì* 大薊 and *dà jǐ* 大戟 is one of the few that rests on tone alone). As said, in practice, Pīnyīn is now the only option worthy of consideration.

A transcribed name has the advantage of being essentially a Chinese name (or at least the sound of it). Inasfar as a given medicinal is always referred to by one name, and insofar as the name is not the homophone of another, Pīnyīn transcription is highly reliable. The fact that the most commonly used medicinals have relatively standardized names provides the claim that Pīnyīn names can provide the needed standard. Transcription also has the advantage of being completely free of any unwanted associations carried by English or Latin names.

Nevertheless, transcription has certain crucial disadvantages. First, the names of less commonly used items are often less standardized. In such cases, a Pīnyīn name, especially without tone marks, is not necessarily easily guessed by native Chinese speakers with a good knowledge of the Chinese materia medica.

Second, transcription represents alien sounds that are difficult to pronounce and hard to remember. Transcribed names are meaningless in themselves for anyone who has not learned the Chinese characters that they represent. Most students find that it gets more and more difficult as the gamut of medicinals is increased. Mastery of the transcription systems and the sounds they represent therefore requires proper instruction and patient learning if they are to enable people to discuss a pharmacopoeia of 500 medicinals. Transcribed names are pedantic when applied in everyday communication, and unlike Latin pharmaceutical or vernacular names, they are meaningless to people outside the field. Thus, *shēng jiāng* 生姜 is not only a little pretentious when used by English speakers, but is meaningless to anyone outside Chinese medicine who has not learned this special term. By contrast, everyone knows what 'fresh ginger' refers to.

Third, although Pīnyīn transcription constitutes a borrowing of the actual Chinese terms, the loan is not complete. The literal meanings of the names of medicinals are lost to the English speaker who has no knowledge of Chinese. He or she can only memorize *bái jiāng cán* (or more usually the toneless *bai jiang can*) and has no idea that the term literally means "white stiff silk-worm." This may be of very little theoretical consequence; as long as the student knows what the sounds *bái jiāng cán* refer to, it is fine. The thing is the student has to be informed of what it refers to, and this of course can be effectively done by demonstration or by a description using meaningful English words. Chinese has among its characteristics a high level of homophony, which makes users highly reliant on the written word. Different words that are undistinguished in speech are distinguished in writing. The *jiāng* of *gān jiāng* 干姜 is a different character (a different word) from that of *bái jiāng cán* 白僵蚕 (it means ginger, not stiff). Again, this may not be of any theoretical consequence, but it takes little imagination to realize that without the knowledge of the written language, the memorization of meaningless sounds is hard work. Furthermore, the distinctions in writing are often used to great effect in Chinese. Tangkuei tails (the fine roots) are often referred to as *guī wěi* rather than as *dāng guī wěi*. But using Pīnyīn transcription for names of medicinals, translators would have to be careful to avoid such shortenings because *guī* is unlikely to be recognized.

The problems attached to Pīnyīn decrease in direct proportion to the user's familiarity with Chinese, and the inclusion of tone marks to help those familiar with Chinese. They increase in proportion to the gamut of medicinals considered. At the present time, Pīnyīn is insufficient in itself for a significant range of medicinals that the practice of combining it with an English or Latin name is inevitable.

1.1.2 Pros and cons of Latin names

Chinese medicinals are relatively simple animal, vegetable, and mineral products. Their Latin pharmaceutical names may therefore be derived from the taxonomic names that zoologists, botanists, and mineralogists have given the entities used. The creation of Latin pharmaceutical names involves the stripping away of information of interest only to scientists, and the addition of data relevant to pharmacognosists and doctors. Thus, *Bletilla striata* (Thunb.) Reich. f. becomes Bletillae Striatae Tuber, by eliminating the name of the botanist who first identified it, by transposing the noun phrase into the genitive case, and by adding the part name. Most writers will simplify the term further to simply Bletillae Tuber since there is no other medicinal derived from plants of the genus *Bletilla* with which it is likely to be confused.

Proponents of Latin names say that Latin offers a more complete set of names than English. Indeed, the overwhelming advantage of the Latin system is that it is based on a nomenclature that covers every known plant, animal, and mineral on our planet. However many new items might be incorporated into the Chinese materia medica in the future, the Latin naming system would theoretically always work since it is based on standard modification of an existing nomenclature. For the labeling of the entire gamut of substances ever used for medicinal purposes in China, this system is the only viable one other than transcription.

While viability of the Latin naming system is uncontested, its use for naming Chinese medicinals is certainly not without its drawbacks. The major theoretical contention about Latin names is that the Chinese, prior to the modern era, never had a system of classifying medicinals such as our botanical tradition offers. They, like ourselves before the advent of

botany, did not classify plants in any strict sense and labeled them somewhat randomly. Of course some plants have obvious features that account for agreement between the traditional Chinese and modern botanical classification. What the Chinese have always called *lái fú zǐ* 莱菔子 (if we can be sure that the name has not been applied to different things at different times in history) are the seeds of any plant and only a plant that botanists would call *Raphanus sativus;* in fact the Chinese name is an early loan-word that is cognate with the Latin raphanus. What Chinese doctors call *zhù má gēn* 苎麻根 is the root of a plant that corresponds exactly to what botanists call *Boehmeria nivea*. But *chái hú* 柴胡 is the root that comes from what botanists would consider to be various species of *Bupleurum*, and *fú píng* 浮萍 is considered by botanists to be either of two plants belonging to the genera *Spirodella* or *Lemna*. What Chinese physicians refer to as *dì dīng* 地丁 is, to the botanist, any of numerous different plants of several genera. The same is true of *bài jiàng cǎo* 败酱草.

Thus, the major theoretical contention is that scientific names force the Chinese materia medica into a precise, but alien frame of reference. Latin pharmaceutical names vary in their precision. Sometimes they indicate the source entity quite precisely; often, though, when different pharmaceutical entities come from different sources, the name cannot be exact.

The first and most unfortunate consequence of imprecise names is that the wrong source entity is taken. Confusion arises especially with items deriving from large genera such as *Aristolochia*, and sometimes the consequences for the health of patients can be serious. The packaging of products could be made much clearer if the Pīnyīn name was included, enabling the PRC pharmacopoeia to be evoked.

A strong historical argument against Latin pharmaceutical names also exists. Latin pharmaceutical names could give the false impression that the Chinese have been applying the classification rules of modern botany ever since the Hàn dynasty. If in a translation of the *Essential Prescriptions of the Golden Coffer* (*jīn guì yào lüè*) *gān cǎo* 甘草 were rendered as *Glycyrrhizae Uralensis Radix*, readers might think that ancient Chinese observed a difference between *Glycyrrhiza uralensis* and, say, the *Glycyrrhiza glabra* of Mediterranean regions. It might be argued that this contention can be overcome, at least in part, by shortening the Latin names (i.e., by saying *Glycyrrhizae Radix*). However, certain names defy shortening. For example, *huáng yào zǐ* 黄药子 must always be referred to as Dioscoreae Bulbiferae Tuber if it is to be distinguished from *shān yào* 山药 (Dioscoreae [Batatas] Rhizoma) and *bēi xiè* 萆薢 (Dioscoreae Hypoglaucae Rhizoma). The historian's concern that Latin names introduce the assumption that the Chinese saw the natural world through eyes similar to those of the modern taxonomist is largely avoided by the use of looser vernacular names (licorice is an acceptable equivalent of *gān cǎo*). In some cases, transcription an even safer solution. If there is any doubt, for instance, about what *shā shēn* 沙参 referred to at any particular time in history, it is probably not wise to attempt a translation.

The practical disadvantages of Latin pharmaceutical names are considerable. The least of these is that a few are given different names depending on the botanical or zoological entity they are derived from. For example, *chuān xiōng* 川芎 appears in English sometimes as Ligustici Rhizoma and sometimes as Cnidii Rhizoma, depending on whether the writer comes from the Chinese or Japanese tradition. The Japanese refer to *chuān xiōng* by the same characters as the Chinese (pronouncing them as *sen kyō*), but have traditionally used as this medicinal the rhizome of a locally grown plant identified by botanists as

Cnidium officinale. In English literature using these taxonomically derived names the connection with the Chinese tradition is completely lost unless explicitly mentioned. In *Chinese Herbal Medicine, Formulas and Strategies*, Bensky and Barolet refer to *bài jiàng cǎo* 败酱草 as Herba cum Radice Patriniae, while other writers refer to it as Thlaspi Herba. Both names are correct at least in part, since *bài jiàng cǎo* is derived from plants of the genera *Patrinia* and *Thlaspum*.

A more prevalent problem is that botanists and zoologists, taking on the task of classifying and labeling every living thing on the planet, have found that they must constantly revise their classifications. Botanists in particular are notorious for changing names. *Pachyma hoelen* is now also known as *Poria Cocos*, and because of this *fú líng* 茯苓 is often referred to either as Hoelen or Poria, although little literature on medicinal therapy explicitly equates the two. *Sinapis alba* is now classed as *Brassica juncea*. There are also disagreements: some consider *jiāo bái* 茭白 to be *Zizania caduciflora*, while others say that it is the same as the *Zizania aquatica*, which produces North America's prized wild rice.

Although Latin names are relatively standardized, there is some freedom of choice about what elements of taxonomic names are included. One upshot of this is that names can theoretically vary considerably in length. Whereas Bensky and coauthors include almost all the main elements of the botanical and zoological names in the pharmaceutical name, pharmacognosists tend to favor shortening. Thus, what Bensky calls Platycodi Grandiflori Radix, Herba Lophatheri Gracilis, and Fructus Arctii Lappae, pharmacognosists refer to as Platycodi Radix, Lophatheri Herba, and Arctii Fructus. Which names are more acceptable? While Carpesii Abrotanoidis Fructus is extremely precise in the botanical sense, Bupleurum Radix is not. In the latter case, there was simply not enough room for all the species used by the Chinese to be included in the name. This does not mean any species may be used. Since Latin pharmaceutical names cannot in all cases indicate with precision which taxonomic entities are being used, they might as well be kept as short as possible for convenience of use. Almost half the medicinals Bensky and colleagues discuss are given names that contain a superfluous element. Ultimately, the precision of a name is determined as much by convention as by the specificity of its components. Even a Latin pharmaceutical name derived from modern taxonomy is understood to denote not anything that the name inherently might include but precisely what the original Chinese name denotes in the context of Chinese medicine. Pinelliae Ternatae Tuber may be more precise in terms of taxonomy than Pinelliae Tuber, but Bupleuri Radix is a name that presupposes the understanding that only those species of *Bupleurum* conventionally used in Chinese medicine may be used. Since convention always has to be relied on at some point in any Latin or other naming system, there is no reason why convention should not be exploited to the full in order to devise the most convenient (shortest) names. Whatever naming system we use, the caveat is always that a name denotes what is specifically used by Chinese doctors or available through Chinese suppliers.

If some err on the side of making the Latin names too long, even more make the mistake of excessive shortening. While it might be acceptable to refer to ginger simply as Zingiber, the word Lycium would be meaningless if readers were not told whether the root bark (Lycii Radicis Cortex) or fruit (Lycii Fructus) was being used. The generic terms *Artemisia, Alpinia*, and *Aristolochia* without additional specific names (i.e., names of species) are almost meaningless terms because so many medicinals are derived from plants of these genera. Furthermore, in simplifying names in this way, there is room for

gross mistakes. We may, for example, speak of Glycyrrhiza, but when we specify the root of the licorice plant, we must add an *e* to the word Glycyrrhiza to give the word its proper genitive form. A number of books fall into the error of shortening all names without returning the nouns to the proper nominative form (e.g., using Zingiberis, Lycii instead of Zingiber, Lycium).[1] Students of Chinese medicine are not given the notions of Latin that spare Western doctors, pharmacognosists, and historians this type of error.

A further snag attached to Latin names is that they have difficulty in rendering the finer distinctions between varieties of medicinals that go beyond the purview of botanists and zoologists without producing unwieldy terms. If, as is done by some writers, *shēng jiāng* 生姜 is rendered as Zingiberis (Officinalis) Rhizoma Recens and *gān jiāng* 干姜 as Zingiberis (Officinalis) Rhizoma Exsiccatum, should not other detailed specifications be treated in the same way? If *bàn xià* 半夏 is referred to as Pinelliae (Ternatae) Tuber, fă bàn xià *fă bàn xià* (or simply *fă xià*), the type prepared according to a classical formula, would be expressed as Pinelliae (Ternatae) Tuber pro Formula Praeparatum, while *jiāng bàn xià*, the form prepared with ginger, would be expressed as Pinelliae (Ternatae) Tuber cum Zingibere Praeparatum. Even with specific names left out, these terms are still too cumbersome for general use, and if the specification of a particular is not given in English (as opposed to Latin), it is likely to be simply omitted.

Latin names, whether shortened or not, are generally difficult to spell and remember. Like Pīnyīn names, they seem somewhat pedantic. Most speakers do not adopt Glycyrrhiza Radix, Cinnamomi Ramulus, Foeniculi Fructus, and Zingiberis Officinalis Rhizoma into the language of their daily conversations about Chinese medicine. They inevitably shorten the Latin names or use English names like licorice, cinnamon twig, fennel, and ginger instead, unless they are in the habit of using Pīnyīn. Latin names were devised by pharmacognosists who identify the subjects of their research in the terminology of their sister sciences botany and zoology. Long Latin pharmaceutical names matter little in the pharmacognostic context where they only appear, say, as a chapter heading. The practitioner who has to deal with lists of ingredients and repeated mentions of medicinals in discourse needs a set of simple, convenient labels that serve to distinguish all the paints on his pallet. Latin names fail to fulfill this need.

In practice, the Latin system breaks down mainly because of a) the tendency to shorten Latin names excessively, and b) the intrusion of vernacular names, particularly in literature by Western writers, where Latin names are pedantic or unwieldy. Latin names fail to ensure adequate distinctions when too short, and are shunned for their unwieldiness when made longer. These tendencies are most clearly seen in formula names. To translate *gān jiāng rén shēn bàn xià wán* 干姜人参半夏丸 as "Zingiberis Officinalis Rhizoma Exsiccatum, Ginseng Radix, and Pinelliae Ternatae Tuber Pill" is very cumbersome. Dried Ginger, Ginseng, and Pinellia Pill is a far more practical name. People who use a cumbersome Latin naming system, such as Eastland Press, still have to resort to English or simpler Latin or English names for the medicinals wherever they appear in formula names. This practice begs the question: If simple English terms can be used in formula names, could they not be applied systematically in all instances? This question will be addressed in the next section.

[1]This error is made consistently in *Chinese-English Manual of Common-Used* [sic] *Prescriptions in Traditional Chinese Medicine*, ed. Ou Ming, Joint Publishing (H.K.) Ltd., Hongkong, 1989, and in Hongyen Hsü's use of Thlaspi.

Although the taxonomic nomenclature has a name for every plant and animal on the globe, the problems of adapting it to entities recognized in Chinese pharmacy are numerous. According to the naming criteria chosen, Latin names can vary considerably in length, and even the shortest acceptable terms are often difficult to spell and pronounce. Pharmaceutical Latin names constitute a viable nomenclature, but it would be wrong to think that names derived from taxonomic names indicate the taxonomic entities of any given medicinal as precisely as the taxonomic names themselves. Even if Latin pharmaceutical names were completely standardized, there would still be a need for the use of Pīnyīn as a cross-reference.

1.1.3 Pros and cons of English names

English names would appear to have both theoretical and practical advantages over Latin. The theoretical advantage is that everyday words such as apricot kernel, cinnabar, deer antler, loadstone, fenugreek, garlic, ginger, honey, mint, mustard seed, kelp, pear, pomegranate, scallion, watermelon, oyster shell, rhinoceros horn, tiger bone, turmeric, and turtle shell that exist for a significant proportion of the commonly used Chinese medicines are powerful, direct, and rich in associations, and imply a similar degree of precision as the Chinese terms. Though the average Westerner would not recognize bat's droppings, toad venom, and cormorant's saliva if he saw them in a Chinese pharmacy, these English names are much more explanatory to all but zoologists than Venenum Bufonis, Vespertilionis Exrementum, and Phalacrocoracis Saliva. When going beyond the confines of orthodox Chinese medicine, English names provide us with a valuable frame of reference that Latin names do not. Kingfisher, blackbird, gull, and red-necked grebe are more meaningful than *Alcedo atthis, Turdus Merula, Larus*, and *Colymbus rufficolis*, and are more suitable names for these items. The silver pomfret and grass carp, which commonly grace the Chinese table, would not even be recognizable to most as fish in literature that called them Stromatoeoides and Ctenopharyngodon.[2] Furthermore, many vernacular terms, such as cardamom, ginger, rice, tea, and turmeric, like their Chinese counterparts, all imply the specific part used. Like *jiāng* 姜 in Chinese, the word ginger summons the image of a knobby brown root, whereas the Latin name Zingiberis (Officinalis) Rhizoma tells us that it is the rhizome of the (medicinally used) ginger plant. This reflects the anthropocentric orientation, which is not reflected in the objective Latin pharmaceutical convention that names medicinals according to the plant and part. Because of this, most historians and anthropologists would agree that these simple names are much more in keeping with the spirit of Chinese medicine than Latin names.

In contrast to this, the major theoretical objection to vernacular names is that in some cases they carry associations that are alien to the Chinese world. Jack-in-the-pulpit and Solomon's seal have obviously inappropriate connotations in the Chinese context. Katsumada's galangal hints at a botanist who registered it. Calling *Ligusticum* by its vernacular name lovage also suggests to some an unwanted association with our own Western herbal traditions. However, Latin names by no means always escape these problems, as in the case of Coicis Lachryma-Jobi Semen, which means the same thing as Job's tears. Aristolochia, from the Greek *aristo* meaning best and *locheia* meaning childbirth, projects onto Chinese medicine just as strong a suggestion of a gynecological use as the vernacular equivalent birthwort. Some of the most acute cases of cultural projection can be avoided,

[2]It should be noted that given the strong current of dietary therapy in the Oriental tradition, the line is thinly drawn between drugs and foodstuffs.

but translation, by the nature of language, can never hope to elude this problem entirely. Whether Latin or English names are chosen, they will inevitably carry some unwanted cultural associations.

While the theoretical advantages of English names are to an extent a matter of personal judgment, the practical advantage that English names are far easier to use than full-blown Latin pharmaceutical equivalents is most definitely not. Generally speaking, vernacular names are composed of fewer and shorter words than formal Latin pharmaceutical names. In many cases one or two words will do where a Latin convention may have two or three. Short English names for the 500 most commonly used medicinals on average use only a little over a third of the number of letters than equivalent long Latin names used by Bensky. For the same set of terms, longer English names that include part names take up only half the space occupied by the trimmest of Latin names. Apricot kernel, red peony, jujube, and light wheat are far easier for English speakers to use than Pruni Armeniacae Semen, Paeoniae Radix Rubra, Ziziphi Jujubae Fructus, and Tritici Aestivi Semen Leve. English names are shorter, require no memorization, and roll from the tongue without embarrassment of mispronunciation. In addition, they spare publishers—especially those who do not have computer applications that ensure correct spelling—much of the time-consuming ordeal of Latin proofing, and even enable them to save on paper and ink.

At first sight, the chief disadvantage is that we only have vernacular names for roughly half the 400 most commonly used medicinals. Nevertheless, English has a mechanism for devising names for items newly discovered or introduced from abroad. If a convenient vernacular name is not invented, or the item comes without a name from abroad, we can borrow from botanical Latin. The naming of garden flowers is a perfect example. Thus, while we refer to daisies, foxgloves, lupins, pansies, snap dragons, and wall flowers by their vernacular names, we have borrowed Latin words for plants previously unknown or unlabeled, such as azaleas, chrysanthemums, dahlias, geraniums, and japonicas. In some cases, part of the name can be translated so as to form a more meaningful compound, as is seen in the example of golden pulsatilla, which is derived from the botanical name *Pulsatilla aurea* L. Gardeners may refer to plants by their full botanical names on occasion, but for regular purposes, vernacular names supplemented by simplified botanical names are more practical.

This same mechanism can also be applied to the Chinese materia medica to supply the names we lack. We can take elements of a Latin name that provide us with a convenient label missing in the vernacular, and any part name needed for clarity can be expressed in English, without having to worry about adding an *e* or changing a *us* ending to *i* as is the case in Latin. We can also use the vernacular to advantage to make distinctions that do not concern the botanist and are difficult to express in Latin. Most would agree that ginger-processed pinellia is a term far neater than Pinelliae (Ternatae) Tuber cum Zingibere Praeparatum or the hotch-potch ginger-processed Pinelliae (Ternatae) Tuber, which fails to avoid resorting to the vernacular. Furthermore, the ability to borrow from Latin also helps us over a number of problems: Latin-derived names can provide a substitute for vernacular names that have unwanted cultural associations (e.g., coix instead of Job's tears). They can also replace vernacular terms that are obsolete, obsolescent, not universally known, or longer than the Latin, e.g., using ophioglossum instead of adder's tongue, or lycium berry for (Chinese) matrimony vine berry.

English names are less precise and specific than Latin names, but this is often an advantage. A Chinese and a Greek meeting two thousand years ago would have agreed

that what the one called *gān cǎo* and the other called *glycyrrhiza* (from which the English word licorice is derived) were the same thing, although modern botanists would ascribe the two to different species. Similarly, the rhubarb whose stalks are used to make rhubarb pie may be of a different species than *dà huáng* 大黃, but the term rhubarb, according to modern dictionaries, includes both meanings. Cinnamon can mean Ceylon cinnamon, Saigon cinnamon, or Chinese cinnamon, even though it might be more commonly associated with the Ceylon kind if only because it is the kind most often seen on the spice racks of Western kitchens. Since licorice, rhubarb, and cinnamon are formally defined in English as denoting different varieties, they are perfectly viable equivalents for Chinese medicinals. Confusion is spared since the varieties more familiar to Westerners are not used in Chinese medicine. While the precision of Cinnamomi Cassiae Cortex, Glycyrrhizae Uralensis Radix, and Rhei Rhizoma is uncontestable, the high price paid for it in time and trouble by the practitioner who writes these names ten times or more a day is obviously unnecessary. As pointed out before, it always goes without saying that the specific kinds to be used in treatment are those obtained from a Chinese supplier. Where convenient English tags suffice, what use is there for clumsy labels in a dead language that practitioners are largely unfamiliar with?

The greatest problem with the use of an English system drawing on Latin for what the vernacular lacks is not a problem of insufficient words. Rather, it is the problem of choosing words that we can all agree on. Latin is used to its current degree only because it is easier to agree on Latin terms. While in the creation of a Latin pharmaceutical name the species or the genus can be dropped under certain circumstances, in English we often have the choice of two or three vernacular, as well as something or other taken from the Latin. In the West, many writers of Chinese medical literature do use a system of vernacular names supplemented with borrowings from Latin, instinctively doing what gardeners do. Very often, however, the selection appears to lack sufficient rigor. In Hongyen Hsü's terminology, for example, *jiāng* 姜 is called ginger and *dà huáng* rhubarb, while oryza is chosen instead of rice and tangerine is shunned in favor of citrus. Borrowing from Latin, in particular, is subject to a similar lack of rigor. The tendency to simply borrow a generic name and discard the rest of the Latin term means that English naming systems are even more prone to the oversimplification that can occur in the shortening of Latin terms. While it is easy to distinguish the various kinds of *Euphorbiae* by retaining the specific names in the Latin system, it requires more trouble to ensure that they are all distinguished using an English nomenclature. The temptation is always to simply distinguish the medicinals discussed in a particular text, and ignore the problems that might occur if the *Euphorbiae* were introduced into the discussion.

An English system can be made to distinguish a greater number of medicinals than is currently used in the West. Although out medicinals database contains a total of nearly 6,000 medicinal items, those used in the orthodox literary tradition by people practicing Chinese medicine probably fall short of 1,500. The rest are popular or local remedies or food items. Since probably no more than a thousand medicinals will ever be available in the West, a simple naming convention is possible. In compiling the medicinals database, English names that are simpler than the full Latin pharmaceutical names have been found not just for the thousand most commonly used medicinals, but for as many as 5,000. This set of names has the desired advantages of incorporating a maximum number of everyday

names and of avoiding the length and inflectional complications of Latin and unnecessary use of part names.

1.2 Summing Up

The arguments for and against the various naming systems suggest the conclusion that the use of transcription by Westerners who have no knowledge of Chinese or training in Pīnyīn (and Wade-Giles) makes it impracticable for large-scale use without Latin or English names in tandem. Nevertheless, it serves as an indispensable cross-reference, since neither of the other two methods is fool-proof. Latin, while offering an adequate method of labeling for a pharmacopoeia of any size, has failed to offer a universally agreed set of terms owing to problems of both taxonomy and name derivation. More importantly, whatever Latin nomenclature is chosen, it invites misspelling and problematic simplification. English names are easy to spell and pronounce, and familiar ones exist for a larger proportion of the Chinese materia medica than is often imagined. Although English names are potentially more variable than Latin names, a carefully devised system of English and Anglicized names can represent the Chinese materia medica with sufficient accuracy. Since this system may well develop in time, it is within our interests to promote its logical development as swiftly as possible.

In my view, the decision ultimately rests on efficiency. As the example below shows, full-length Latin names can be even longer than a concise English name with Pīnyīn in parenthesis.

Zingiberis Officinalis Rhizoma Recens
Zingiberis Rhizoma Recens
fresh ginger root
fresh ginger
shēng jiāng
fresh ginger (*shēng jiāng*)

In my own translation work, I have adopted the concise English name with parenthesized Pīnyīn as the general rule. I deviate from this in two instances: I remove the Pīnyīn for subsequent mentions of the same medicinal in a single paragraph (where the Pīnyīn is close at hand); I add Chinese and Latin in lists (such as a list of the ingredients in a particular formula), where it is helpful to have each name on a separate line and the addition of Chinese and Latin simply fills space that would otherwise be wasted. People who habitually use Latin names (or Chinese characters) and cannot identify a particular medicinal from its English or Pīnyīn name can usually find it in the index by looking up either the English or Pīnyīn. The index at the end of this paper is an example of three-way indexing that helps readers through the naming problems.

Part 2: Selection and Formation of Pharmaceutical Names

While transcription poses no other problem than that of abidance by a set of rules for representing sounds, Latin and English names pose the problem of name creation and name selection. Latin pharmaceutical names vary in accordance with the criteria applied for their derivation from taxonomic (botanical and zoological) names, with the choice of taxonomic synonyms, and with conventional deviations from the norm. English names vary according to the selection of vernacular synonyms and borrowings from Latin. To devise the best set of either Latin or English names, we have to investigate the criteria for creation, selection, and borrowing.

The purpose of a naming system should be that each medicinal can be referred to in spoken and written communication without confusion. Such a naming system should be able to distinguish all medicinals in Chinese medicine, not merely a limited gamut. Furthermore, while each name should be precise enough to ensure clear reference to a particular medicinal, it should be loose enough to embrace the various different botanical or zoological entities used as the medicinal. Names should not only be convenient labels for people working within the field of Chinese medicine who use them daily, but as far as possible should meet the standards of botanists, zoologists, and historians. The set of names that most fully meets these requirements is the one that has the strongest claim to be a general standard.

One precondition for ensuring an accurate set of names is that the chosen set of items should be as large as possible and include as many specific types of individual medicinals as possible. This avoids the problem of a name set designed for a small gamut of items having to be revised when the gamut is expanded to include more medicinals or specific forms of medicinals. For example, a book that deals with *fù zǐ* 附子, but does not discuss the various forms such *hēi shùn piàn* 黑顺片, *tiān xióng* 天雄, and *xián fù zǐ* 咸附子, or the related medicinals *chuān wū tóu* 川乌头 and *cǎo wū tóu* 草乌头, can refer to *fù zǐ* simply as aconite without any problem of confusion. But a more comprehensive book that discusses the variant forms and similar medicinals can only do so if each medicinal is given its own unique label. By starting out with the largest list rather than the smallest list available, the greater the chances are of devising unique labels that will not have to be adjusted as the practitioner's arsenal expands. One aim of our medicinals database is a global solution for terminological problems both present and future in a growing field. In creating the medicinals database, we chose as a basis the most comprehensive modern source available in China, the 5,767 principal medicinals of the *Xīnbiān Zhōngyào Dàcídiǎn* ("The Revised

Comprehensive Dictionary of Chinese Medicinals") and the commonly encountered forms among the specific items it includes.

2.1 Formation of Latin pharmaceutical names

Latin pharmaceutical names are derived from botanical and zoological names by the removal of certain elements of the name and, in most cases, the addition of a part name. For example, the Latin pharmaceutical name for *biē xuè* 鳖血, turtle's blood, is derived from the zoological name *Amyda sinensis* (Wiegmann) by removing the discover's name, (Wiegmann), and possibly also the specific name, *sinensis*, and by adding the Latin word for blood (sanguis). Since this is the blood of the turtle, Latin grammar requires us to change the word amyda to its genitive (or possessive) form amydae. In this particular case, the addition of the letter *e* has the same value as *'s* in English.

This name formation pattern is representative for the vast majority of cases, although it is not always completely applicable. It at least shows that Latin name formation requires an understanding of the taxonomic and linguistic structure of botanical and zoological names so that we can make the right additions, subtractions, and modifications to the name. Let us start by looking briefly at some basic aspects of Latin grammar that affect nouns and adjectives.

2.1.1 Latin grammar

Latin nouns and adjectives—the words chiefly used in the formation of pharmaceutical names—are highly inflected. They vary according to *gender, number*, and *case*. All Latin nouns have a gender (masculine, feminine, or neuter). *Flos* (flower), for example, is masculine, *herba* (herb) is feminine, and *stamen* (stamen) is neuter. Adjectives take different forms depending on the gender of the noun they qualify, so that small herb, small flower, and small stamen are respectively expressed as *flos parvus, herba parva* and *stamen parvum*. While to mark the plural, English words usually simply add an *s*, Latin nouns change in different ways. The plural forms of the words just introduced are: *flores, herbae* and *stamina*. Adjectives also have their plural forms, so that small herbs, small flowers, and small stamens are expressed as *flores parvorum, herbae parvae* and *stamina parvi*. The form of the noun also varies according to its relationship to other words in the sentence. In English such relationships are expressed by the addition of words such as *of, by, to, with*, or simply by the position of the word in the sentence. The basic form of any noun (*flos, herba, stamen*) is the nominative case. It is used when the word is the subject of the sentence, as in *flos parvus est*, the flower is small. When we pick the flower, "flower" becomes the object of our action, so the word *flos* changes to the accusative *florem*. This is just like the "she" in "she is tall" changing to "her" in the phrase "I see her." The relationship between two nouns that in English is expressed by the suffix *'s*, the word "of," or sometimes merely by juxtaposition (e.g., Mary's hat, the end of the road, cabbage leaf) is expressed by the genitive case in Latin. "Of the small flower," "of the small herb," or "of the small stamen" in Latin require nouns in the genitive followed by adjectives also in the genitive, i.e., *floris parvi*, *herbae parvae*, and *staminis parvi*. The corresponding plural forms ("of the small flowers," etc.) require different endings for both noun and adjective, i.e., *florum parvorum*, *herbarum parvarum*, *staminum parvorum*. "With a small flower" can be expressed by *cum* (with) combined with ablative forms of the noun and adjective, i.e., *cum flore parvo*.

Happily, the creation of Latin pharmaceutical names does not mean having to master this highly complex system in full. In all but a few cases, it at most involves turning the main elements of a botanical or zoological name from the regular nominative (subject) case into the genitive (possessive) with the addition of a Latin part name. But first let us look at the composition of botanical and zoological names.

2.1.2 Structure of taxonomic names

Modern scientific taxonomy divides things into a hierarchy of categories and subcategories from orders to varieties. The name of a plant, for example, comprises the name of the genus and species, and sometimes also a variety, and also includes information about who and how it was identified. For example, in *Ziziphus jujuba* Mill., *Ziziphus* is the generic name and *jujuba* is the specific name, while Mill. denotes Miller, the botanist who identified it. In *Ziziphus jujuba* Mill. var. *inermis* (Bge.) Rehd., *inermis* (unarmed, i.e., without spines or prickles) is the variety. The genus is a noun (or an adjective used as a noun), while the species and varieties are usually an adjective, a noun functioning as a qualifier, a person's name, or a place where the plant is found. In *Datura inermis* ("unarmed" datura), datura is a noun, and inermis is an adjective, while in *Ziziphus jujuba* (jujube Ziziphus) both genus and species are nouns. In *Asarum forbesii* Maxim. (Forbes' Asarum), the specific name is a name of a botanist in the genitive case. In *Pelargonium hortorum* (pelargonium of the gardens), the specific name is derived from the place where the plant is found.

In all cases, the genus is in the nominative singular. If the specific name is an adjective, it agrees in gender and case with the genus. If it is a noun serving as an adjective, it is also written in the nominative singular. Only where a specific name is that of a person or a place is it a genitive form of a noun.

2.1.3 Deriving pharmaceutical names from taxonomic names

A Latin pharmaceutical name, at its simplest, is the botanical or zoological name with information about the discoverer and discovery removed. The unwanted information is easily identified because it appears in regular rather than italicized type. For example, *Formica fusca* L. (black ant) is changed into a pharmaceutical name by simply removing the L. The remaining elements (the genus followed by the species) are written in regular type with upper case initials, i.e., as Formica Fusca.

In most cases, only a part of the botanical and zoological entity is used, so that in addition to stripping away unwanted information, a part name must be added. For example, *Panax Quinquefolium* L. is the plant whose root constitutes the medicinal *xī yáng shēn*, American ginseng. We therefore turn the generic name *Panax* and the specific name *quinquefolium* (five-leaved), which in this case is an adjective, into the genitive form *Panacis Quinquefolii* (five-leaved panax's), and add the part name radix. Again, the resulting pharmaceutical name, which is written in unitalicized script, with each initial in upper case, is Panacis Quinquefolii Radix. Note that while in English we can loosely combine the plant and the part names in the form American ginseng root, the relationship between plant and part in Latin must be expressed as "root of the American ginseng" (or American ginseng's root). The use of the genitive case is mandatory.

Most botanical and zoological entities are like *Panax quinquefolium* in that the specific name is an adjective. However, where the specific name is a nominative noun, it

simply assumes its genitive form. Thus, the seed of *Ziziphus jujuba* is expressed as Ziziphi Jujubae Semen (although this name can be shortened according to principles discussed ahead). Some specific names that are nouns are native names, i.e., names given to it in places from which they come. In such cases, the name may or may not be Latinized. In *Euphoria longana* the specific name comes from Chinese (Cantonese dialect), just as the English longan. The Latin has, however, been given a final *a* so that it assumes normal inflections, so that the genitive form is Euphoriae longanae. Very often, foreign words with spellings that are strange to Latin are often left uninflected. Thus, *kansui*, borrowed from the Chinese, would form an unlikely Latin word-root to which to attach inflectional morphemes. Consequently, the term *Euphorbia kansui* changes to *Euphorbiae kansui* in the genitive, with only *Euphorbia* undergoing change. Where the species is a genitive noun, it requires no change. Hence, *Pelargonium hortorum* changes to Pelargonii Hortorum Herba. Where the specific name is the name of a botanist or discoverer, it is usually Latinized to facilitate inflection. For example, the German name Doederlein is Latizined as Doederleinius, which as a specific name goes into the genitive, as in *Selaginella doederleinii*, Doederlein's selaginella. When a part name is added, as with *Pelargonium* above, only the generic name needs adjustment since the specific name is already a genitive form (Selaginellae Doederleinii Herba).

Part names—the names of parts or products of plants and animals—may be more complex than a single word. In the term Asini Corii Gelatini Pilula, ass hide glue pellets, the specific part used is the "pellets (or globules) of the gelatin of the skin," a double genitive construction. When combined with *asinus*, ass or donkey, the result is a triple genitive construction with only Pilula in the nominative. In host-parasite relationships, the parasite takes the place of the part name, and host, even though not actually used as the medicinal, takes the place of the main entity. For example, Auricularia is a tree ear, an edible fungus that grows on trees. When a tree ear growing on a mulberry tree is specified, this is expressed as Mori Auricularia, where *morus* changes to the genitive.

A few medicinals require the use of the ablative case. For example, a black-boned chicken (i.e., a chicken with black bones, or having black bones) is expressed as Gallus cum Osse Nigro, where *gallus*, chicken or cock, is in the nominative and *osse nigro*, black bone, is in the ablative because *cum* requires this. Pinellia that has been processed with ginger is also expressed in the same way. In Pinelliae Tuber cum Zingibere Praeparatum, *zingibere* is in the ablative form, while the past participle *praeparatum* agrees with the nominative singular *tuber*.

These are the basic linguistic patterns according to which Latin pharmaceutical names are constructed. In many cases, the names can be shortened by the omission of the specific name (and less commonly the generic name) where no confusion arises. This will be dealt with further ahead in the context of selecting elements for inclusion in the pharmaceutical name.

2.1.4 Latin nouns and adjectives

Unfortunately, even with a knowledge of what words must change to the genitive, there are no easy rules of thumb for instituting the correct genitive (or ablative) form of nouns and adjectives. Different nouns and adjectives have different case endings. Nouns fall into five basic groups or *declensions*, while adjectives fall mainly into two groups. Considerable variations in case endings occur even within each declension and group. Below are hints for the determining the correct genitive ending when more than one might be possible.

2.1.5 Hints for determining the genitive form of nouns

The information required to make the correct inflectional changes to form Latin pharmaceutical names is not easily found in reference works. However, useful hints as to the genitive form are provided by the combination of nouns and adjectives in botanical names. While adjectives (the grammatical form of most specific names) can be transposed into the genitive unequivocally from the form in which they appear, even if the gender or declension of the nouns they qualify is unknown, transposing nouns into the genitive is not so easy. Some noun endings occur in different genders and declensions and assume different inflexions in the genitive. However, when followed by a specific name that is an adjective, the adjectival ending often tells us the gender and declension, thus enabling us to make the correct genitive form. Group A adjectives are particularly helpful, since they are different in every gender: *us, a*, and *um* in the masculine, feminine, and neuter, respectively. Some Group B adjectives make a distinction between a combined masculine and feminine nominative form on the one hand, and a neuter form on the other (e.g., brevis and breve). These distinctions sometimes provide clues as to the gender and hence the declension of the generic name that help us to determine the correct genitive form.

The following points cover most situations, but are not exhaustive.

1. Nouns ending in *a:* The vast majority of nouns ending in *a* are first declension feminine nouns, which change to *ae* in the genitive. Many nouns that end in *ma* are mostly neuter nouns of the third declension, whose *a* ending changes to *atis*, e.g., Gynostemma, Gynostemmatis. If the accompanying specific name is an adjective ending in *a* (Group A feminine ending), we can be sure that the generic name is a first declension feminine noun. Thus, when we see combinations like *Cassia tora* and *Cudrania tricuspidata*, we can be sure that the genitive forms are *Cassiae torae* and *Cudraniae tricuspidatae*. If the specific name is an adjective ending in *um* (Group A neuter ending), we can be sure that the generic name is third declension neuter noun. Thus, *Gynostemma pentaphyllum* is a neuter combination that would change to *Gynostemmatis pentaphylli* in the genitive. If the species is an adjective ending in *is* (Group B masculine or feminine ending), we can be sure that the generic name is masculine or feminine. Thus, a combination *Gaultheria yunnanensis* can be changed to the genitive *Gaultheriae yunnanensis* in complete impunity. If it ends in *e* (Group B neuter ending), we can be sure that it is neuter. Thus, we can be sure that *Alisma orientale* changes to *Alismatis orientalis* in the genitive.

   Note that there are pitfalls. Not all *ma* words are fourth declension nueter nouns: curcuma and dysosma are first declension femininine nouns. And in *Alisma plantago-aquatica* var. *orientale*, the specific name is a noun-adjective combination, plantago (f.) meaning plantain and aquatica (water) qualifying it. Despite the *a* ending of aquatica, alisma is neuter, as the variety name *orientale* tells us. The genitive form of the whole name, if we wished to use it, would be *Alismatis plantaginis-aquaticae orientalis*.

2. Nouns ending in *e:* Most nouns ending in *e*, like those ending in *a*, are first declension feminine nouns. Rarely, they are third declension neuter nouns like *Secale*. The adjectives usually tell us which type the generic name is, just as we saw in specific names ending in *a* above. Thus, we can be sure that *Astilbe myriantha* and *Silene tenuis* are feminine combinations, which change to *Astilbes myrianthae* and *Silenes tenuis* in the genitive. Likewise, *Secale cereale* is clearly a fourth declension neuter

noun that would change to *Secalis cerealis* in the genitive. There are pitfalls, however. *Daphne genkwa* is a first declension feminine noun, but the specific name genkwa is a native name, i.e., a noun rather than a Latin adjective. The genitive form is therefore *Daphnes genkwa*, in which the specific name is uninflected.

3. Nouns ending in *us:* Most Latin nouns ending in *us* are second declension masculine nouns, but especially in the plant world, many are second declension feminine nouns. A small number of generic names ending in *us* are masculine or feminine nouns of the fourth declension. Irrespective of gender, all *us* nouns of the second declension change to *i* in the genitive, while all those of the fourth declension remain unchanged. Thus, knowing the gender does not help to determine whether *us* changes to *i* or not in genitive. As far as we know, the only fourth declension *us* nouns in our medicinals database are fructus and Quercus (unless others have been wrongly ascribed to the second declension by previous writers we have relied on). Once we have determined whether the generic name changes to *i*, there are no further problems since an accompanying adjective can be transposed into the genitive even if we do not know the exact gender. Thus, we change (masculine) *Celastrus gemmatus* and (feminine) *Ailanthus altissima* to *Celastri gemmati* and *Ailanthi altissimae*, respectively. Likewise, *Pyrus hondoensis* can be changed to *Pyri hondoensis* even though them adjective hondoensis does not tell us the gender.

4. Nouns ending in *um: Um* nouns are all second declension neuter nouns, which are easily transposed into the genitive. *Sesamum indicum* thus changes to *Sesami indici*, while *Polygonatum chinense* changes to *Polygonati chinensis*.

5. Nouns ending in *es:* Generic names ending in *es* belong to the third declension. Their genitive endings are *etis* (or *edis*), *itis*, and *is*, the latter being by far the most common. Thus, *Abies* changes to *Abietis*, while *Atractylodes* and *Achyranthes* change to *Atractylodis* and *Achyranthis*, respectively. *Phragmites* is an example of the *itis* ending, changing to *Phragmititis* in the genitive. Beware that many books wrongly write *Phragmitis*.

6. Nouns ending in *is:* These are third declension nouns whose endings remain unchanged in the genitive, as in the case of *Cannabis, Digitalis, Sinapis*, and *caulis*, or changes to *idis* as in the case of *Berberis, Clematis, Pteris, Orchis*. Compounds of *charis* such as *Heleocharis* and *Hydrocharis* change to *charitis* in the genitive, and compounds of *actis*, ray, change to *actinis*.

7. Nouns ending in *on:* Some *on* nouns are second declension and change to *i* in the genitive, e.g., *Phellodendron* and *Rhododendron*, which change to *Phellodendri* and *Rhododendri* in the genitive. Others are fourth declension nouns, which in most cases change to *onis* (e.g., *Croton, Platycodon*) but in a few cases change to *ontis* (e.g., *Erigeron*, which changes to *Erigerontis*). Unfortunately there are no reliable hints about the genitive endings of *on* nouns.

8. Nouns ending in *o:* These are mostly third declension feminine nouns. The genitive endings are *onis* and *inis*. Names ending in *io* such as *Senecio, praeparatio,* and *secretio* change to *ionis*, while those ending in *ago* change to *aginis* such as *Curculigo, Plantago, and Solidago*. For *o* nouns other than *io* and *ago*, there are no clues as to which is the correct ending. *Melo* changes to *Melonis*, while *Nelumbo* and *Testudo* change to *Nelumbinis* and *Testudinis*.

A note should be made about the order of items in the name of a medicinal. Although clinical literature of recent publication usually places the part used before the entity (e.g., Rhizoma Rhei, *dà huáng*), this is neither the only correct way, nor is it the most practical. Latin, relying on word endings to express relationships between words, has a greater freedom of word order than English. Thus, it is just as correct to say Rhei Rhizoma. In fact, this is far more practical since, when searching through lists, it is easier to find Rhei in a list than to look under all the medicinals that begin with the term Rhizoma. This consideration probably explains why most modern pharmacognosists place the part name after the entity name. In indexes, a comma added to separate the entity from a part name when the entity is placed before the part name is partly redundant. It should be noted however that while in classical Latin adjectives could precede or follow the nouns they qualified, the practice in botany and zoology is for the specific name, more often than not an adjective, to follow the generic name. This convention is always adhered to when taxonomic names are altered to form pharmaceutical names.

2.1.6 Selecting elements of taxonomic names

Elements of botanical and zoological names are selected for inclusion in the Latin pharmaceutical name according to the rules set forth below. Mineralogical entities, having simpler names, can usually be adopted in full.

1. When a medicinal always comes from the same plant described, the pharmaceutical name comprises the essential parts of the scientific name, i.e., genus, species (and subspecies), in addition to any relevant part. For example, the Latin pharmaceutical name for *qiān jīn zǐ* is Euphorbiae Lathyridis Semen, because it comes from *Euphorbia lathyris* L., and because the part of the plant used is the seed (Semen). Where a medicinal comes from a specific variety of an entity, the Latin name is composed of genus, species and variety, i.e., the name is formed from all three parts plus any relevant part name.

2. When a medicinal comes from plants of different taxonomic classification, the following rules are applied:

   (a) When a medicinal comes from different varieties of the same genus and species, the generic and specific names are used. For example, Pruni Amygdali Semen comes from different varieties of *Prunus amygdalus* Batsch. Aconiti Brachypodii Tuber comes from *Aconitum brachypodium* Diels, in particular two specific varieties, *Aconitum brachypodium* Diels var. *crispulum* W.T. Wang and *Aconitum brachypodium* Diels var. *laxiflorum* Fletcher.

   (b) Similarly (and much more commonly), when a medicinal comes from different species of plants of the same genus, only the generic name is used. For instance, *bā jiǎo fēng gēn* 八角枫根 is called Alangii Radix since it comes either from *Alangium chinense* (Lour.) Harms or from *Alangium platanifolium* Harms. Where this approach would result in giving two medicinals the same name, two specific names, joined by the word *seu* (meaning "or," and pronounced *say-oo*), are added in one of the names to ensure a distinction, or the Pīnyīn is included. For example, *tǔ huáng lián* 土黄连 and *sān kē zhēn* 三颗针 are both from more than one species of *Berberisf*; hence they can distinguished by calling the former Berberidis Radix seu Caulis Cortex and the other Berberidis Julianae

seu Gagnepainii Radix seu Cortex et Folium. To avoid unwieldy names, *bái wēi* 白薇, *bái qián* 白前, and *bái shǒu wū* 白首乌 have been distinguished in the medicinals database by including the Pīnyīn: Cynanchi Baiwei Radix, Cynanchi Baiqian Herba Radix et Rhizoma, and Cynanchi Baishouwu Tuber. (Note that in the latter case distinction could theoretically be made by the part, but this would give the impression that different parts of the same plant/s were used).

(c) When a medicinal comes from two plants of different genera, the word *seu* is used to combine the generic names, as in Lemnae seu Spirodelae Herba *fú píng* 浮萍.

(d) When more than two genera are used, the Pīnyīn transcription of the Chinese name is used instead, e.g., Baijiangcao Herba, Daqingye Folium, Guanzhong Rhizoma, Hailong, Jixueteng Radix et Caulis, Jinqiancao Herba, Mutong Caulis, and Shancigu Bulbus.

3. Additional information about the medicinal is sometimes added after the part name, e.g., Zingiberis Officinalis Rhizoma Exsiccatum, the dried rhizome of *Zingiberis officinalis*. Here the word *exsiccatum* qualifies the part name *rhizoma* and hence is in the neuter form. Since it is not the rhizome of the dried ginger plant, the adjective *exsiccatum* should not be made to agree with the neuter genitive *zingiberis* (which would be *exsiccati*). This mistake is most easily made in the alternative convention of placing the part before the entity while adding the extra adjective at the end, the correct form in this case being Rhizoma Zingiberis Officinalis Exsiccatum. In some cases, place names not included in the name of the source entity are added to make finer distinctions of quality. These follow the same pattern, as is seen in the examples of Codonopsitis Pilosulae Radix Lu'anensis (*dǎng shēn* 党参 from Lu'an), Chrysanthemi Morifolii Flos Chuzhouensis (chrysanthemum (*jú huā*) from Chuzhou), Glycines Semen Fermentatum Puzhouense (*dòu chǐ* 豆豉 from Puzhou or after the Puzhou style), and Atractylodes Rhizoma Maoshanense (*cāng zhú* 苍术 from Maoshan).

Names formed according to the above principles may be shortened according to the following rules.

- Species and/or variety names may be dropped provided no confusion with other medicinals arises as a result. Thus, we can refer to Acanthopanacis Gracistylis Radicis Cortex simply as Acanthopanacis Radicis Cortex since it will not be confused with the rarely encountered Acanthopanacis Trifoliati Ramulus et Folium). Similarly, Imperatae Cylindricae Majoris Rhizoma can be shortened to Imperatae Rhizoma, since it is unlikely to be confused with anything else in the Chinese armamentarium. Mimuli Tenellii Nepalensis Platyphyllae Herba (in which Nepalensis is a subspecific name) can likewise be shortened to Mimuli Herba for the same reason. Brassicae Oleraceae Capitatae Caulis et Folium and Brassicae Oleraceae Acephalae Caulis et Folium are shortened by removing the species name to Brassicae Capitatae Caulis et Folium and Brassicae Acephalae Caulis et Folium to make slightly neater names for white cabbage and kale.

- In some cases, the specific name alone is used, especially where it is as well known or better known than the generic name, e.g., Aurantii Fructus instead of Citri Aurantii Fructus; Kaki Calyx instead of Diospyroris Kaki Calyx; Armeniacae Semen

instead of Pruni Armeniacae Semen; Mume Fructus instead of Pruni Mume Fructus. This is done most often when the specific name is the cognate of a common vernacular term that preceded its use in botanical Latin, e.g., Foeni-Graeci Semen (fenugreek), instead of Trigonellae Foeni-Graeci Semen; Longanae Arillus (longan) instead of Euphoriae Longanae Arillus; Mays Stylus (maize) instead of Zeae Mays Stylus; Chebulae Fructus (chebule) instead of Terminaliae Chebulae Fructus; Zedoariae Rhizoma (zedoary) instead of Curcumae Zedoariae Rhizoma; Granati Pericarpium (pomegranate) instead of Punicae Granati Pericarpium. In some cases, either the genus or the species name can be used where no confusion arises as a result, e.g., Tussilaginis Farfarae Flos can be shortened to Farfarae Flos or Tussilaginis Flos. Crotonis Tiglii Semen can be shortened to Crotonis Semen or Tiglii Semen. Shortening in this way requires care, because some generic names coincide with specific names. Thus, although Cinnamomi Cassiae Ramulus could be shortened to Cassiae Ramulus (especially since the vernacular term cassia is used to denote *Cinnamomum cassia* or its bark), this is unadvisable since *Cassia* in botanical Latin is a generic name that includes plants also used in Chinese medicine.

- In some cases, part names can be omitted where the part is considered to be virtually synomyous with the whole. In such cases, the entity must be in the nominative, not the genitive case. For example, Poria (or Hoelen) suffices for Poriae (Cocos) Sclerotium, and Auricularia suffices for Auriculariae (Auriculae) Fructificatio. Nux-Vomica stands for Strychnotis Nux-Vomicae Semen because the specific name contains the Latin *nux* meaning nut, the plant being named after its seed, which is noted for its emetic qualities. The dropping of part names of all medicinals is acceptable only on labels where space is tight. This practice poses the danger of confusing, for example, Cinnamomi Ramulus and Cinnamomi Cortex.

In the medicinals database, exceptions to these rules are comparatively few, but most of them affect commonly used medicinals. Only in the case of *zǐ cǎo* 紫草 has a new term been created that is longer than that used by most. The term Lithospermi, Macrotomiae, seu Onosmae Radix includes the three genera because Chinese medicine, like botany, makes a distinction between the three, and this name preserves the association with the individual forms whereas Zicao Radix would not. Other writers commonly use Lithospermum as a representative genus. This makes it more difficult to talk about *ruǎn zǐ cǎo* 软紫草, *yìng zǐ cǎo* 硬紫草, and *diān zǐ cǎo* 滇紫草 without introducing the idea that some *Lithospermi* are not *Lithospermi* at all. However, this problem, as many other naming problems, is much easier to solve by the use of English names, as I shall show further ahead.

The human factor cannot be eliminated from the question of naming. Strict application of the above name creation principles might leave us with a term as long as Perillae Frutescentis Crispae seu Acutae Caulis for the commonly used *zǐ sū gěng* 紫苏梗 and Perillae Frutescentis Caulis for the rarer *bái sū gěng* 白苏梗. Even if book writers disciplined themselves, the average practitioner would never write Perillae Frutescentis Crispae Seu Acutae Folium for a medicinal he prescribes every day. Far better a solution is Perillae Caulis (and Folium) for *zǐ sū* and Perillae Albae Caulis for *zǐ sū gěng* (the Latin *alba* translating the Chinese *bái*, white). Likewise, commonly used products derived from plants of the genus *Aconitum* could be given exceedingly long names if exceptions to the basic rules of name formation were not made. *Fù zǐ* 附子, by far the most commonly used aconite, could be given a name as long as Aconiti Carmichaeli Tuber Laterale, while the more rarely used *chuān wū tóu* 川乌头 would be called Aconiti Carmichaeli Tuber because

it is the main as distinct from the accessory tuber, and *cǎo wū tóu* 草乌头 would be called by the even shorter name Aconiti Tuber because it is the main tuber of a number of different *Aconiti*. It is much more practical to refer *fù zǐ* as Aconiti Tuber Laterale, *chuān wū tóu* as Aconiti Tuber, and *cǎo wū tóu* as Aconiti Tsao-Wu-T'ou.

According to a long-standing tradition in the pharmaceutical world, some names are derived from old or simply representative botanical names or "colloquial" Latin names. These are usually more intelligible and generally shorter than the full-blown or even shortened derivatives of botanical or zoological names. Anisi Stellati Fructus is used instead of Illicii Veri Fructus; Antelopis Cornu instead of Saigae Tataricae Cornu; Aurantii Fructus instead of Citri seu Ponciri Fructus; Bambusae Caulis in Taenis instead of Phyllostachydis Nigrae Caulis in Taenis; Caryophylli Flos instead of Syzygii Aromatici Flos; Galla Halepensis instead of Quercus Galla; Mantidis Ootheca instead of Tanglang Ootheca; Testudinis Plastrum instead of Chinemydis Reevesii Plastron; Ziziphi Fructus instead of Ziziphi Jujubae Inermis Fructus; Ziziphi Spinosi Semen instead of Ziziphi Jujubae Semen. Atramentum (ink), Herbarum Ustarum Fuligo, Massa Fermentata Medicata, and Granorum Spiritus Incolor are used because the entity from which the product is derived is specified vaguely, not by genus. Finally, some medicinals such as Benzoinum and Camphora are refined substances that are given their own special names.

Failure to apply common sense can produce tautological names. The example of *shè xiāng* 麝香 shows not only how Latin names can be excessively long, but also how they can contain information that is useless for the Chinese doctor. The unshortened Secretio Moschi Moschiferi, which literally means the "secretion of the musk-producing musk deer," is a very roundabout way of expressing the idea of musk. *Moschus moschiferus* is a useful term in zoology (identifying the deer by the secretion that has a special odor that identifies it as musk), but when the zoological name is included in the pharmaceutical name, we end up with a very unwieldy term. Even the shortened Secretio Moschi contains a redundancy: Since the Latin *moschus* means musk—the *umbilical* secretion—as well as musk deer, it is preferable to the longer term because it is actually more precise: *Moschus* suffices in denoting the product directly, and, for those who care, it also inherently implies Moschus Moschiferus, since this is the only animal from which it comes. Secretio Moschi Moschiferi, on the other hand, could theoretically refer to any of the many secretions of the musk deer.

Finally, for the medicinals *lóng gǔ* 龙骨 and *xuè jié* 血竭, the fanciful Latin names Draconis Os and Draconis Sanguis have been included in the medicinals database as optional alternatives to the more scientific Mastodi Ossis Fossilia and Daemonoropsis Draconis Resina. If the reason for Latin pharmaceutical names is to relate Chinese materia medica to a scientific frame of reference, the fanciful names are to be avoided (more will be said about this in the next section).

2.2 Selection and formation of English pharmaceutical names

English names of medicinals are vernacular names or names derived from Latin, as is standard practice in botany. In devising our English terms, we have applied the following rules.

1. Where a commonly known vernacular term that is the exact equivalent of the Chinese name exists, it should be used. For example, tea, ginger, cinnamon bark, licorice, and loadstone are the exact equivalents of *jiāng* 姜, *chá* 茶, *ròu guì* 肉桂, *gān cǎo* 甘草, and *cí shí* 磁石. A commonly known vernacular English name whose definition includes

the Chinese entity among other things may be used provided no confusion between medicinals within the Chinese medical context arises. Thus, the word licorice may stand for *gān cǎo* 甘草 because it would not be confused with anything else in the whole gamut of Chinese medicine even though, as used in the vernacular, it denotes more species of *Glycyrrhiza* than those used in Chinese medicine and is more commonly associated with *Glycyrrhiza glabra*, the species from whose root confectioners extract the gummy blackish paste we also refer to as licorice.

2. Where no currently well-known vernacular name exists, an English name may be derived from taxonomical Latin. This may be done by borrowing a species name, or more commonly by borrowing a generic name, or by borrowing (or translating) a generic name and substituting an English qualifier.

   (a) Borrowing a specific name: A specific name is preferable to a generic name, but can usually only be borrowed if it is unique or reasonably rare. Thus, we can borrow toosendan from *Melia toosendan* since it does not occur in the name of any other plant used in Chinese medicine.

   (b) Borrowing a generic name: Generic names are borrowed with far greater frequency than specific names. This happens where medicinals come from more than one species of the same genus, or where the specific name is redundant in identifying the medicinal in the Chinese context. Thus, because *chái hú*, which comes from several species of *Bupleurum*, is called Bupleuri Radix in Latin, it can be be called bupleurum [root] in English. Since Ecliptae Prostratae Herba, according to the rules mentioned above, can be shortened to Ecliptae Herba, so in English, for want of a vernacular name, we can simply call the item eclipta.

   (c) Borrowing (or translating) a generic name and substituting an English qualifier: Where items come from plants of more than one genus, they must be distinguished in name. Where we have no ready-made English vernacular names (such as mustard and celery cabbage for *Brassicae juncea* and *B. pekinensis*), we build up a name from elements that can be borrowed or translated from the Latin with additions from the vernacular if necessary. Most commonly, this takes the form of borrowing the generic name and translating the adjective. Thus, we can distinguish Atractylodis Rhizoma (*cāng zhú* 苍术) and Atractylodis Ovatae Rhizoma (*bái zhú* 白术) simply by the English atractylodes and ovate atractylodes (the part names being redundant). In other instances, we can substitute a more meaningful word for our purposes. *Běi shān zhā* 北山楂 and *nán shān zhā* 南山楂 are better distinguished as northern and southern crataegus rather than as pinnatifid and cuneate crateagus, because they are literal translations of the Chinese that provide more information about the Chinese context. In some cases, Pīnyīn is used as in Latin (e.g., baiwei cynanchum and baishouwu cynanchum). Where multiple species of one genus are used, vernacular names and names derived from Latin are used to the best advantage. Thus, we call *Euphorbia lathyris* caper spurge, *Euphorbia helioscopa* sun-spurge, *Euphorbia pekinensis* Peking euphorbia or Peking spurge (note that any *Euphorbia* is a spurge), *Euphorbia kansui* kansui, and *Euphorbia Humifusa* humifuse euphorbia. There are a number of genera like Euphorbia from which multiple medicinal items are derived. English solutions are offered for these in the next section.

3. Where a medicinal comes from an entity for which there is no vernacular equivalent in English and which is scientifically considered to belong to two different genera, the two genera are joined by a slash (e.g., krait/agkistrodon), this corresponding to the use of *seu* in pharmaceutical names. Such compounds can be avoided where a suitable vernacular equivalent exists, as in the case of *zǐ cǎo* 紫草, Lithospermi, Macrotomiae seu Onosmatis Radix in Latin, which can be neatly rendered as puccoon in English. *Kūn bù* 昆布, which includes plants of the order *Laminariales* and *Fucales*, and is loosely labeled as Algae Thallus by some or representatively as Laminariae Thallus by others, can be neatly labeled as kelp without fear of unduly offending marine botanists. The use of Pīnyīn in English names follows its use in the Latin (e.g., baijiangcao and mutong) again except where a suitable vernacular will do, as pipe-fish does for Hailong. The use of Pīnyīn helps to create coherent names for *fáng jǐ* 防己, whose different forms, traditionally acknowledged by Chinese doctors and sometimes specifically prescribed in Chinese medical literature, correspond exactly to botanical categories. *Fáng jǐ* comes from plants of the genus *Aristolochia* and from one plant of the genus *Stephania* and one plant of the genus *Cocculus*. By taking fangji as the English equivalent, and translating the different plants directly from the Chinese (northern fangji, southern fangji, mealy fangji, and woody fangji), we preserve the unity and distinctions seen by the Chinese. Avoidance of a term containing the word Aristolochia also helps to avoid confusion with aristolochia fruit *mǎ dōu líng* 马兜铃 (and for the same reason *xún gǔ fēng* 寻骨风, *Aristolochia mollissima*, is referred to simply as mollissima).

4. The guidelines used to reduce the length of the Latin names of commonly used medicinals apply also to English. The commonly used *fù zǐ* 附子 can thus be referred to as aconite [accessory tuber] rather than Carmichael's aconite [accessory tuber], while the less commonly used *cǎo wū tóu* 草乌头 is referred to as wild aconite. Similarly, *niú xī* 牛膝 can be referred to as achyranthes, while *tǔ niú xī* 土牛膝 can be called native achyranthes; *zǐ sū* 紫苏 can be referred to as perilla and *bái sū zǐ* 白苏子 as white perilla seed.

5. Part names are included where necessary, but omitted wherever possible. Since language habits reduce terms to minimum components, it is in the interests of students and practitioners to help this reduction along a logical course that avoids blurring distinctions between medicinals. In view of this consideration, the following guidelines for the omission of part names has been applied. If the whole item, nearly the whole item, or loosely specified part of the item is used, no part name is included in the name (e.g., poria, polyporus). If the part is implicit, it is not written (e.g., chebule, bitter orange, white pepper). If it can be omitted without loss of clarity, we placed it in brackets (e.g., pulsatilla [root]) in the medicinals database, indicating that it can be left out under normal circumstances. We have applied this rule with great care. Imperata [root] can be simply referred to as imperata, while the less commonly used imperata flower should be referred to in full to avoid confusion with the root. In the case of medicinals derived from plants of the genus *Aconitum*, omission of part names provides for greater name simplication than Latin pharmaceutical traditions allow for. *Fù zǐ* 附子 can be referred to as aconite [accessory tuber], i.e., simply as aconite, while the less commonly used *chuān wū* 川乌 can be referred to as aconite main tuber. Where two parts of the plant are equally commonly used, the full names should be used for both. Although lycium berry is used a little more

frequently than lycium root bark, it is safer to refer to both in full. *Shé chuáng zǐ* 蛇床子 is best always referred to as cnidium seed/fruit (cnidium being pronounced with a silent *c*) to avoid confusion with *Cnidium officinale*, used in Japan as a substitute for *Ligusticum chuanxiong*. Those who are writing about the Japanese tradition would be wise to call *sen kyū* cnidium root for the same reason.

6. Part names are vernacularized wherever possible in the interests of preserving the spirit of Chinese medicine. Thus, *biē jiǎ* 鱉甲 in our nomenclature is called turtle shell rather than turtle carapax, and *jiāng* 姜 is referred to as ginger [root]—using root in its wider sense of any underground part—rather than ginger [rhizome]. In some cases, the technical part names have been preserved for convenience as in the case of tortoise plastron instead of the clumsy "tortoise's ventral shell." In the case of operculum, the horny or shelly plate that closes the shell of gastropod mollusks in retracted position, it is difficult to find a simple substitute.

The above six-article guidelines for determining English pharmaceutical names are relatively simple. As mentioned previously, the greatest problem is one of choice among multiple options rather than absence of a name. We often have a choice of vernacular names, and potentially always have the power to borrow from Latin. Some further examples will show how we dealt with these problems in our medicinals database.

A major problem lies in deciding what is a "commonly known vernacular term." Generally speaking, where there is a vernacular name to be found in an English dictionary, but where students and practitioners of Chinese medicine may be equally familiar with the Latin name, a Latinate English name has also been included provided no confusion with other medicinals arises. Students learning both Latin and English pharmaceutical names are aided greatly when the English name bears a resemblance to the Latin name (or part of it), and can be hampered when the vernacular name bears no resemblance to the Latin, as is the case in words of Germanic origin (e.g., knotgrass, eelwrack). In such instances, preference has been given to a vernacular name when it denotes an entity recognizable by most modern English speakers (rather than simply being a familiar word). For example, since most people who have not learned Chinese medicine can recognize a morning glory plant when they see one, it is preferable to call *qiān niú zǐ* 牽牛子 morning glory seed rather than pharbitis seed, since the Latinate term hides the identity of a familiar entity. For the same reason, turtle shell has been chosen in our nomenclature as the main English name for *biē jiǎ* 鱉甲, while amyda shell has been chosen as an alternative. However, *ài yè* 艾叶 has been listed only as mugwort, since a number of plants from the genus *Artemisia* are used in Chinese medicine (see *Artemisia* in the tables further ahead).

In the many instances where English vernacular names exist, but are less well known to students and practitioners than the Latin name, preference has been given to the terms derived from Latin. Thus, aquilaria, biota leaf, carthamus, cistanche, coptis, crataegus, dianthus, gardenia, lycopus, and pueraria have been chosen as the main English names, while the vernacular names aloeswood, arborvitae leaf, safflower, broomrape, goldthread, haw, fringed pink, Cape jasmine, bugleweed, and kudzu have been included as alternates. Such decisions are not always easy, especially when the shorter, more precise, more meaningful, or simply more elegant term is unfamiliar. Most Westerners would not know a balloon-flower or caltrop from a tulip, and desirable as these terms are, the Latinate terms platycodon and tribulus have been chosen as our standard English equivalents. Since the Latin names of these medicinals are better known, they are more convenient. For the same

reasons pueraria was chosen instead of kudzu, arctium instead of burdock, chaenomeles instead of (Japanese) quince, lonicera instead of (Japanese) honeysuckle, imperata instead of cogon, and sophora instead of pagoda tree. Bamboo leaf was chosen as the standard English equivalent for *dàn zhú yè* 淡竹叶 even though lophatherum is more precise, and bamboo leaf can also refer to the *zhú yè* that comes from *Phyllostachys nigra*. In our medicinals database, the decision to use tussilago instead of coltsfoot, and carthamus instead of safflower as the main names was guided by the same thought, even though in these two cases the alternate vernacular names are in fact more precise because they are equivalent to the more precise botanical terms *Tussilago farare* and *Carthamus tinctorius*. Red-rooted sage, Shiu-ying Hu's neologism for *dān shēn* 丹参, would be an excellent replacement for salvia, were it not for greater familiarity with the latter term, especially as it gives a reminder of the color of this root. All students should nevertheless familiarize themselves with these equivalents.

In some cases, vernacular names that are less well known than the Latin have been chosen where they are shorter or match the Chinese more exactly. For example, cutch is used instead of acacia/uncaria preparation because, being shorter, it is more convenient. Puccoon has been chosen not only for its brevity but also because its meaning is loose enough to cover both *Macrotomia* and *Onosma*, as well as *Lithospermum*. Ambergris (pronounced with a silent *s*) is shorter than anything that could be made of *Physeter catodon* L., the whale whose intestine produces this secretion. This elegant vernacular equivalent helps avoid the suggestion than the Chinese knew its actual origin. Similarly, bamboo sugar is shorter than "siliceous bamboo concretion" and avoids suggesting that the Chinese had understood the composition of the substance in the way that a modern chemist does. The vernacular liquid storax has been chosen instead of liquid styrax for *sū hé xiāng* 苏合香 since although the word storax may be unfamiliar to people, it is easily related to the Latin.

Outside the basic corpus of the most commonly used medicinals, there are no conventions of the Chinese medical community to contend with. Here, vernacular names have been chosen wherever they are suitable and Latinate terms have been used as little as possible. We have taken as a guiding authority for the definition of vernacular names *Webster's Third New International Dictionary*, whose definitions are based on actual usage in general literature rather than recommended use of specialized glossaries.

A note should be made about Latin and English vernacular cognates. Names that were borrowed from Latin and Anglicized before botanical science came into existence are usually easier to spell and pronounce. Words like ginger and licorice are infinitely preferable to the Greek-derived Latin terms *zingiber* and *glyccyrrhiza*, because they are actually easier to pronounce and spell; in fact, they are none other than derivations of the original Greek words that have undergone centuries of reworking to suit the habits of the English speaker's tongue. By the same rationale, abelmosk has been chosen for *huáng shǔ kuí zǐ* instead of the Latin *abelmoschus*, agrimony instead of *agrimonia*, cardamom instead of *cardamomum*, and cubeb instead of *cubeba*. As names, ginger, licorice, cardamom, and cubeb all have the additional advantage of inherently denoting the part used. Thus, for example, while *Cubeba* (from the Arabic *kubābah*) in botanical Latin is a specific name, cubeb in the vernacular means specifically the fruit. Nevertheless, in our preference for the vernacular form, we must be aware of the pitfall that in certain cases the vernacular cognate does not denote what its Latin cognate in botany does. Thus, in our nomenclature, dittany is not used because in vernacular usage it largely denotes plants other than those

of the genus *Dictamnus*; fritillaria was chosen instead of fritillary, because the latter can also refer to a type of butterfly.

Some vernacular names are chosen in preference to Latinate terms because they can be traced back to Middle-Eastern words with which the Chinese names have apparent etymological connections. The English chebule comes from *chébule*, the French pronunciation of the last part of the Pashto term *halīla-ī-kābulī*, lit., myrobalan of Khabul, from whose first part the Chinese *hē lí lè* 诃黎勒, now shortened to *hē zǐ* 诃子, clearly appears to derive. That *hē lì lè* 诃黎勒 is a meaningless compound comprised of characters often used to represent foreign sounds further compounds the suspicion that the words chebule and *hē zǐ* 诃子 are the head and tail of the same original term. Since it is mentioned in *Essential Prescriptions of the Golden Coffer (jīn guì yào luè)*, which was written in the Eastern Hàn period, the medicinal was probably introduced into China over 1,800 years ago. The adoption of chebule into English is much more recent, and the specific name *Chebula* is merely a Latinization of the vernacular. Chebule is not only more precise than the generic name *Terminalia* but, like the names ginger, licorice, and cubeb, it also specifically denotes the part used, i.e., the fruit. The English word sesame has a common origin with the Aramaic *shūshěmā* and Arabic *simsim*, and similarity of the (vernacular) Mandarin *zhī má* 芝麻 is probably no coincidence since the sesame plant was originally introduced into China from the Middle East. Galangal, a word that came into English over four hundred years ago, and the Arabic *khalanjān* similary have a common root, which is probably also shared by the Chinese *gāo liáng jiāng* 高良姜 to judge by the sounds.

Some vernacular names are preferable to Latin because they have been adopted directly from Chinese. For example, kumquat, longan, and wampee are renderings of the Cantonese pronunciation of the Chinese characters (*jīn jú* 金橘, *lóng yǎn*, and *huáng pí* 黄皮, respectively in Mandarin), and loquat (*lǔ jú* 鲁橘, a locally used alternate name for *pí pá* 枇杷). Tea comes from a corruption of *te*, the local pronunciation of *chá* in China's chief tea-producing area, Fújiàn. Interestingly, nearly all the words for tea heard through Europe and the Russian-speaking area, the Middle East, India, China, and Japan have a common origin. The term tea is infinitely preferable to any name that could be derived from the Latin because it expresses our direct commonalty with the Chinese civilization. An exception to this principle was made in the case of sanchi, a corrupted Wade-Giles spelling of the Mandarin (Pīnyīn *sān qī*), which was chosen only as an alternate name to notopterygium out of fear that it is less well known than the Latinate term. In the cases of lichee (the Cantonese pronunciation of *lì zhī*), ginseng (the French transcription of *rén shēn* 人参) nandin (from the Japanese pronunciation of 南天 *nán tiān*), and ginkgo (a mistranscription of *ginkyō*, which is the Japanese pronunciation of *yín xìng*, an alternate name for *bái guǒ*), transcription of different pronunciations of the Chinese characters have not only entered the English vernacular, but have also been adopted as part of the Latin botanical names.

The problem of cultural associations affects several medicinals. It is preferable to refer to *yì yǐ rén* 薏苡仁 as coix rather than Job's tears, and to *tiān nán xīng* 天南星 as arisaema rather than Jack-in-the-pulpit in the interests of avoiding the suggestion that the Chinese knew about Job or had religious paraphernalia such as pulpits. Nevertheless, in our nomenclature, *jīn yīng zǐ* 金樱子 has been called Cherokee rose fruit, despite its American Indian flavor, simply to overcome the problem of naming different roses. Frankincense was chosen for *rǔ xiāng* 乳香 instead of olibanum because its pairing with myrrh in the Bible and its almost inseparable use with myrrh in Chinese medicine are probably no

coincidence. The connection between our cultures should not be concealed (by saying olibanum and myrrh), especially if an etymological link between the *mò* of *mò yào* 没药 and the English word myrrh does exist. Myrrh is related to the Hebrew *mōr* and Arabic *murr*, both meaning bitter, and the phonetic similarity of the *mò* of *mò yào* in Chinese (*yào* simply meaning medicine) suggests that when the Chinese adopted the product from the Middle East, they borrowed a name with it. The undesirability of any Middle-Eastern flavor detected in the term bovine bezoar should be weighed against its precision: bezoar refers to gallstones or alimentary tract calculi, and the etymology of the word (Persian *bād*, protect (against); *zahr*, poison) indicates medical application reflected in the use of the term in Chinese medicine.

The problem of cultural association is akin to that of cultural orientation. The term Chinese yam is more precise than dioscorea root, but the use of the word Chinese suggests a distinction from another type of yam that is not Chinese. The inclusion of such a term in a translation of a text of historical value would project upon the Chinese a mistaken conception about the medicinal in question. For similar reasons, we chose chaenomeles instead of Japanese quince, and lonicera instead of Japanese honeysuckle, though quince and honeysuckle could stand for these. We chose gardenia instead of Cape jasmine for the same reason, as well as because gardenia is a shorter name that is better known, and despite the fact that Cape jasmine is more precise (meaning *Gardenia jasminoides*). However, in some cases, the use of geographic terms is difficult to avoid. There are so many medicinals derived from different species of *Allium* that we could not avoid using Chinese chive for *xiè bái* 薤白 without clashing with *xì xiāng cōng* 细香葱, which is the chive more familiar to Westerners.

In botanical Latin, a number of specific names come from Oriental vernacular names, i.e., genkwa, mume, tsaoko, and kansui. Unlike words such as loquat, kumquat, and litchee, which were adopted into the vernacular directly from Chinese, they are used as English pharmaceutical terms adopted from Chinese through botanical Latin. These names accord with standard tradition for the creation of English names, and from the botanist's point of view are precise. In the medicinals database, we have included Daphne as an equivalent for genkwa, but in the case of kansui, which belongs to the genus Euphorbia from which many medicinals are derived, the generic name alone cannot be used as a substitute. Amomum cannot substitute for tsaoko for the same reason. Mume could be called Japanese apricot, but the term is longer and less well known amongst students and practitioners of Oriental medicine, in addition to suggesting that the Chinese considered it as a foreign item. By contrast, chuanxiong and yanhusuo, though more precise, were rejected in favor of ligusticum and corydalis because their alien spellings make it difficult for readers to associate the right sounds with them. In fact, in the case of ligusticum/chuanxiong, since the Japanese write the medicinal in Chinese characters, and simply pronounce them in a different way (*senkyū*), the English term chuanxiong could be defined as covering both the *Ligusticum chuanxiong* used in China and *Cnidium officinale*—were it not for the fact that those who have learned from the Japanese tradition find Pīnyīn as unintelligible as those who know no Oriental languages. Note that hoelen, none other than the Fújiàn (Fukienese) pronunciation of *fú líng*, is more exact than poria because it denotes the species and is less desirable only because of its alien spelling and because *Poria cocos* has replaced the term *Pachyma hoelen* in botany. Both these terms are preferable to tuckahoe only because they avoid the North American Indian association with a word of Algonquian origin.

In a number of instances, the question of term selection touches on professional image. To tell a patient that the way to health lies in brewing and consuming a draft that contains bat's droppings (*yè míng shā* 夜明砂), cicada moltings (*chán tuì* 蝉蜕), earthworms (*dì lóng* 地龙), leeches (*shuǐ zhì* 水蛭), licorice in human feces, (*rén zhōng huáng* 人中黄), lizards (*shí lóng zǐ* 石龙子), scorpions (*quán xiē* 全蝎), silkworms (*bái jiāng cán* 白僵蚕), squirrel's droppings (*wǔ líng zhī* 五灵脂), toad venom (*chán sū* 蟾酥), wingless cockroaches (*zhè chóng* 蟅虫), or wood lice (*shǔ fù* 鼠妇) may inspire a search for less exotic professional health care. Nevertheless, Latinate terms for most of these items are long, hard to remember, impossible to spell, and conceal the identity from less squeamish laypersons. In the medicinals database, the vernacular terms have been chosen as the standard English equivalents although Latinate terms have been added wherever possible as alternatives.

Finally, the use of fanciful terms is more acceptable in English than in Latin. Dragon's blood is the standard vernacular equivalent of *xuè jié* 血竭 (it is included in Webster's) and dragon bone is a good equivalent for *lóng gǔ* 龙骨 since it brings out the flavor of Chinese medicine.

English solutions to difficult naming problems

Attention should be paid to the selection of English names for multiple medicinals derived from plants of one genus. This problem is particularly acute in the case of the genera *Aconitum, Alpinia, Angelica, Artemisia, Citrus, Curcuma, Cynanchum*, and *Euphorbia*. In the case of *Aconitum*, the problem is further complicated by different products deriving from the same plant. In the interests of clarifying our choices, all these medicinals are listed below in order of the Latin pharmaceutical name. The problem of naming these medicinals has been solved by using a mixture of vernacular, Latinate names, and transcriptions of the Chinese names. In the list below, only one example is given from each botanical entity (*Aconitum* and *Astragalus* being exceptions). Neologisms (names not found in *Webster's Third New International Dictionary*) are marked with an asterisk.

Aconiti Brachypodi Tuber (*xuě shàng yī zhī hāo*) .... Yunnan alpine aconite [tuber]
A. Coreani Tuber (*guān bái fù*) .... Korean aconite [tuber]
A. Coreani seu Typhonii Gigantei Tuber (*bái fù zǐ*) .... aconite/typhonium [tuber]
A. Radix Tenuis (*lòu lán zǐ*) .... aconite fine roots
A. Tsao-Wu-Tou Tuber (*cǎo wū tóu*) .... wild aconite [tuber]
A. Tuber (*chuān wū tóu*) .... aconite main tuber
A. Tuber Laterale (*fù zǐ*) .... aconite [accessory tuber]
A. Tuber Laterale Denigratum (*hēi shùn piàn*) .... black aconite [accessory root]
A. Tuber Laterale Parvum (*cè zǐ*) .... aconite small accessory tuber
A. Tuber Laterale Praeparatum (*shú fù zǐ*) .... processed aconite [accessory tuber]
A. Tuber Laterale Salsum (*xián fù zǐ*) .... salty aconite [accessory tuber]
A. Tuber Laterale Tianxiong Radix Tenua (*tiān xióng*) .... tianxiong aconite [tuber]
A. Tuberis (*Lateralis*) Spica (*wū tóu fù zǐ jiān*) .... aconite tips

Achyranthis Radix (*tǔ niú xī*) .... native achyranthes [root]*
A. Bidentatae Radix (*niú xī*) .... achyranthes [root]

Alpiniae Galangae Rhizoma (*dà liáng jiāng*) .... galangal [root], greater galangal [root]
A. Galangae Fructus (*hóng dòu kòu*) .... galangal fruit (or greater galangal fruit, Siamese ginger)
A. Katsumadae Semen (*cǎo dòu kòu*) .... Katsumada's galangal seed

A. Officinarum Rhizoma (*gāo liáng jiāng*) .... lesser galangal [root]
A. Oxyphyllae Fructus (*yì zhì rén*) .... alpinia fruit

Angelicae Dahuricae Radix (*bái zhǐ*) .... angelica [root] (or dahurian angelica [root]*)
A. Duhuo Radix (*dú huó*) .... duhuo [angelica root]*
A. Sinensis Radix (*dāng guī*) .... tangkuei [root]* (or Chinese angelica [root])

Aristolochiae Fructus (*mǎ dōu líng*) .... aristolochia fruit (or birthwort fruit)
A. Fang Chi Radix (*guǎng fáng jǐ*) .... southern fangji [root]*
A. Heterophyllae Radix (*hàn zhōng fáng jǐ*) .... northern fangji [root]*
A. Mollissimae Rhizoma seu Herba (*xún gǔ fēng*) .... mollissima*

Artemisiae Anomalae Herba (*liú jì nú*) .... anomalous artemisia*
A. Apiaceae seu Annuae Herba (*qīng hāo*) .... sweet wormwood
A. Argyi Folium (*ài yè*) .... mugwort [leaf], moxa
A. Capillaris Herba (*yīn chén hāo*) .... capillaris

Astragali (seu Hedysari) Radix (*huáng qí*) .... astragalus [root]
A. Caulis et Folium (*huáng qí jīng yè*) .... astragalus stem and leaf
A. Radix Alba (*bái pí qí*) .... white-skinned astragalus [root]
A. Radix Atra (*hēi pí qí*) .... black-skinned astragalus [root]
A. Complanati Semen (*shā yuàn zǐ*) .... complanate astragalus seed

Note: Although Jin astragalus, a commonly used form of *huáng qí*, is the root of *Hedysarum mongholicum*, the English term astragalus has been allowed for convenience to stand for the Latin Astragali (seu Hedysari) Radix.

Atractylodis Bulbus (*cāng zhú*) .... atractylodes [bulb]
A. Ovatae (*bái zhú*) .... ovate atractylodes [bulb]

Brassicae Albae Caulis et Folium (*bái jiè*) .... white mustard stalk and leaf
B. Albae Semen (*bái jiè zǐ*) .... white mustard [seed]
B. Caulorapae Cormus (*piě lán*) .... kohlrabi
B. Junceae Semen (*jiè zǐ*) .... leaf mustard seed
B. Junceae Liquor Vetus (*chén jiè cài lǔ zhī*) .... must leaf pickling juice
B. Pekinensis Folium (*huáng yá bái cài*) .... Chinese cabbage, napa

Celosiae Cristatae Inflorescentia (*jī guān huā*) .... cockscomb [flower] (or celosia flower)
C. Argenteae Semen (*qīng xiāng zǐ*) .... celosia [seed]

Citri Aurantii Fructus (*zhǐ ké*) .... bitter orange
C. Aurantii Fructus Immaturus (*zhǐ shí*) .... unripe bitter orange
C. Grandis Exocarpium Rubrum (*huà jú hóng*) .... red skin of pomelo, red skin of shaddock
C. Limoniae seu Limon Fructus (*níng méng*) .... lime/lemon
C. Medicae seu Wilsonii Fructus (*xiāng yuán*) .... citron
C. Reticulatae Exocarpium (*chén pí*) .... tangerine peel
C. Reticulatae Viride Pericarpium (*qīng pí*) .... unripe tangerine peel
C. Sarcodactylis Fructus (*fó shǒu gān*) .... finger citron fruit
C. Sinensis Fructus (*tián chéng*) .... sweet orange

Note: Citri Aurantii Fructus and Fructus Immaturus are shortened to Aurantii Fructus and Fructus Immaturus in the medicinals database. They are left unshortened here to facilitate comparison.

Chrysanthemi Flos (*jú huā*) ..... chrysanthemum [flower]

C. Indici seu Borealis Flos (*yě jú huā*) .... wild chrysanthemum [flower]

Cnidii Monnieri Fructus (*shé chuáng zǐ*) .... cnidium seed
C. Officinalis Rhizoma (*chuān xiōng*) .... cnidium [root], (or officinal cnidium [root])

Curcumae Tuber (*yù jīn*) .... curcuma [root]
C. Longae Rhizoma (*jiāng huáng*) .... turmeric
C. Zedoariae Rhizoma (*é zhú*) .... zedoary

Cynanchi Baiwei Radix (*bái wéi*) .... baiwei (or baiwei cynanchum [root])*
C. Auriculati Tuber (*gé shān xiāo*) .... auriculate cynanchum root*
C. Bungei seu Auriculati Tuber (*bái shǒu wū*) .... baishouwu (or baishouwu cynanchum [root])*
C. Paniculati Herba cum Radice (*xú cháng qīng*) .... paniculate cynanchum*
C. Stauntonii Radix et Rhizoma (*bái qián*) .... cynanchum (or baiqian cynanchum [root])*

Cyperi Alternifolii Caulis et Folium (*jiǔ lóng tǔ zhū*) .... alternating-leaf cyperus*
C. Rotundi Rhizoma (*xiāng fù zǐ*) .... cyperus [root] (or nut-grass [root])

Dioscoreae Batatas Rhizoma (*shān yào*) .... dioscorea [root], Chinese yam
D. Bulbiferae Tuber (*huáng yào zǐ*) .... air potato
D. Hypoglaucae Rhizoma (*bì xiè*) .... fish-poison yam

Euphorbiae Helioscopiae Herba (*zé qī*) .... sun spurge
E. Humifusae Herba (*dì jǐn cǎo*) .... humifuse euphorbia*
E. Kansui Radix (*gān suì*) .... kansui [root]
E. Lathyridis Semen (*qiān jīn zǐ*) .... caper spurge seed (or gopher plant seed)
E. Pekinensis (*jīng dà jǐ*) .... Peking euphorbia [root]*
E. seu Knoxiae Radix (*dà jǐ*) .... euphorbia/knoxia [root]

Note: The English term spurge is the equivalent of the Latin euphorbia.

Fritillaria Cirrhosae Bulbus (*chuān bèi mǔ*) .... Sichuan fritillaria [bulb]
F. Verticillatae Bulbus (*zhè bèi mǔ*) .... Zhejiang fritillaria [bulb]

The names Sichuan and Zhejiang fritillaria, used instead of fritillaria and whorled fritillaria, reflect the Chinese distinction based on provenance (Sichuan and Zhejiang being two provinces).

Gentianae Macrophyllae (or G. Qinjiao) Radix (*qín jiāo*) .... large gentian [root]* (or macrophylla [root])*
G. Radix (*lóng dǎn*) .... gentian [root] gentian

Ilicis Chinensis Semen (*dōng qīng zǐ*) .... Chinese ilex [fruit]
I. Pubescentis Radix (*máo dōng qīng*) .... hairy holly [root]

Magnoliae Flos (*xīn yí*) .... magnolia flower
M. Officinalis Cortex (*hòu pò*) .... magnolia bark (or officinal magnolia bark)

Meliae Radicis Cortex (*kǔ liàn gēn pí*) .... chinaberry root bark (or China tree root bark)
M. Toosendan Fructus (*chuān liàn zǐ*) .... toosendan [fruit] (or Sichuanese pagoda tree fruit)

Momordicae Charantiae Fructus (*kǔ guā*) .... balsam pear (or bitter cucumber, leprosy gourd)

M. Cochinchinensis Semen (*mù biē zǐ*) .... momordica [seed]
M. Grosvenori Fructus (*luó hàn guǒ*) .... Grosvenor's momordica fruit*

Perillae Folium (*zǐ sū yè*) .... perilla [leaf] (or purple perilla [leaf])
P. Albae Semen (*bái sū zǐ*) .... white perilla seed

Piperis Betle Fructus (*jǔ jiàng*) .... betel pepper [fruit]
P. Boehmeriaefolii Caulis (*lú zǐ téng*) .... boehmeria-leaved pepper stem*
P. Hainanensis Caulis et Folium (*hǎi nán jù*) .... Hainan pepper*
P. Hancei Caulis et Folium (*shān jǔ*) .... Hance's pepper*
P. Kadsurae Caulis (*hǎi fēng téng*) .... kadsura stem (or futokadsura stem)
P. Longi Fructus (*bì bá*) .... long pepper
P. Nigri Fructus (*hú jiāo*) .... pepper
P. Nigri Fructus Albicatus (*bái hú jiāo*) .... white pepper
P. Nigri Fructus Immaturus (*hēi hú jiāo*) .... black pepper
P. Sarmentosi Spica (*jiǎ jù guǒ suì*) .... wild pepper spike

Polygoni Avicularis Herba (*biǎn xù*) .... knotgrass
P. Cuspidati Rhizoma (*hǔ zhàng*) .... cuspidate polygonum [root] (or bush knotweed [root])
P. Multiflori Radix (*hé shǒu wū*) .... flowery knotweed [root] (or multiflorous polygonum [root])
Polygonati Huangjing (*huáng jīng*) .... huangjing polygonatum [root]
P. Yuzhu (*yù zhú*) .... yuzhu polygonatum [root]

Note: The use of Pīnyīn here saves problem where there is disagreement.

Pruni Semen (*yù lǐ rén*) .... yuli plum kernel
P. Amygali Semen (*bā dàn xìng rén*) .... almond
P. Armeniacae Semen (*xìng rén*) .... apricot kernel
P. Mume Fructus (*wū méi*) .... Mume Fruit

Note: Armenicae Semen and Mume Fructus are preferable to the longer terms because of their brevity.

Rosae Flos (*méi guī huā*) .... rose
R. Chinensis Flos et Fructus (*yuè jì huā*) .... China rose
R. Chinensis Radix (*yuè jì huā gēn*) .... China rose root
R. Laevigatae Fructus (*jīn yīng zǐ*) .... Cherokee rose fruit
R. Multiflorae Radix (*qiáng wéi gēn*) .... multiflorous rose root
R. Omeiensis Fructus (*cì shí liú*) .... Emei rose*
R. Platyphyllae Radix et Folium (*shí jiě mèi*) .... flat-leaved rose
R. Roxburghii Fructus (*cì lí*) .... spiny pear*

Rumicis Acetosae Radix (*suān mó*) .... sour dock root
R. Japonici seu Nepalensis Radix (*yáng tí*) .... dock root
R. Madaio Radix (*tǔ dà huáng*) .... Madaio dock root*
Salviae Miltiorrhizae Radix (*dān shēn*) .... salvia (or red-rooted sage)
S. Plebeiae Herba (*lì zhī cǎo*) .... plebeian sage

Note: Salvia is the Latin for sage.

Sophorae Flavescentis Radix (*kǔ shēn*) .... flavescent sophora [root] (or bitter ginseng)
S. Japonicae Flos (*huái huā*) .... sophora flower (or pagoda tree flower)
S. Subprostratae Radix (*shān dòu gēn*) .... bushy sophora root (or subprostrate sophora [root])*

Stephaniae Cepharanthae Tuber (*bái yào zǐ*) .... cepharantha [tuber]*
S. Graciflorae Radix (*yī wén qián*) .... graciflora [root]*
S. Tetandrae Radix (*fěn fáng jǐ*) .... mealy fangji (see Aristolochia above)

Viticis Fructus (*màn jīng zǐ*) .... vitex [fruit]
V. Negundinis Fructus (*huáng jīng zǐ*) .... negundo vitex seed*
V. Negundinis Folium (*huáng jīng yè*) .... negundo vitex leaf*
V. Negundinis Cannabifolii Fructus (*mǔ jīng zǐ*) .... hemp-leaved vitex seed*

Zizyphi Spinosi Semen (*suān zǎo rén*) .... spiny jujube [pit] (or sour jujube [pit]*)
Z. Fructus (*dà zǎo*) .... jujube [fruit] (or Chinese date)
Z. Fructus Ater (*hēi zǎo*) .... black jujube [fruit] (or black Chinese date) black jujube (*hēi zǎo*)

2.3 Conclusion

Although a unified English nomenclature of Chinese medicinals would be of obvious benefit to the field as a whole, the persistence of multiple nomenclatures may reflect the fact that no single system is seen to have advantages that would make it everyone's ideal choice. Absence of discussion on the subject is probably due to the immense complexity of the problem.

Latin, English, and transcribed names are currently used. Transcriptions take two principal forms, Pīnyīn and Wade-Giles. Pīnyīn is used by mainland texts and by most Westerners, while Wade-Giles is used by Taiwanese writers such as Hong-yen Hsü. Pīnyīn names of medicinals are taught in some schools, but in literature they are largely used for cross reference only. Latin nomenclatures derived by pharmacognosists from botanical and zoological taxonomy are most prevalent in literature from China and are also used by Western writers. These are all broadly similar, but vary depending on what taxonomic convention is applied and what items are used as the medicinal. Deviating somewhat from pharmacognostic tradition is the Eastland Press use of pharmaceutical names that are often longer and contain more taxonomical information. English nomenclatures including vernacular names and names borrowed from Latin are used by a number of writers, notably the late Hong-yen Hsü. They vary more than Latin names because of greater variables created by the choice between multiple vernacular names on the one hand and between vernacular terms and Latin loans on the other.

Transcription has the advantage of being able to represent all the medicinals used in Chinese medicine, but both transcription systems have the disadvantage of being hard to read and pronounce without proper training. The existence of two systems that use certain letters to represent different sounds causes confusion amongst readers not trained in both. The most practical use of transcription is its use as a cross reference at every mention of an medicinal—an excellent practice that unfortunately is not always applied.

Latin does have the theoretical advantage of providing the most straightforward system for the broadest gamut of medicinal substances. Nevertheless, its overwhelming practical disadvantage is that correct spelling and inflection are almost impossible to achieve for people who have no knowledge of Latin—probably the vast majority of the student and practitioner body in the United States and some European countries. A specific disadvantage of Eastland's sytem is that in 30-50% of cases the names contain a superfluous element for distinguishing different medicinals (e.g., the *Ternatae* in Rhizoma Pinelliae

Ternatae). Latin names are well suited to the needs of the pharmocognosists who first used them, but they are unwieldy for students and practitioners of Chinese medicine who frequently have to jot down lists of formula ingredients. Even those who have mastered a Latin nomenclature might *write* Glycyrrhizae Radix, but would rarely be heard *saying* it. Even adherents of the Latin convention are forced to use English medicinal names that appear in formula names. Eastland, for example, speaks of Licorice and Ginger Decoction (*gān cǎo gān jiāng tāng*), not "Radix Glycyrrhizae Uralensis and Rhizoma Zingiberis Officinalis Decoction." This lapsing into the vernacular in the spoken language and in certain contexts of the written language highlights the awkwardness of Latin, and therefore suggests that English names might replace Latin altogether.

Vernacular names (e.g., ginger, cinnamon) are the first choice of English speakers for familiar every-day items, because they are easy to pronounce and spell, and require no knowledge of Latin. The absence of English names—the main argument of proponents of Latin nomenclatures—is easily overcome by the ability of English to borrow names from Latin (e.g., gardenia, pinellia, ledebouriella). One major disadvantage of English names is that many vernacular terms denote different things in different parts of the English-speaking world, or in different contexts. Another is that they invite the sloppiness of using inaccurate vernacular equivalents (e.g., using snakegourd for *guā lóu* 栝楼), or a borrowed Latin generic name that could be used for several different medicinals derived from plants of different species of the same genus (e.g., artemisia potentially representing *ài yè* 艾叶, *liú jì nú* 刘寄奴, *qīng hāo* 青蒿, or *yīn chén hāo* 茵陈蒿). Overall, the main disadvantage of English is that, in many cases, with different English names and Latin borrowings to choose from, it is difficult for people to agree on the best choice. English can be used to its best advantage if discipline in choosing and forming names is applied.

This paper concludes that the advantage in the ease of pronunciation and writing of English names outweighs the advantage of the naming facility of Latin, and that a little effort and discernment can produce English names that can be as exact as the Chinese. However, Latin names are equally acceptable despite their comparative length and complexity. Given the problems of translating the names of Chinese medicinals into English or Latin, the use of transcription (preferably Pīnyīn) should be encouraged as a standard cross reference in all literature.

When I and my colleagues began the creation of the medicinals database nearly 20 years ago, we had no idea how the question of the standardization of the names of medicinals would be resolved. Actually, it would be difficult to say if we are any closer to reaching a consensus now at the beginning of the 21st century. As with the discussion of terminology in general, people enjoy reasoning their preferences, but few people are willing to invest their time in a thorough investigation of the issues involved. As I have shown in the present discussion, the choice is not merely between transcription, Latin, and English, but also which Latin names, which English names, and even—given the variability of the Chinese terminology—which transcriptions. Part of the process of standardization lies in proposing terms in the form of comprehensive lists, preferably with a detailed methodology of term selection. Most of the lists of proposed terms that have appeared have come from the Chinese. But it is Westerners who in the end determine what terms they want to use, and they have so far been very reluctant to invest the time and energy necessary to end the "partial discussion" that has continued for decades.

The choice between Pīnyīn, Latin, and English is to a certain extent a pointless issue because they each have their function. Any transcultural transmission of knowledge requires target-language equivalents to be pegged to the source language, and in the case of Chinese-English translation, Pīnyīn transcription provides a useful interface for English speakers who cannot read Chinese characters. English can never be dispensed with in the transmission process because it is the common known factor among all English speakers. Even if everyone agrees in a preference for the Pīnyīn *yè míng shā* 夜明砂 or Latin Vespertilionis Excrementum, it seems barely imaginable to escape the need to explain this as bat's droppings for English speakers for whom the Pīnyīn or Latin does not mean very much. Because we are Westerners with our own, indeed very strong, academic traditions, which happen to name all animals, vegetables, and minerals most precisely in Latin, we cannot escape the need to identify in scientific terms all the entities from which Chinese medicinals are derived. This is precisely why in the medicinals database we have paid attention to the problems relating to all three categories of names. The choice between Pīnyīn, Latin, and English relates essentially to how Chinese medicinals should be referred to in the classroom and clinic and in textbooks and clinical manuals. Any reference list should of course include all three.

As a preliminary measure, I would suggest that, rather than solving the question of the choice between Pīnyīn, Latin, and English, it might be more useful to consider breaking the task down by trying to agree on which English, which Latin, and which Pīnyīn terms should be used. If we had a list of Pīnyīn, Latin, and English terms that everyone agreed on, the choice as to which to use could be left to the user.

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Index of Medicinals

Medicinals mentioned in the text are listed here with Latin, English, Pīnyīn and Chinese names in the form in which they appear in our medicinals database. They can be accessed by Latin, English, and Pīnyīn.