Introduction

1. The origin and development of Chinese medicinal therapy

The medicinal use of plants goes back long into prehistory. How the medicinal properties of vegetable, mineral, and animal products were first discovered in China, as anywhere else, is unclear. No doubt some of the findings were the accidental product of the search for food; no doubt some of them were the result of deliberate testing.

According to early Chinese mythology, Shén Nóng (神农 Divine Farmer), the legendary founder of Chinese agriculture, is credited with the beginnings of materia medica knowledge in prehistoric times. When he saw the primitive life of the early Chinese and their suffering from frequent illnesses and poisoning, he taught them the basics of grain cultivation and animal husbandry. He also "tasted the flavor of the myriad plants and the sweetness or bitterness of the springs, letting the people know what to avoid, and what to use as remedies. At this time, he encountered seventy medicinal substances in a single day."

Shén Nóng's name has been associated with the Chinese pharmaceutical tradition ever since and is used in numerous titles of books on materia medica. According to legend, Shén Nóng died of poisoning during his quest to discover medicinal substances, and the myth of Shén Nóng is now often interpreted as a story that honors the countless people who gave their lives in the quest to discover how to use medicinal plants.

In addition to mythology, the development of the Chinese materia medica is extensively documented in textual sources from at least the early centuries BCE on. One of the first examples of pharmaceutical literature in China is a collection of prescriptions that was discovered several decades ago at Mǎ Wáng Duī in Húnán Province, in a tomb dated to 168 BCE. The manuscripts from Mǎ Wáng Duī employed nearly 400 substances from plant, animal, human, and mineral sources, as well as prepared substances like condiments and manufactured goods. The dominant treatment modality featured is the use of medicinal formulas, supplemented by moxibustion and other heat treatments, minor surgery, and massage. Exorcism and other magical treatments are also prominent. As our first evidence of a Chinese pharmaceutical tradition, the Mǎ Wáng Duī manuscripts describe in detail the preparation and dosage of various medicinals, which were applied externally (topically) and internally in a variety of forms such as powders, pills, solutions, medicinal wines and vinegars, and ointments.

While we find no explicit references to a theoretical basis for these treatments, they indirectly reflect a combination of practical experience, naturalistic reasoning, and magico-religious thinking. Magico-religious practices rested on two notions: First, animal-based medicinals and strikingly shaped plants were chosen because of perceived magical links between these substances and a disease. For example, sexual conditions were treated with preparations that included roosters or testicles from

male dogs. Horse meat was used in preparations for increasing physical strength in the extremities. A second way of linking a disease with a treatment rested on the belief that a disorder resulted from the presence of malevolent beings that must be exorcised or killed—demonological medicine. Thus, treatments often consisted of cursing, spitting, and ritually beating the patient or entrapping the offending spirit. Many formulas employ substances such as feces, menstrual cloths, peach wood or peach kernel, or pungent aromatics like Sìchuān peppercorns (zanthoxylum) or ginger, all of which had strong exorcistic connotations; these were used particularly for conditions related to spirit possession. Other treatments, such as chewing garlic, spitting, or chanting, are clearly apotropaic (e.g., able to avert evil).

What is most significant about the Mǎ Wáng Duī manuscripts is that they suggest a textual origin for pharmaceutical knowledge in pragmatic collections of "prescriptions" (方 *fāng*, the same term used in contemporary TCM for medicinal formulas). In these texts, treatments and diseases were linked without an explicit theoretical foundation for the sole purpose of treating (and, in some cases, preventing) disease and maintaining or optimizing health. It was thus an applied knowledge that rested on practical experience and a combination of naturalistic and magical reasoning.

The high degree of correspondence between the Mǎ Wáng Duī material and subsequent pharmaceutical literature indicates a consistent and carefully transmitted written tradition concerning the medicinal effects of plants. Perhaps originally embedded in these texts on medical formulas, materia medica literature emerged during the Hàn dynasty (206 BCE–CE 220). The earliest text on medicinals that has been transmitted to the present is the *Shén Nóng Běn Cǎo Jīng* (神农本草经 "The Divine Farmer's Classic of Materia Medica"), which was composed around the turn of the Common Era. The compound 本草 *běn cǎo* literally translates as "[knowledge] based in herbs" and was originally associated with practitioners of the art of longevity who specialized in pharmaceutical knowledge. The character 草 *cǎo,* "herbs," is here employed in the general sense of "medicinals." Let us briefly look at the content of this important text that laid the foundations for all subsequent pharmaceutical literature.

In its original version, the *Shén Nóng Běn Cǎo Jīng* discussed 365 medicinal substances, grouped into three hierarchical grades corresponding to Heaven, Humanity, and Earth. According to the preface, the highest-ranking drugs, called "sovereigns" (君 *jūn*), nurtured life, corresponded to Heaven, had no toxicity, and were to be taken over a long time to lighten the body, boost qì, and prolong life. The "ministers" (臣 *chén*) of the middle grade nurtured human nature, corresponded to humanity, partly possessed toxicity (and thus medicinal efficacy), and were taken to prevent illness and counterbalance depletions. In the lowest category, the "assistants" (佐 *zuǒ*) and "couriers" (使 *shǐ*) managed the treatment of disease by expelling evil qì, heat or cold, or by dispersing congestion. They corresponded to earth, possessed toxicity (and therefore possessed medicinal efficacy), and were not to be taken over a long period.

Evil qì: Note that we translate the Chinese 邪 *xié* literally as "evil." Many translators obscure this original metaphor by translating it as "pathogenic factor." However, the ancient Chinese viewed things such as wind, cold, summerheat, dampness, dryness, and fire as evil forces disrupting the order of the body. Similarly, they referred to the forces that fight the evil qì as "right qì."

In their individual entries, all substances were classified by their warming or cooling properties and flavor. This information obviously rested on direct empirical observation of the medicinal effects of the substances on the human body. Nevertheless, the content and organization of the text indicate a primary focus not on treating disease with strong efficacious substances, but on pursuing immortality in a life-long program of health cultivation. This suggests that materia medica literature originated in China not only among medical practitioners, but also among specialists in the arts of longevity and the pursuit of immortality.

Around 500 CE, the *Shén Nóng Běn Cǎo Jīng* was republished in an annotated and expanded edition by the Daoist priest and alchemist Táo Hóng-Jǐng (陶弘景). This version became the model for the standard materia medica tradition for the next thousand years. Táo synthesized the available pharmaceutical literature of his

time and considerably expanded upon the information of the original text. Setting the pattern for later authors, he did not discard previous knowledge, but merely added information by lengthening the descriptions of individual medicinals. He also introduced new medicinals, bringing the total number of medicinals covered to 730 distinct agents. Using different-colored inks, he clearly differentiated between the original *Shén Nóng Běn Cǎo Jīng*, his own comments, and quotations from other texts. In an innovative scheme that was adopted by other authors for many centuries, he organized the drug monographs by their natural origin—stones and minerals, herbs, trees, fruits, vegetables and grains, insects, reptiles, birds, and beasts. He then subdivided each group into the three grades of the *Shén Nóng Běn Cǎo Jīng*, namely sovereigns, ministers, and assistants and couriers.

The prevalence of magical and demonological treatments as well as the clear links to the cult of immortality has led many scholars, in the West as well as in China, to dismiss the early pharmaceutical tradition as "superstitious" and thus irrelevant to the modern practice of Chinese medicine. To cite just one example, peach kernel was originally used for killing and exorcising demons because of its association with yáng, the sun, and the east. Accordingly, peach wood bows were used to ritually shoot demons. Peach wood figurines were buried in tombs or placed over doorways to exorcise demons. Peach kernel (桃仁 *táo rén*) was a common ingredient in gynecological formulas for treating "phantom pregnancies," which resulted from intercourse with demons and ghosts. Later, when phantom pregnancies were reinterpreted as abdominal masses due to blood stasis, treatments nevertheless continued to include peach kernel, which is now said to dispel static blood. While its medicinal efficacy was thus always recognized and it was used in formulas that addressed similar disorders, its action in the body—and the etiology of the disorder to which it was applied—was reinterpreted and rationalized, from expelling demons to breaking blood stasis. Similarly, alchemically inspired statements in the *Běn Cǎo Jīng* that suggest that an agent will "lighten the body" or "prolong life" tend to cause critical modern readers to overlook the fact that many of these same drugs are still used today as supplementing medicinals (tonics) with the intent of preserving and strengthening the health of the body.

The wealth of practical experience recorded, transmitted, and compiled in the early Chinese materia medica literature is too often dismissed out of hand because we cannot relate to the etiological and therapeutic concepts by which the authors explained the effects they observed. The early theoretical classics of Chinese medicine like the *Huáng Dì Nèi Jīng* (黄帝内经 "Yellow Emperor's Inner Classic") or the *Nàn Jīng* (难经 "Classic of Difficult Issues") are far more well known, and often cited in publications. However, these texts aimed primarily to correlate the microcosm of the human body with the macrocosm in accordance with the theory of systematic correspondences. They promote a moderate and balanced lifestyle, and employ acupuncture as the primary tool for adjusting the body's internal processes. Although the early materia medica and prescription literature was often concerned with extending life and pursuing immortality as opposed to treating disease, it nonetheless reflects a high degree of empirical experimentation and clinical applicability.

The significance of this literature soon came to be recognized by the imperial court. With the compilation of the *Táng Běn Cǎo* (唐本草 "Táng Materia Medica") in 657–659 CE, the Táng dynasty began the practice of creating government-sponsored, officially sanctioned materia medica texts. Incidentally, the *Táng Běn Cǎo*, also known as the *Xīn Xiū Běn Cǎo* (新修本草 "Newly Revised Materia Medica") stands out for being the first illustrated pharmaceutical text in Chinese history.

During the following centuries, several emperors of the Sòng dynasty (907–1276) commissioned increasingly voluminous, complex, and comprehensive encyclopedias, which were produced by large teams of materia medica specialists. These texts recorded past and current knowledge about thousands of botanical, zoological, and mineral substances, but without ever discarding or synthesizing information and ideas found in earlier sources. Because of their sheer volume and the confusing content, they became less and less relevant for medical practice. This textual tradition therefore more or less died out by the thirteenth century.

In addition to the comprehensive materia medica texts, individual authors published works with specialized content. These include, for example, works on dietary therapy like the *Shí Liào Běn Cǎo* (食疗本草 "Materia Medica of Dietary Therapy") of the early eighth century,

books of regionally specialized content like the *Nán Hăi Yào Pŭ* (南海药谱 "Manual of Medicinals from the Southern Seas") from the Táng period, and books on the technical aspects of medicinal preparation. Authors also composed monographs on individual items, such as stalactites, cinnamon, or ginseng (a particularly popular subject).

Toward the end of the sixteenth century, the famous naturalist and practicing physician Lĭ Shí-Zhēn (李时珍) completed what is arguably the greatest masterpiece of the Chinese materia medica tradition, the *Bĕn Căo Gāng Mù* (本草纲目 Comprehensive Materia Medica). It took a full 27 years of single-minded textual and empirical research to produce, and it exhibits a stunning depth of scholarship with quotations from 952 pharmaceutical and other texts. It also rested on Lĭ's extensive personal field work and his travels all over China, so it contains a great deal of information on local and folk traditions. The medicinal information found in it is generally more concrete and better suited for application by medical practitioners than that found in previous works. In addition, the text is of great relevance not only for the field of pharmaceutics, but also for the natural sciences in general, such as zoology, botany, mineralogy, and metallurgy.

Perhaps its greatest contribution is the innovative way in which Lĭ arranged the 1,892 substances covered in the text. Correcting what he saw as inconsistencies and categorical confusions in previous works, he established ten sections in logical succession: "First are waters and fires followed by soils, since water and fire are the predecessors of all things and earth is the mother of all things. Next are metals and minerals since they come from the earth. Next are herbs, grains, vegetables, fruits, and trees, proceeding from the tiny to the huge. Next are clothes and utensils, [since they are made from] herbs and trees. Next are "worms" (虫 *chóng*, a category including insects, spiders, snails and slugs, frogs and similar creatures), and then scaly, shelled, winged, and four-legged creatures, concluding with humans in a progression from the most base to the most noble." The sixteen sections further comprised sixty different subcategories. In an innovative scheme, he added new sections and replaced the traditional order for listing medicinal substances with a grand new scheme of categorizing the natural world as a whole. This makes Lĭ Shí-Zhēn among the most important figures in the history of science in China.

The individual drug monographs in the *Bĕn Căo Gāng Mù* give a variety of information about standard and alternate names for the substance, about its cultivation and harvest, origin, appearance, and identification, and a section called "correcting mistakes." The monographs also describe the processing of the medicinal drug, its nature, flavor, properties, therapeutic indications, miscellaneous notes, and related formulas. With this format, Lĭ Shí-Zhēn thus integrated the two distinct textual categories of materia medica and formula literature, while at the same time incorporating substantial information derived from his personal interest in natural history. He thereby created a voluminous encyclopedia that far transcended the traditional content of materia medica texts. It became the prime source of information for all following authors, and it constitutes the historical apex of comprehensive pharmaceutical literature in China. Its continuing significance is reflected in numerous recent editions, some of which include information about modern research, clinical usage, or scientific identification.

Although Lĭ Shí-Zhēn is one of the most important figures in the history of science in China, his comprehensive approach resulted in a work of prohibitive size and cost that was thus of little use for the average practicing physician or pharmacist. His *Bĕn Căo Gāng Mù* was therefore never matched in size by any materia medica work until the latter half of the 20th century when a team of scholars created the *Zhōng Yào Dà Cí Diăn,* (中医大词典 Great Dictionary of Chinese Medicinals). This text covers 5,767 medicinals, of which 4,773 are plant-based, 740 are animal-based, 82 are of mineral origin, and 172 are traditional prepared substances. The entries are organized not thematically, but, as in a dictionary, by number of strokes and radical. The text provides information on standard names, alternate names, botanical identification, regional variations, source of the substance (plant, animal, mineral), cultivation, harvesting, preparation, preservation, chemical ingredients, medicinal action according to Chinese medical theory as well as from a biomedical framework, nature and flavor, channel entry, actions and indications, usage and dosage, contraindications, selected formulas, clinical reports, and individual discussions. It collects many of the often conflicting statements from the traditional *Bĕn Căo* literature. The *Zhōng Yào Dà Cí Diăn* is thus a very comprehensive and rich reference work on the Chinese materia medica.

As Chinese medical training has undergone a transition from the traditional master-apprentice system to modern university-style education, educators have realized the need for Chinese medical textbooks that efficiently teach the most clinically essential elements of a vast and complex body of traditional knowledge. In the latter half of the 20th century, materia medica textbooks became part of a continually updated series of government-approved textbooks covering many facets of Chinese medicine: basic theory, diagnostics, materia medica, formulas, acupuncture, tuīná, gynecology, external medicine, internal medicine, and many other areas of expertise, such as fundamental classical texts and doctrines of famous doctors over the ages. It is on these textbooks that the major current materia medica works in English, including this book, are based.

2. Production Areas and Harvesting

Although Chinese medicinals include animal and mineral products, the vast majority are plant products. Soil and climate are highly influential on the healthy growth of plants. The time and method of harvesting are important in ensuring that products possess and retain their therapeutic actions.

Many practitioners are minimally concerned with issues of production and harvesting. Some practitioners use formulas in powders or prepared forms, whose ingredients may come from various unstated origins. Even unprocessed medicinals come in packages on which the precise geographic origin is not necessarily stated. The issues presented in this section are mainly important to those involved in medicinal production, trading, and pharmacy.

2.1 Production Areas

Many plants can adapt to different environments, but factors such as speed of growth and size may vary from one environment to another. As familiarity with products from different areas developed, it was recognized that certain items produced in specific areas were more effective than those from other areas, and these came to be regarded as the "genuine articles." Here are some examples:

Premium quality *huáng lián* (Coptidis Rhizoma), *chuān xiōng* (Chuanxiong Rhizoma), and *fù zǐ* (Aconiti Radix Lateralis Praeparata) all come from Sìchuān (in Western China).

Premium quality *chén pí* (Citri Reticulatae Pericarpium) comes from Guǎngdōng (in the South).

Premium quality *rén shēn* (Ginseng Radix), *xì xīn* (Asari Herba), and *wǔ wèi zǐ* (Schisandrae Fructus) are from Manchuria (the North-East).

Premium quality *fú líng* (Poria) is from Yúnnán (the South-West).

Premium quality *dì huáng* (Rehmanniae Radix) comes from Hénán.

Premium quality *ē jiāo* (Asini Corii Colla) comes from Shāndōng.

These criteria are accepted truths, but in reality any medicinal from any area is acceptable, provided it produces its desired effects. Modern techniques have made it possible to increase production of an item in an area where production was once low or nonexistent, and this has made it possible to make up for production shortages.

2.2 Harvesting

The timing and method of harvesting are important. Chinese medicinal products include roots, stems, flowers, fruits, seeds, and whole plants. The development of these parts varies with the seasons, so timely harvesting is important.

Whole herbs: Whole herbs are normally harvested when full growth is attained or when the plant is in bloom. Some herbs require only the part above the surface of the earth, such as *yì mǔ cǎo* (Leonuri Herba), *xī xiān cǎo* (Siegesbeckiae Herba), *jīng jiè* (Schizonepetae Herba), *bò hé* (Menthae Herba), and *zǐ sū yè* (Perillae Folium). Others are harvested complete with the root, such as *chē qián cǎo* (Plantaginis Herba), *dà jì* (Cirsii Japonici Herba seu Radix), and *xiǎo jì* (Cirsii Herba). For some items, the tender shoots or leafy stems and flowers are required, thus particular care must be taken in choosing the time of their harvesting.

Leaves: These are usually picked when the plant is in bud or flowering. This is the time when the plant is most luxuriant and its nature and flavor, and hence its medicinal strength, is greatest. *Dà qīng yè* (Isatidis Folium),

pí pá yè (Eriobotryae Folium), and *ài yè* (Artemisiae Argyi Folium) are picked at this time. *Sāng yè* (Mori Folium) is best harvested after the first frosts of late autumn and early winter.

Flowers: Flowers are mostly picked in bloom, and since buds often bloom in succession, rather than all at once, care needs to be taken in choosing the time of harvesting. If they are picked too late, they shed their petals and change color, affecting quality. *Jú huā* (Chrysanthemi Flos) and *xuán fù huā* (Inulae Flos) fall into this category. Other flowers are picked in the bud, such as *jīn yín huā* (Lonicerae Flos), *huái huā* (Sophorae Flos), and *xīn yí* (Magnoliae Flos). *Hóng huā* (Carthami Flos) is picked when it turns from yellow to red. *Pú huáng* (Typhae Pollen) is used for its pollen and so the flowers have to be picked when they are in full bloom.

Fruits and seeds: Apart from a few items, such as *zhǐ shí* (Aurantii Fructus Immaturus), *qīng pí* (Citri Reticulatae Pericarpium Viride), and *wū méi* (Mume Fructus) whose fruits are picked before they are ripe, most fruits and seeds are not harvested until they have reached maturity. *Guā lóu* (Trichosanthis Fructus) and *mǎ dōu líng* (Aristolochiae Fructus) are examples. Plantago and perilla provide not only their seeds but also other parts. These herbs are harvested, the seeds are removed, and the seeds and herbs are dried and stored separately. Some fruits fall or shed their seeds almost as soon as they have ripened, and therefore have to be harvested promptly. *Xiāo huí xiāng* (Foeniculi Fructus), *bái dòu kòu* (Amomi Fructus Rotundus), *qiān niú zǐ* (Pharbitidis Semen) are examples of these. Some fruits, such as *gǒu qǐ zǐ* (Lycii Fructus) and *nǚ zhēn zǐ* (Ligustri Lucidi Fructus) deteriorate rapidly after harvesting, and so must be picked at dawn or dusk.

Roots and rhizomes: In ancient times, the second and eighth months, i.e., early spring and late autumn, were considered the best time to harvest roots. To this day, *tiān má* (Gastrodiae Rhizoma), *cāng zhú* (Atractylodis Rhizoma), *gé gēn* (Puerariae Radix), *jié gěng* (Platycodonis Radix), *dà huáng* (Rhei Radix et Rhizoma), and *yù zhú* (Polygonati Odorati Rhizoma) are picked at these times because their active constituents are greatest then. A few items, such as *bàn xià* (Pinelliae Rhizoma) and *yán hú suǒ* (Corydalis Rhizoma) are harvested in the summer.

Barks and root barks: These are usually picked in the spring and summer, when growth is at its strongest and when the tree or plant is full of sap. Examples of these are *huáng bǎi* (Phellodendri Cortex), *hòu pò* (Magnoliae Officinalis Cortex), and *dù zhòng* (Eucommiae Cortex). Others, such as *mǔ dān pí* (Moutan Cortex), *dì gǔ pí* (Lycii Cortex), and *kǔ liàn pí* (Meliae Cortex), are harvested in the autumn.

3. Processing of Chinese Medicinals

Chinese medicinals are vegetable, animal, and mineral products that usually need to be processed in one way or another before they can be used. Processing includes "sizing," i.e., cutting and grinding etc., to make things an appropriate size for use. It also includes various other processes such as washing and cooking. "Processing" differs from "preparation," which is the way the ingredients of a formula are made into the final form in which they are ingested by the patient or applied to the body.

In the past, many Chinese pharmacists did their own processing. Nowadays, it tends to be done industrially, and most practitioners lack a detailed understanding of the subject. Nevertheless, practitioners need to understand that different processed forms available are used for different therapeutic purposes. For example, *gān cǎo* (Glycyrrhizae Radix), i.e., raw, unprocessed licorice, is used to clear heat, while honey-fried *gān cǎo* (Glycyrrhizae Radix) is used to boost qì. In the interests of providing safe treatments, it is important for practitioners to be aware of the processed forms of toxic medicinals since the processed forms are usually less toxic.

3.1 Aims of Processing

Elimination or reduction of toxicity, harsh effects, and side effects. For example, *chuān wū* (Aconiti Radix) and *cǎo wū* (Aconiti Kusnezoffii Radix) can cause poisoning, and should only be used when appropriately processed. *Bā dòu* (Crotonis Fructus) causes diarrhea, and is often used after the oil is removed or after the fruit is made into preparation known as a "frost.'' *Cháng shān* (Dichroae Radix) is stir-fried with wine (yellow rice wine, as used in cooking) in order to reduce its emetic effect.

A Note on Terms: We usually translate the Chinese term 药 as "medicinal," and sometimes as "agent" simply for variation. Although the term "herb" is widely used amongst English speakers, it is strictly incorrect as a generic terms for the medicinal substances used in Chinese medicine, since it comes from the Latin *herba*, meaning grass, and therefore should not be applied to animal or mineral products such as *shí gāo* (Gypsum) or *lù róng* (Cervi Cornu Pantotrichum). In theory, the term "drug" is acceptable, because it is related to the word "dry" and originally meant dried medicinal herbs. However, it has been appropriated by biomedicine to denote its mostly synthetic curative products.

Alteration of properties to suit different therapeutic needs. For example, *dà huáng* (Rhei Radix et Rhizoma) cools the blood when used raw, but when cooked, it becomes slightly warmer and has a blood-quickening effect. When *shēng jiāng* (Zingiberis Rhizoma Recens) is roasted, it is less dispersing in action and has a stronger center-warming effect. *Hé shǒu wū* (Polygoni Multiflori Radix), when used raw, has a precipitating action, but after processing it loses this action and acquires the ability to supplement the liver and kidney.

Facilitating preparation and storage. Many vegetable products, such as stems, leaves, and roots, must be properly sized before they can be used. These sized forms are called "decocting pieces'' (饮片 *yǐn piàn*). Similarly, minerals, shells, and certain seeds must be crushed so they can be made into suitable prepared forms in which active ingredients are soluble. Some items need to be stir-fried or baked to remove water content to prevent them from rotting or becoming poisonous.

Removal of unwanted matter to increase purity, accuracy of measurement, and ease of ingestion. For example, vegetable products are washed to remove soil. *Pí pá yè* (Eriobotryae Folium) is brushed to remove the hairs. *Yuǎn zhì* (Polygalae Radix) usually has its woody core removed. *Chán tuì* (Cicadae Periostracum) sometimes has the legs removed. *Hǎi zǎo* (Sargassum) is long-rinsed (placed in a constant stream of water) to remove its saltiness and fishy odor.

3.2 Methods of Processing

Traditional literature discusses methods of processing under the headings of sizing, water processing, fire processing, and fire and water processing. Sizing includes eliminating foreign matter and unwanted parts as well as methods to reduce the material to particles and parts of appropriate size. Many items require treatment with fire and/or water.

3.2.1 Sizing

Sizing means removing unwanted parts and reducing materials to the right size for use.

Removing unwanted matter. Processes such as winnowing (separating and blowing of chaff), sifting, scraping, and brushing are commonly used to remove unwanted matter. For example, *hé huān huā* (Albiziae Flos) has to have the twigs and leaves picked off. *Pí pá yè* (Eriobotryae Folium) and *shí wéi* (Pyrrosiae Folium) must have the hairs removed. *Hòu pò* (Magnoliae Officinalis Cortex) and *ròu guì* (Cinnamomi Cortex) must have the rough bark shaved off.

Reduction. Crushing, flaking, grating, and grinding are used to reduce items to small pieces. For example, *mǔ lì* (Ostreae Concha) and *lóng gǔ* (Mastodi Ossis Fossilia) are crushed to facilitate decoction. *Chuān bèi mǔ* (Fritillariae Cirrhosae Bulbus) is crushed to a powder so that it can be swallowed. *Shuǐ niú jiǎo* (Bubali Cornu) and *líng yáng jiǎo* (Saigae Tataricae Cornu) are cut into thin flakes or grated before they can be used in preparations or taken directly. Numerous medicinals are finely ground to make powder preparations or pills.

Cutting. Many materials have to be cut into pieces to make their active constituents soluble, to facilitate further processing, or simply to facilitate drying before they can be stored. Particular items are often cut in conventional shapes, but a number of medicinals appear in more than one common cutting style in the marketplace.

3.2.2 Water Processing

Moistening. Moistening with water or other liquids has the aim of increasing the water content of medicinals to soften them and facilitate cutting. There are many distinct types of moistening, such as sprinkling with water,

washing in water, soaking, and covered moistening. *Jīng jiè* (Schizonepetae Herba) is moistened by sprinkling it with water ("sprinkle-moistening"). *Bīng láng* (Arecae Semen) is moistened by soaking it in water ("soak-moistening").

Long-rinsing. This is a process whereby materials are placed in a constant stream of water, i.e., they are soaked in water that is constantly being changed. The aim is to reduce fishy smells, salt content, and toxic substances. *Kūn bù* (Laminariae/Eckloniae Thallus) and *hǎi zǎo* (Sargassum) are long-rinsed to remove salt. *Zǐ hé chē* (Hominis Placenta) is long-rinsed to remove its fishy smell.

Water-grinding. Water-grinding means grinding things such as minerals in water to produce an extremely fine powder, which is needed for topical applications in sensitive areas such as the eyes. When things are ground in water, the smallest particles are held in suspension at least temporarily in the water. When the particles are allowed to settle and the water is drained and dried off, the result is a very fine powder. *Zhū shā* (Cinnabaris), *lú gān shí* (Calamina), and *xióng huáng* (Realgar) are often treated in this way.

3.2.3 Fire Processing

Stir-frying. Stir-frying is tossing materials in a heated wok. It is important to know that stir-frying in medicinal processing, unless expressly specified, uses no oil. There are different degrees of stir-frying: stir-frying until yellow, scorch-frying, and char-frying. Note that some pharmacies now use small toaster ovens instead of the more traditional stir-frying technique.

Stir-frying until yellow is stir-frying until the surface of the materials turns slightly yellow or gives off an aroma.

Stir-frying medicinals with beans, bran, or rice can reduce their tendency to cause irritation and enhance their effectiveness. For example, this technique is used in bean-fried *bái zhú* (Atractylodis Macrocephalae Rhizoma), bran-fried *zhǐ ké* (*qiào*) (Aurantii Fructus), and rice-fried *bān máo* (Mylabris).

Stir-frying in sand, in *huá shí* (Talcum), or in clamshell power (*hǎi gé fén*, Meretricis seu Cyclinae Concha Pulverata) insures that materials are heated evenly and become brittle. This process ensures that their active ingredients are brought out in decoction or makes them easier to take. Examples are sand-fried *chuān shān jiǎ* (Manis Squama) and *ē jiāo* (Asini Corii Colla) fried with clamshell powder.

Scorch-frying. This means applying a strong heat to make materials brown on the outside and yellowish on the inside. *Niú bàng zǐ* (Arctii Fructus) and *zǐ sū zǐ* (Perillae Fructus) are stir-fried in this way; this makes their active ingredients more readily soluble in decoction. *Shān zhā* (Crataegi Fructus) is scorch-fried to enhance its food-dispersing effect, while *mài yá* (Hordei Fructus Germinatus) is scorch-fried to reduce its food-dispersing effect and enhance its spleen-fortifying effect. These processes also make materials easier to crush or grind.

Char-frying. This is a method of stir-frying until the outer surface of the materials is black and charred and the inside is browned. The materials are doused with water after heating in order to prevent further burning. This process is also referred to as "nature-preservative burning." It is seen in medicinals such as *ài yè* (Artemisiae Argyi Folium), *dì yú* (Sanguisorbae Radix), and *pào jiāng* (Zingiberis Rhizoma Praeparatum). Char-frying moderates the harshness of medicinals, reduces side effects, or increases their astringent or blood-stanching action.

Mix-frying. Mix-frying is stir-frying medicinals with a liquid adjuvant that soaks into them, to either increase their effectiveness or to reduce their side effects. Adjuvant agents include honey, rice wine (also called yellow wine), vinegar, ginger juice, and brine.

Gān cǎo (Glycyrrhizae Radix) and *huáng qí* (Astragali Radix) are mix-fried with honey to increase their center-supplementing qì-boosting effect. *Xiāng fù* (Cyperi Rhizoma) is mix-fried with vinegar to increase its ability to course the liver and relieve pain. *Bǎi bù* (Stemonae Radix) and *kuǎn dōng huā* (Farfarae Flos) are mix-fried with honey to increase their effect of moistening the lung and relieving cough. *Chuān xiōng* (Chuanxiong Rhizoma) mix-fried with wine increases its blood-quick-ening effect. *Dù zhòng* (Eucommiae Cortex) mix-fried with brine increases its ability to supplement the kidney. As previously mentioned, *cháng shān* (Dichroae Radix) is mix-fried with wine to decrease its emetic effect.

Calcination. Calcination is heating materials until they become red-hot to make them brittle and to help them fully exert their effects.

Hard minerals and shells, such as *hăi gé ké* (*qiào*) (clamshell, Meretricis seu Cyclinae Concha), are usually subjected to direct calcination, whereby the materials are in direct contact with the flame and are heated until they become completely red hot. Animal and vegetable products, such as *xuè yú* (Crinis) and *zōng lǘ* (Trachycarpi Stipulae Fibra), are subjected to indirect calcination whereby they are heated in a wok that becomes red hot at the bottom.

Roasting. Roasting is a process whereby medicinals wrapped in a protective coating of wet flour or paper are heated in embers until the coating is charred. It reduces harshness and side effects such as irritation by partially removing volatile oils. Examples are roasted *shēng jiāng* (Zingiberis Rhizoma Recens), roasted *gān suì* (Kansui Radix), and roasted *ròu dòu kòu* (Myristicae Semen).

3.2.4 Fire and Water Processing

Fire and water processing is the simultaneous use of water and heat and includes boiling, quick-boiling, steaming, and quenching.

Boiling. Boiling is the heating of materials in water or other liquid until reaching the boiling point. For example, *yuán huā* (Genkwa Flos) is boiled in vinegar to reduce its toxicity. *Huáng qín* (Scutellariae Radix) is boiled in wine to increase its ability to clear lung heat.

Quick-boiling. Quick-boiling is placing materials in boiling water for a short period of time. *Xìng rén* (Armeniacae Semen) and *táo rén* (Persicae Semen) are quick-boiled to facilitate removal of the seed-coat. *Mǎ chǐ xiàn* (Portulacae Herba) and *tiān dōng* (Asparagi Radix) are quick-boiled to facilitate sun-drying and storage.

Steaming. Steaming means placing materials over boiling water. Sometimes adjuvants are used. For example, soaking *dà huáng* (Rhei Radix et Rhizoma) in wine and steaming it reduces its precipitant effect. Some items are repeatedly steamed and sun-dried to obtain the desired therapeutic effects. For example, *hé shǒu wū* (Polygoni Multiflori Radix) is repeatedly steamed and dried to eliminate its precipitant effect and give it the properties of supplementing the liver and kidney and boosting essence and blood.

Quenching. Quenching, also called calcination and quenching, is a process whereby materials, having been heated until they are red-hot, are subsequently dipped into cold water or another liquid to cool them rapidly. The aim is to make them brittle to facilitate crushing.

The addition of adjuvants can also alter the therapeutic effects. For example *zì rán tóng* (Pyritum) and *biē jiǎ* (Trionycis Carapax) are vinegar-quenched. *Lú gān shí* (Calamina) is quenched in a decoction of *huáng lián* (Coptidis Rhizoma) to give it a heat-clearing effect.

3.2.5 Other Methods of Processing

The above description of processing methods is by no means complete. Other methods include sprouting, fermentation, and "frosting." Some items, such as *fǎ bàn xià* (Pinelliae Rhizoma Praeparatum), require complex processes.

Fermentation is used to make *shén qū* (Massa Medicata Fermentata) and *dàn dòu chǐ* (Sojae Semen Praeparatum).

Sprouting is used to make *gǔ yá* (Setariae Fructus Germinatus) and *dào yá* (Oryzae Fructus Germinatus).

Frosting is the production of a fine crisp powder by methods other than simple grinding. The following methods exist:

One method is the defatting and grinding of seeds. The seeds are first sun-dried or stir-fried, the husks are removed, and the kernels are pounded to an almost paste-like consistency. The materials are sandwiched between layers of paper, and then sun-dried, baked, or pressed, so that the paper absorbs the oil. The paper is repeatedly changed until the materials are light, loose. and no longer sticking together. An example of a medicinal processed in this way is *bā dòu shuāng* (croton frost, Crotonis Seminis Pulvis).

Another method, used to prepare certain gourds, is efflorescence. For example, *xī guā* (watermelon, Citrulli Fructus) is frosted by gouging out a small lump to form a hole in which a small amount of *máng xiāo* (Mirabilitum) is placed. The lump is then replaced, and the watermelon is hung up to air. The *máng xiāo* exudes and effloresces, so that a fine, white frost forms on the surface of the watermelon, which when brushed off is ready to use.

The production of *shì shuāng* (persimmon frost, Kaki Saccharum) represents a third method of frosting. *Shì bǐng* (dried persimmon, Kaki Fructus Exsiccatus) is exposed to the sun in the day and to the dew at night and

then is covered to allow the skin to saccharify and form a frost.

Mastery of Chinese materia medica: Mastery of the content of Chinese medicine requires considerable memorization. In particular, for each monograph in the main chapters, students have to memorize the nature and flavor, bearing, channel entry, toxicity, actions and indications, as well as the dosage and method of use of each medicinal. Nature and flavor, bearing, and actions are closely interrelated. Understanding these relationships can reduce the burden of memorization considerably. When one has mastered simple general trends, such as the fact that most exterior-resolving medicinals, wind-damp–dispelling medicinals, interior-warming medicinals, qì-rectifying medicinals, blood-quickening medicinals, and orifice-opening medicinals are acrid/ aromatic, and that most aromatic agents are warm, one can emphasize exceptions. In examinations, this helps to replace blind guesswork with intelligent estimation.

4. Properties

The effects of medicinals on the body are understood within a general framework of properties:

1. Qì and flavor
2. Bearing
3. Channel entry
4. Toxicity

It is important for practitioners to understand the properties of medicinals, because these are closely related to their actions.

4.1 Qì and Flavor

Nature (the degree to which a medicinal is hot or cold) and flavor are especially important in understanding the actions of medicinals.

4.1.1 Four Qì

The four qì, also called the four natures, are cold, hot, warm, and cool. The terms "warm" and "cool" are similar to "hot" and "cold," but they denote lesser intensity. Of these four designations, "cold" and "warm" are the most common. Few medicinals are marked as "hot" or "cool." Medicinals that are only mildly cold are numerous, but in practice they are far more commonly described as being "slightly cold" rather than "cool." Some medicinals are described as being slightly warm, implying that they are less warm than most warm medicinals.

The four qì are not directly perceptible; they can only be perceived through the warming or cooling effects they produce in the body. Medicinals possessing a cold or cool nature generally treat heat patterns; medicinals that have a hot or warm nature generally treat cold patterns. For example, *huáng qín* (Scutellariae Radix) and *bǎn lán gēn* (Isatidis Radix) are heat-clearing toxin-resolving agents that treat heat patterns such as those characterized by heat effusion, thirst, and sore throat. They are therefore deemed cold in nature. By contrast, *fù zǐ* (Aconiti Radix Lateralis Praeparata) and *gān jiāng* (Zingiberis Rhizoma) are center-warming cold-dispersing medicinals that treat cold patterns such as those characterized by cold pain in the abdomen and a forceless sunken pulse. They are hot in nature.

Medicinals that are neither cold-cool nor hot-warm are said to be "balanced" in nature. These are generally suitable for both heat and cold patterns.

4.1.2 Five Flavors

The five flavors are acrid, sweet, sour, bitter, and salty. There are actually more than five, since bland and astringent flavors exist as well. Because the bland and astringent flavors were added later in history, many bland or astringent medicinals are not explicitly labeled as such in their main heading of nature and flavor. Acridity and sweetness (and also blandness) are yáng, while sourness, bitterness, and saltiness are yīn. Often, the flavors ascribed to a given medicinal have more to do with its actions than its actual taste.

Some medicinals are ascribed only one flavor, such as *shǐ jūn zǐ* (Quisqualis Fructus), which is sweet. Many medicinals have more than one flavor. For example, *shēng dì huáng* (Rehmanniae Radix) is bitter and sweet.

Some degree of relationship between nature and flavor is observed. Many acrid medicinals are warm, while many bitter medicinals are cold.

Acridity

Acridity is a sharp, pungent quality. It is the most yáng of the five flavors. It causes movement, especially upward and outward movement. Acrid medicinals have a dispersing action and hence are often described as "acrid and dispersing" or "acrid-dispersing." It is significant that acridity is the prominent flavor of medicinals in six of the 20 categories:

- Exterior-resolving medicinals (Ch 1): e.g., *má huáng* (Ephedrae Herba) and *bò hé* (Menthae Herba).
- Aromatic dampness-transforming medicinals (Ch 5): e.g., *cāng zhú* (Atractylodis Rhizoma) and *hòu pò* (Magnoliae Officinalis Cortex).
- Interior-warming medicinals (Ch 7): e.g., *fù zǐ* (Aconiti Radix Lateralis Praeparata) and *gān jiāng* (Zingiberis Rhizoma).
- Qì-rectifying medicinals (Ch 8): e.g., *chén pí* (Citri Reticulatae Pericarpium) and *mù xiāng* (Aucklandiae Radix).
- Blood-quickening medicinals (Ch 12): e.g., *chuān xiōng* (Chuanxiong Rhizoma), *hóng huā* (Carthami Flos Sichuanensis), and *é zhú* (Curcumae Rhizoma).
- Orifice-opening medicinals (Ch 16): e.g., *shè xiāng* (Moschus) and *bīng piàn* (Borneolum).

Furthermore, many wind-damp–dispelling medicinals (Ch 4) are acrid. Some heat-clearing medicinals (Ch 2) and some phlegm-transforming cough-relieving, panting-calming medicinals (Ch 16) are acrid. Aromatic medicinals are largely acrid in flavor. However, aroma is a smell, not a taste, so it is usually excluded from discussion of flavor.

Aromatic medicinals are often described as "mobile and penetrating" (走窜 *zǒu cuàn*). Furthermore, aroma is associated with certain actions. Aromatic medicinals repel foulness and prevent epidemics. They can resolve the exterior and disperse evils. They can stimulate the appetite, and can also open the orifices and arouse the spirit. Aromatic medicinals tend to move qì and quicken the blood. Dampness-transforming medicinals are predominantly aromatic as well.

Sweetness

Sweetness has the effects of supplementing, relaxing tension, and harmonizing the center. Most supplementing medicinals (Ch 17) are sweet in flavor. *Dǎng shēn* (Codonopsis Radix) and *shú dì huáng* (Rehmanniae Radix Praeparata) are examples. Medicinals that relax tension and relieve pain or that harmonize the nature of medicinals in a formula are often sweet in flavor, e.g., *yí táng* (Maltosum) and *gān cǎo* (Glycyrrhizae Radix). Food-dispersing medicinals (Ch 9) are generally sweet (although not all of them are said to harmonize the center). In addition, many heat-clearing medicinals are sweet (in the first subcategory, heat-clearing fire-draining medicinals, most are sweet).

The chapters in which sweetness figures prominently are:

- Supplementing medicinals (Ch 17): e.g., *gān cǎo* (Glycyrrhizae Radix) *and huáng qí* (Astragali Radix).
- Food-dispersing medicinals (Ch 9): e.g., *shān zhā* (Crataegi Fructus) and *jī nèi jīn* (Galli Gigeriae Endothelium Corneum).
- Spirit-quieting medicinals (Ch 14): e.g., *zhū shā* (Cinnabaris) and *suān zǎo rén* (Ziziphi Spinosi Semen).
- Heat-clearing fire-draining medicinals (Ch 2): e.g., *shí gāo* (Gypsum Fibrosum), *zhī mǔ* (Anemarrhenae Rhizoma), and *tiān huā fěn* (Trichosanthis Radix).

Sourness

Sourness promotes contraction and astriction. Sour agents are used to treat vacuity sweating, diarrhea, and seminal efflux (loss of semen in the daytime). For example, *shān zhū yú* (Corni Fructus) and *wǔ wèi zǐ* (Schisandrae Fructus) astringe essence and constrain sweating, while *wǔ bèi zǐ* (Galla Chinensis Galla) astringes the intestines and checks diarrhea.

Medicinals with an astringent flavor have similar actions to those with a sour flavor (see also **Astringency** further ahead). They are mostly used to treat vacuity sweating, diarrhea, frequent urination, and bleeding, as well as seminal emission and especially seminal efflux (two traditional categories of abnormal discharge of semen). For example, *lóng gǔ* (Mastodi Ossis Fossilia) and *mǔ lì* (Ostreae Concha) astringe essence, that is,

they treat seminal efflux. *Chì shí zhī* (Halloysitum Rubrum) astringes the intestines and checks diarrhea.

Sour/astringent medicinals mainly appear in the following categories:

- Blood-stanching medicinals (Ch 11): e.g, *dì yú* (Sanguisorbae Radix), *cè bǎi yè* (Platycladi Cacumen), *bái jí* (Bletillae Rhizoma), *xiān hè cǎo* (Agrimoniae Herba), and *pào jiāng* (Zingiberis Rhizoma Praeparatum).
- Astringent medicinals (Ch 18): e.g., *wǔ wèi zǐ* (Schisandrae Fructus), *wǔ bèi zǐ* (Galla Chinensis Galla), *shí liú pí* (Granati Pericarpium), *chì shí zhī* (Halloysitum Rubrum), *shān zhū yú* (Corni Fructus), *fù pén zǐ* (Rubi Fructus), and *hǎi piāo xiāo* (Sepiae Endoconcha).

Bitterness

Bitterness has discharging, drying, and yīn-consolidating actions.

Discharging (泄 *xiè*): This means freeing and draining. It includes three distinct actions:

Freeing discharge: the stool-freeing action, as of *dà huáng* (Rhei Radix et Rhizoma), used to treat heat bind constipation.

Downbearing discharge: the action of downbearing counterflow and calming panting, as of *xìng rén* (Armeniacae Semen), used to treat panting and cough due to counterflow ascent of lung qì, or the action of downbearing counterflow and checking vomiting, as of *bàn xià* (Pinelliae Rhizoma) and *chén pí* (Citri Reticulatae Pericarpium), used to treat counterflow ascent of stomach qì with vomiting.

Clearing discharge: the heat-clearing fire-draining action, as of *zhī zǐ* (Gardeniae Fructus), used to treat heart vexation due to exuberant heat.

Drying (燥 *zào*): The drying action of bitterness is used to treat dampness. A distinction is made between cold-damp and damp-heat.

- Cold-damp is treated by warm-natured bitter medicinals such as *cāng zhú* (Atractylodis Rhizoma).
- Damp-heat is treated by cold-natured bitter agents such as *huáng lián* (Coptidis Rhizoma).

Consolidating yīn (坚阴 *jiān yīn*): For example, *huáng bǎi* (Phellodendri Cortex) and *zhī mǔ* (Anemarrhenae Rhizoma) are used to treat wilting patterns (*wěi zhèng*) due to depletion of kidney yīn and hyperactivity of the ministerial fire. This is called "draining fire and preserving yīn."

Bitter medicinals are predominant in the following categories:

- Heat-clearing medicinals (Ch 2), especially the medicinals of the subcategory heat-clearing dampness-drying, which are all bitter.
- Draining-precipitant medicinals (Ch 3).
- Ejection medicinals (Ch 19).

Bitter medicinals also appear in the following categories:

- Wind-damp–dispelling medicinals (Ch 4).
- Water-disinhibiting dampness-percolating medicinals (Ch 6).
- Phlegm-transforming cough-relieving panting-calming medicinals (Ch 13).
- Liver-calming wind-extinguishing medicinals (Ch 15).
- Supplementing medicinals (Ch 17).

Saltiness

Saltiness has the effect of softening hardness and dispersing binds; it also has a draining-precipitant action. Saltiness enters the kidney and penetrates the blood.

Animal products, which are largely more powerful than herbal products, are often salty. Many minerals are salty as well. Saltiness exhibits the following properties:

Softening hardness and dispersing binds: e.g., *hǎi zǎo* (Sargassum), *kūn bù* (Laminariae/Eckloniae Thallus), *hǎi gé ké* (*qiào*) (Meretricis seu Cyclinae Concha), and *wǎ léng zǐ* (Arcae Concha).

Draining-precipitation: e.g., *máng xiāo* (Natrii Sulfas) is used to free the stool.

Saltiness enters the kidney: In the five phases, saltiness is associated with the kidney. Several salty medicinals including *zǐ hé chē* (Hominis Placenta), *gé jiè* (Gecko), *guī bǎn* (Testudinis Plastrum), and *biē jiǎ* (Trionycis Carapax) have a kidney-supplementing action. Also, stir-frying in brine conducts certain medicinals into the kidney, such as *zhī mǔ* (Anemarrhenae Rhizoma), *dù zhòng* (Eucommiae Cortex), *huáng bǎi* (Phellodendri Cortex), and *bā jǐ tiān* (Morindae Officinalis Radix).

Saltiness penetrates the blood: The kidney governs water; saltiness enters the kidney; the heart belongs to fire and governs the blood. "Saltiness penetrates the blood" refers to water overcoming fire. *Dà qīng yè* (Isatidis Folium), *xuán shēn* (Scrophulariae Radix), *qīng dài* (Indigo Naturalis), and *bái wēi* (Cynanchi Atrati Radix) are salty and enter the blood aspect. They clear heat, cool the blood, and resolve toxin.

Salty medicinals mainly appear in these chapters:

- Heat-clearing medicinals blood-cooling medicinals (Ch. 2): e.g., *shuǐ niú jiǎo* (Bubali Cornu), *xuán shēn* (Scrophulariae Radix), *dà qīng yè* (Isatidis Folium), *qīng dài* (Indigo Naturalis), and *bái wēi* (Cynanchi Atrati Radix).
- Phlegm-transforming cough-relieving panting-calming medicinals (Ch 13): e.g., *hǎi zǎo* (Sargassum), *kūn bù* (Laminariae/Eckloniae Thallus), *hǎi gé qiào* (*ké*) (Meretricis seu Cyclinae Concha), and *hǎi fú shí* (Costaziae Os/Pumex).
- Supplementing medicinals (Ch 17): e.g., *zǐ hé chē* (Hominis Placenta), *gé jiè* (Gecko), *guī bǎn* (Testudinis Plastrum), and *biē jiǎ* (Trionycis Carapax).

Blandness

Blandness is used to percolate dampness. It has a urine-disinhibiting action. It is used to treat water swelling and inhibited urination. Examples of bland agents are *zhū líng* (Polyporus) and *fú líng* (Poria).

Astringency

Astringency is a quality that puckers the tongue and inside of the mouth. It is not strictly a flavor, but medicinals are sometimes ascribed an astringent "flavor" in the section on nature and flavor. Astringent medicinals promote contraction to check sweating, diarrhea, and the flow of urine, semen, and vaginal discharge. Some astringent medicinals stanch bleeding.

The nature and flavor of each medicinal have to be considered together. Medicinals of one nature may have different flavors; medicinals of one flavor may have different natures. These differences are related to differences in actions.

4.2 Bearing

Upbearing, downbearing, floating, and sinking are four directions of medicinal action that counteract opposite pathological tendencies. "Upbearing" and "downbearing" refer to upward and downward actions. Floating and sinking refer to outward and inward movements. "Floating" means effusing and dispersing, while "sinking" means discharging and disinhibiting.

Vomiting and panting and coughing are upward movements and are treated by downbearing agents. Diarrhea andflooding and spotting (heavy and light pathological bleeding via the vagina) are downward movements, and are treated by upbearing agents. Spontaneous sweating and night sweating are outward movements, and are treated by sinking medicinals. An exterior pattern failing to resolve with inward movement of the evil is an inward action, and can be treated by floating medicinals.

Upbearing and floating actions are similar and referred to collectively as "upfloating." Likewise, downbearing and sinking actions are referred to collectively as "downsinking." Upfloating agents include:

- Medicinals that effuse the exterior (Ch 1).
- Medicinals that dispel wind and disperse cold (Ch 4).
- Medicinals that open the orifices (Ch 16).
- Medicinals that induce vomiting (Ch 19).
- Downsinking medicinals that clear heat (Ch 2); drain and precipitate (Ch 3); disinhibit water and percolate dampness (Ch 6); rectify qì and downbear counterflow (Ch 8); disperse and abduct accumulation and stagnation (Ch 9); relieve cough and calm panting (Ch 13); quiet the spirit by heavy settling (Ch 14); calm the liver and extinguish wind (Ch 15); and promote contraction (Ch 18).

Not all medicinals have any marked bearing, e.g., blood-stanching and blood-quickening medicinals. Furthermore, some have opposite actions. For example, *má huáng* (Ephedrae Herba) not only promotes sweating (upfloating), but it also calms panting and disinhibits water (downsinking). *Chuān xiōng* (Chuanxiong Rhizoma) can ascend to the head and eyes; it can also descend to the sea of blood, i.e., the thoroughfare (*chōng*) vessel, which governs menstruation.

The bearing of a medicinal is related to its density and weight. In general, flowers, leaves, skins, and twigs are

light, and are upbearing and floating. *Zǐ sū yè* (Perillae Folium), *jú huā* (Chrysanthemi Flos), and *chán tuì* (Cicadae Periostracum) are examples. Seeds, fruits, minerals, and shells tend to be heavy, and are therefore downbearing and sinking. *Zǐ sū zǐ* (Perillae Fructus), *zhǐ shí* (Aurantii Fructus Immaturus), *mǔ lì* (Ostreae Concha), and *zhě shí* (Haematitum) are examples.

The bearing of a medicinal is also related to its nature and flavor. Upfloating medicinals are usually acrid or sweet in flavor and warm or hot in nature. Downsinking medicinals are usually sour, bitter, salty, or astringent in flavor and cold or cool in nature.

The bearing of a medicinal can also be altered by processing. For example, stir-frying with wine makes an agent bear upward, stir-frying with ginger juice makes it disperse, stir-frying with vinegar makes it promote contraction, while stir-frying with brine (salted water) makes it bear downward.

In complex formulas, the bearing of individual ingredients can be counteracted by agents of opposite bearing. When large amounts of downbearing agents are combined with upbearing agents, the upbearing action is reduced, and vice-versa.

4.3 Channel Entry

The channel entry of a given medicinal refers to its action on a particular channel and its related bowel or viscus. Chinese acupuncture texts rarely refer to the channels by the name of their associated bowel or viscus (heart channel, lung channel, etc.); rather, most Chinese texts refer to the channels as hand lesser yīn (*shào yīn*) channel, hand greater yīn (*tài yīn*) channel, etc. However, channel entry in herbal medicine is always expressed as "enters the heart channel," "enters the lung channel," etc., not as "enters the hand lesser yīn (*shào yīn*) channel," "enters the hand greater yīn (*tài yīn*) channel." This usage emphasizes the fact that a given agent acts on both a particular channel and on its associated bowel or viscus.

Cold medicinals, for example, clear heat. A cold medicinal said to enter the lung channel usually clears lung heat. One that is said to enter the liver channel clears liver heat. Similarly, supplementing agents often enter the lung, spleen, heart, liver, or kidney. This means that they have a supplementing action on that viscus. Agents that enter the lung channel often treat panting and cough. Agents that enter the liver channel often treat rib-side pain, irascibility, or convulsions. Agents that enter the heart channel usually treat clouded spirit or heart palpitations. For example, *jié gěng* (Platycodonis Radix) and *xìng rén* (Armeniacae Semen) treat oppression in the chest and panting and cough, so they are said to enter the lung channel. *Quán xiē* (Scorpio) treats convulsions, and hence is said to enter the liver channel. *Zhū shā* (Cinnabaris) quiets the spirit, and so is said to enter the heart channel.

It is important to understand that agents cannot be used on the basis of their channel entry alone. Their nature and flavor also have to be taken into account. For example, in disease of the lung with cough, lung-entering agents such as *huáng qín* (Scutellariae Radix), *gān jiāng* (Zingiberis Rhizoma), *bǎi hé* (Lilii Bulbus), and *tíng lì zǐ* (Lepidii/Descurainiae Semen) should not be used indiscriminately. *Huáng qín* (Scutellariae Radix) clears lung heat, *gān jiāng* (Zingiberis Rhizoma) warms lung cold, *bǎi hé* (Lilii Bulbus) supplements lung vacuity, while *tíng lì zǐ* (Lepidii/Descurainiae Semen) drains lung repletion.

Furthermore, a medicinal's channel entry is a matter of much dispute. Even in the modern materia medica literature, there is considerable variation as to the channel entry of medicinals. The channel entry of a medicinal is based on the locus of the conditions it treats in terms of the channel-organ systems. Unfortunately, the locus is not always agreed on.

In this book, we have tried to preserve the channel entries that represent a common consensus among source texts. Variation on channel entry can be found on a large percentage of medicinals if one reads widely in the materia medica literature. Similar variation exists for nature and flavor, but it is less pronounced than the variation seen with channel entry.

4.4 Toxicity

In ancient texts, "toxic medicinals" denoted materials that had curative properties in general and biases in terms of nature and flavor, in contradistinction to nontoxic ones, which were considered to have life-extending properties. Every medicinal has a particular nature and can have unwanted side effects, especially when used incorrectly. However, over the centuries the

term toxicity came to denote marked side effects, and terms such as "great toxicity" and "minor toxicity" came to be used as warnings for regularly occurring side effects associated with particular agents.

5. Actions and Indications

Review of Relationships: Along with the actions and indications for Chinese medicinals, we have included information about nature, flavor, and bearing. In this way, you can review the important relationships between properties and actions.

The actions of medicinals are mostly expressed in terms of their capacity to dispel evils (e.g., clear heat, dispel wind-damp, transform dampness, dispel water, disperse food, expel worms, transform phlegm, extinguish wind), to restore or enhance functions (precipitate, stanch bleeding, quicken the blood, quiet the spirit, open the orifices), and to replenish substances (supplement yīn and yáng, nourish blood, boost qì).

The simplest scheme of actions are the categories by which agents are classified and arranged in the materia medica literature. Medicinals of one category may have one of several actions pertaining to that category, as well as actions pertaining to other categories. For example, the first category of medicinals is that of exterior-resolving medicinals. This includes *gǎo běn* (Ligustici Rhizoma), which effuses the exterior and specifically disperses cold. It also dispels wind and overcomes dampness in the treatment of wind-damp impediment, an action it shares with the wind-damp–dispelling medicinals (Ch 4).

The actions described below each correspond to a chapter in this book. Note that most agents have more than one action and in some cases there is disagreement as to which is the chief action; hence they are categorized differently in different texts. For example, in this book and in many source texts, *zhēn zhū mǔ* (Concha Margaritifera) and *mǔ lì* (Ostreae Concha) are categorized as liver-calming wind-extinguishing medicinals. However, in some Chinese source texts, they are classified as spirit-quieting medicinals.

Resolving the exterior is the action of regulating sweating and dispersing evils in the treatment of exterior patterns in externally contracted disease. Most exterior-resolving medicinals are acrid and upfloating. A distinction between warm and cold medicinals is reflected in two subcategories:

- Resolving the exterior with warmth and acridity (addressing wind-cold exterior patterns).
- Resolving the exterior with coolness and acridity (addressing wind-heat exterior patterns).

Most enter the lung channel; many enter the bladder channel.

Clearing heat is the action of removing internal heat in the body in the treatment of interior heat patterns (exterior heat patterns are treated by resolving the exterior). Heat-clearing medicinals are subdivided according to the following actions:

- Clearing heat and draining fire (addressing repletion heat or fire).
- Clearing heat and drying dampness (addressing damp-heat).
- Clearing heat and cooling the blood (addressing blood heat).
- Clearing heat and resolving toxin (addressing conditions caused by heat toxin such as sores or dysentery).
- Clearing vacuity heat (addressing heat due to insufficiency of yīn).

Heat-clearing medicinals are generally cold, bitter, and downbearing. Ones that nourish yīn are sweet.

Draining-precipitation is the action of freeing the bowels. Precipitating medicinals are generally cold, bitter, and downbearing. Precipitation is commonly referred to in English as "purgation." The word precipitation, which literally means "causing to descend," is close to the Chinese medical conception of the action, which emphasizes downward movement. They are subdivided according to the following actions:

- Offensive precipitation (to free the stool, i.e., treat constipation, or to clear heat and drain fire).
- Moist precipitation (addressing constipation due to intestinal dryness).
- Expelling water (addressing severe fluid accumulations).

Draining-precipitant medicinals are cold in nature. Most are bitter in flavor, but some are sweet and some are acrid. Most enter the large intestine channel. They are downsinking.

Dispelling wind-damp is the action of dispelling wind, cold, and dampness from the channels and joints in the treatment of wind-damp impediment (*bì*) patterns. They are divided into three categories as follows:

- Dispelling wind-cold-damp (addressing wind-cold-damp impediment).
- Dispelling wind-damp-heat (addressing wind-damp-heat impediment).
- Dispelling wind-cold-damp and strengthening sinews and bones (addressing wind-cold-damp impediment with vacuity signs).

Wind-damp–dispelling medicinals are mostly warm, but ones that dispel wind-damp-heat tend to be cold. Most are acrid or bitter in flavor. Most enter the liver channel and many enter the kidney channel. The warm acrid ones are upbearing; the cold bitter ones are downsinking.

Transforming dampness with aroma is the action used to treat spleen encumbered by dampness, which is characterized by abdominal fullness, reduced food intake, thin sloppy stool, and slimy white tongue fur. Aromatic dampness-transforming medicinals are so called because the word transform (*huà* 化) is used to denote gradual destructive (or creative) change. However, aromatic dampness-transforming medicinals not only transform dampness, but also "arouse the spleen," helping it to overcome the dampness. Dampness-transforming medicinals are mostly warm and acrid. They include some bitter agents, such as *cāng zhú* (Atractylodis Rhizoma) and *hòu pò* (Magnoliae Officinalis Cortex), that have a more powerful dampness-drying action. Most dampness-transforming medicinals enter the spleen or stomach channel. There are no subcategories.

Disinhibiting water and percolating dampness is the action of freeing the waterways and discharging water dampness in the treatment of water and dampness (water-damp) collecting internally. Water-disinhibiting dampness-percolating medicinals are divided into three categories. All share the general action of promoting the downward flow of fluids. Each also has a specific action:

- Disinhibiting water and dispersing swelling (addressing water swelling).
- Disinhibiting urine and freeing strangury (addressing strangury (*lín*) patterns, which are characterized by painful dribbling urination).
- Dampness-disinhibiting jaundice-abating medicinals, which treat jaundice.

Water-disinhibiting dampness-percolating medicinals are predominately cool-cold in nature and bland, sweet, or bitter in flavor. Most enter the kidney channel. They are generally downsinking.

Warming the interior is the action of dispelling cold from the interior. Interior-warming medicinals treat interior cold patterns. They are mostly warm or hot in nature and acrid in flavor. Most enter the spleen and stomach channels. There are no subcategories.

Rectifying qì is the action of treating qì stagnation or qì counterflow. Qì-rectifying medicinals are generally warm in nature and acrid in flavor. There are no subcategories.

Dispersing food is the action of treating stagnation and accumulation of food in the digestive tract. These medicinals are mostly balanced in nature and sweet in flavor. There are no subcategories.

Expelling worms is the action of causing worms in the digestive tract to be expelled through defecation. It is sometimes referred to as "killing worms," because many of the medicinals are said to kill worms. There are no subcategories.

Stanching bleeding is the action of stemming loss of blood, either internal or external. These medicinals are subdivided according to the following actions:

- Cooling the blood and stanching bleeding (addressing bleeding due to blood heat).
- Transforming stasis and stanching bleeding (addressing bleeding with blood stasis).
- Stanching bleeding with astringency (addressing bleeding unaccompanied by pronounced heat or vacuity cold signs).
- Warming the channels/menses and stanching bleeding (addressing vacuity cold patterns).

Blood-stanching medicinals are mostly cool-cold in nature, although some are warm or balanced.

Quickening the blood and transforming stasis is the action of treating blood stasis. Blood-quickening stasis-transforming medicinals are subdivided according to the following actions:

- Quickening the blood and relieving pain (addressing blood stasis manifesting in pain).
- Quickening the blood and regulating the menses (addressing blood stasis giving rise to menstrual irregularities).
- Quickening the blood and treating injuries (addressing injuries from knocks and falls).
- Quickening the blood and dispersing concretions (addressing abdominal masses due to blood stasis).

Blood-quickening stasis-transforming medicinals are either warm or cool-cold in nature. They are largely acrid in flavor, although some are bitter. Some are upfloating and some are downsinking.

Transforming phlegm, relieving cough, and calming panting are the actions used to treat phlegm patterns, cough, and panting. Phlegm can cause cough and panting, but it also causes a broad range of other disease patterns (such as wind strike, epilepsy, scrofula, and phlegm nodes). Because most phlegm-transforming medicinals can relieve cough and calm panting, and because most agents that relieve cough and calm panting also treat phlegm patterns, the two categories are combined into one.

Phlegm-transforming, cough-relieving, and panting-calming medicinals are either warm or cool in nature. Many are bitter or acrid in flavor. Some phlegm-transforming medicinals are upfloating. Cough-relieving panting-calming medicinals are generally downsinking.

Quieting the spirit is the action used to treat "disquieted heart spirit." They are divided into two categories according to the following actions:

- Quieting the spirit by heavy settling (i.e., using heavy shells and minerals).
- Nourishing the heart and quieting the spirit.

Spirit-quieting medicinals are mostly balanced in nature and sweet in flavor. The heavy settlers are downsinking.

Calming the liver and extinguishing wind is the action used to treat ascendant hyperactivity of liver yáng and tetany (severe spasm) due to liver wind stirring internally. Liver-calming wind-extinguishing medicinals are subdivided according to the following actions:

- Calming the liver and subduing yáng (addressing ascendant hyperactivity of liver yáng).
- Extinguishing wind and settling tetany (tetany due to liver wind stirring internally) .

Liver-calming wind-extinguishing medicinals are cold or balanced in nature and bitter or salty in flavor. They are generally downsinking.

Opening the orifices is the method used to treat clouded spirit (loss of consciousness) in repletion patterns. Note that they are not used in clouded spirit occurring in vacuity patterns. There are no subcategories. Orifice-opening medicinals are generally warm in nature, acrid/aromatic in flavor, and upbearing.

Supplementation is the method used to treat vacuity. There are four categories:

- Supplementing qì (addressing qì vacuity)
- Supplementing yáng (addressing yáng vacuity)
- Supplementing blood (addressing blood vacuity)
- Supplementing yīn (addressing yīn vacuity)

Supplementing medicinals vary in nature. Yáng-supplementing medicinals are mostly warm. Qì-supplementing medicinals are mostly warm or balanced. Many blood-supplementing medicinals are warm. Yīn-supplementing medicinals are mostly cool-cold. Supplementing medicinals in general are sweet in flavor. Some animal products are salty. Some qì-supplementing and many yīn-supplementing medicinals are also bitter.

Astriction, also called "securing and astriction," is a method used to stem loss of fluid in the treatment of sweating, chronic diarrhea, seminal emission, and severe vaginal discharge. Most are astringent. They are categorized as follows:

- Medicinals for checking sweating.
- Medicinals for checking diarrhea.
- Medicinals for securing essence, reducing urine, and checking vaginal discharge (addressing seminal emission, enuresis, and vaginal discharge).

Astringent medicinals are largely balanced or warm in nature, and sour/astringent in flavor.

Ejection: Ejection medicinals are those that cause vomiting, which is done to eject unwanted matter not only from the stomach, but also the throat and chest,

such as phlegm-turbidity in the chest and diaphragm. Ejection medicinals are varying in nature and bitter in flavor.

External use: Some medicinals are applied topically to treat various different sores. Sores are traditionally broken down into a variety of traditional categories, including: flat- and welling-abscesses, clove sores, damp sores, scab and lichen. Medicinals for external use have four actions: attacking toxin and dispersing swelling; killing worms and relieving itching; eliminating putridity and expelling pus; and engendering flesh and closing sores. They are divided into two categories according to the following actions:

- Attacking toxin, killing worms, and relieving itching.
- Eliminating putridity and expelling pus; engendering flesh and closing sores.

Medicinals for external use vary in nature and flavor.

Terms for Medicinal Actions

The actions of medicinals are mostly described in single or double verb-object phrases such as "checking diarrhea," "clearing heat and draining fire," or "calming the liver and subduing yáng."

Double phrases should always be interpreted as a whole because the two parts are usually closely interrelated. "Clearing the stomach and checking vomiting" means clearing stomach heat that causes counterflow ascent of qì. "Moistening the intestines and freeing the stool" means moistening the intestines to free the stool or freeing the stool by moistening the intestines. "Coursing the liver and resolving depression" means restoring the normal free-coursing action of liver qì to eliminate depression of liver qì that arises as a result of impaired free coursing.

Many of the double phrases are fixed terms that are used to describe the actions of more than one medicinal. Many medicinals, for example, are said to "quicken the blood and transform stasis," which means that they enhance the mobility of the blood in the treatment of blood stasis.

However, each medicinal has unique actions, and this is reflected in highly varied descriptions. For example, *kuǎn dōng huā* (Farfarae Flos) is described as "moistening the lung, transforming phlegm, and relieving cough," while *pí pá yè* (Eriobotryae Folium) is described as "clearing the lung, transforming phlegm, and relieving cough." The actions of the two medicinals are similar, but they differ in that one moistens the lung, while the other clears lung heat.

Some of the terms are very succinct. "Clearing the liver" means clearing liver heat, while "nourishing the heart" means nourishing the yīn-blood of the heart.

Different phrases at first glance seem to mean the same thing. For example, "transforming dampness/phlegm," "drying dampness," and "disinhibiting dampness." These all connote eliminating dampness, but they differ in that they usually imply differences in the location of the dampness: upper, center, and lower burners respectively. Terms of this nature are explained in the "Clinical Concepts" section at the head of each chapter.

6. Combining Medicinals

Some medicinals can be used singly to treat certain conditions. For example, *huáng qín* (Scutellariae Radix) can be used alone to treat lung heat with coughing of blood, while *rén shēn* (Ginseng Radix) can be used alone to treat vacuity desertion. Most conditions, however, are complex and can be effectively treated only by the combined use of multiple agents. For example, dual disease of exterior and interior, dual repletion and vacuity, and heat-cold complexes have to be treated with formulas that combine several or many medicinals in order to cover the full scope of the illness, increase efficacy, and reduce toxicity. When combining two or more medicinals, it is important to understand that their effects are not necessarily simply cumulative.

Below we discuss the "seven relationships" and the "four roles" (sovereign, minister, assistant, and courier).

6.1 The Seven Relationships

Agents interact with each other in different ways, either by strengthening or weakening each other's action or by exacerbating or lessening each other's toxicity or harshness.

The "seven relationships" (七情 *qī qíng*) are guidelines for ensuring the most effective and least injurious treatment.

***Acting singly* (单行 *dān xíng*):** Also called "going alone." The ability of an agent to be used for a specific purpose alone. For example, *huáng qín* (Scutellariae Radix) and *rén shēn* (Ginseng Radix) can act singly, as described above.

***Mutual need* (相须 *xiāng xū*):** Two medicinals' need of each other to produce maximum effect, also known as mutual strengthening. For example, *shí gāo* (Gypsum Fibrosum) and *zhī mǔ* (Anemarrhenae Rhizoma) combined have a more powerful heat-clearing fire-draining effect than when used singly. *Dà huáng* (Rhei Radix et Rhizoma) and *máng xiāo* (Natrii Sulfas) when combined have a far more powerful offensive precipitation effect than when used individually.

***Empowering* (相使 *xiāng shǐ*):** The ability of a secondary agent to enhance the action of a chief agent. For example, *fú líng* (Poria) disinhibits water and fortifies the spleen, and this action is often used to strengthen the qì-supplementing and water-disinhibiting action of *huáng qí* (Astragali Radix). *Dà huáng* (Rhei Radix et Rhizoma), which is an offensive precipitant heat-draining agent, is often used in relatively small quantities to enhance the ability of *huáng qín* (Scutellariae Radix) to clear heat and drain fire.

***Fearing* (相畏 *xiāng wèi*):** The reduction or elimination of an agent's toxicity or side effects by another agent. For example, the toxicity of *bàn xià* (Pinelliae Rhizoma) and raw *tiān nán xīng* (Arisaematis Rhizoma) is reduced or eliminated by *shēng jiāng* (Zingiberis Rhizoma Recens); hence they are said to fear *shēng jiāng* (Zingiberis Rhizoma Recens).

***Killing* (相杀 *xiāng shā*):** The ability of one agent to reduce or eliminate the toxicity or side effects of another. For example *shēng jiāng* (Zingiberis Rhizoma Recens) is said to kill *bàn xià* (Pinelliae Rhizoma) and raw *tiān nán xīng* (Arisaematis Rhizoma) because it reduces their toxicity; *shè xiāng* (Moschus) kills the toxin of *xìng rén* (Armeniacae Semen), *lǜ dòu* (Phaseoli Radiati Semen) kills the toxin of *bā dòu* (Crotonis Fructus), raw honey kills the toxin of *wū tóu* (Aconiti Radix). Killing and fearing are the same relationship described from different points of view.

***Aversion* (相恶 *xiāng wù*):** The weakening of one medicinal's action by another medicinal. For example, *rén shēn* (Ginseng Radix) is averse to *lái fú zǐ* (Raphani Semen) since its therapeutic effects are weakened by *lái fú zǐ*.

***Clashing* (相反 *xiāng fǎn*):** The creation of toxic reactions or side effects when two agents are used together. Clashing relationships are described under the eighteen clashes and nineteen fears in section 8 of this chapter.

6.2 Roles of Medicinals in a Formula: Sovereign, Minister, Assistant, and Courier

A formula is traditionally composed in such a way that the ingredients perform specific roles, which are expressed in metaphors of a political hierarchy: sovereign, minister, assistant, and courier. We often simply refer to these in English as the "four roles."

The four roles are discussed in detail in formula studies. What follows is a brief overview of them.

***Sovereign* (君 *jūn*):** The sovereign ingredient or ingredients are the chief ingredients. They address the main disease or pattern.

***Minister* (臣 *chén*):** The minister ingredient or ingredients perform two functions:

- Strengthen the action of the sovereign.
- Address main concurrent diseases or patterns.

***Assistant* (佐 *zuǒ*):** The assistants perform three functions:

- Strengthen the effect of the sovereign or minister, or address secondary diseases or patterns.
- Eliminate or lessen the toxicity of the sovereign or minister, or counteract the harshness of the sovereign or minister.
- Provide an action opposite to that of the sovereign in cases of severe illness in which the sovereign may be rejected. An agent performing this last function is called a "paradoxical assistant."

***Courier* (使 *shǐ*):** The courier ingredient or ingredients perform one of two roles:

- Act as a "conductor," directing the medicinal action of the formula to the locus of the disease;
- Harmonize the medicinals in a formula.

The formula *má huáng tāng* (Ephedra Decoction) provides a concise example of how medicinals are combined according to the four roles principle.

It treats exterior repletion patterns with aversion to cold, mild heat effusion, headache and generalized pain, absence of sweating, and panting, with a thin white tongue fur, and a pulse that is floating and tight. Such patterns arise when externally contracted wind-cold obstructs defense yáng and impairs the diffusion of lung qì.

Má huáng (Ephedrae Herba) is the sovereign. It is acrid and warm. It promotes sweating and resolves the exterior to disperse wind-cold. It also treats panting.

Guì zhī (Cinnamomi Ramulus) is the minister. It is acrid, sweet, and warm. It resolves the flesh and effuses the exterior, and thus helps *má huáng* to perform its action of promoting sweating and dispersing cold. In addition, it warms and frees the channels and relieves the headache and generalized pain.

Xìng rén (Armeniacae Semen) is the assistant: It is bitter and slightly warm. It downbears lung qì and helps *má huáng* (Ephedrae Herba) to calm panting.

Gān cǎo (Glycyrrhizae Radix) is the courier (as it is in many formulas). It is sweet and warm. It harmonizes all the medicinals in the formula.

7. Dosage and Method of Use

Dosage is how much medication should be taken. Method of use is what has to be done before the medicinals can be taken. The dosage for decoctions, the most common form, provides a recommended dose range per day. This is the amount typically used in each "pack" of medicine. In China, one pack corresponds to a single day's dosage; it is common for Western practitioners to use one pack over the course of two days, but it is important to note that this habit is not the norm in China (though mild or chronic cases are sometimes treated with less than one pack per day).

7.1 Dosage

Dosage is the amount of medicinal to be taken. Unless otherwise specified, this is expressed as the amount of the medicinal used to make a day's decocted medication for an adult. Apart from certain toxic or harsh agents and certain refined products, most Chinese medicinals have a daily adult dosage of 5–10 g. Some have large doses of 15–30 g.

The standard dose of a medicinal can be varied according to specific factors: the role of the medicinal in a formula; age and constitution; severity and duration of the condition; and the characteristics of the medicinal itself.

Role in formula: Generally speaking, nontoxic medicinals can be taken in larger quantities when used alone. The chief, or sovereign, medicinal can also be used in larger quantities.

Age and constitution: Harsh and drastic medicinals used to attack disease and dispel evils can damage right qì, and therefore are given in smaller quantities than normal to older patients with debilitation of qì and blood. Children under the age of five should be given a quarter of the standard adult dose. Children of five years or more should be given half the standard adult dose. Elderly and weak patients should be given supplementing medicinals in larger-than-standard doses, but the treatment should begin with small doses that are then gradually increased. Drastic supplementing agents such as *lù róng* (Cervi Cornu Pantotrichum) are unsuitable for use in large doses.

Severity and duration of the pathological condition: For severe acute conditions, large doses are required. For mild, shallow conditions, harsh medicinals that can damage right qì should be used in moderation.

The characteristics of the medicinal: Medicinals that are light in weight, such as leaves and flowers, tend to be used in light doses. Medicinals that are dense and heavy in weight can be used in slightly larger-than-normal doses. Agents with a strong nature and flavor or powerful action should be used in small doses, while medicinals with a weak nature and flavor or mild action can be used in larger quantities. Toxic and harsh agents should be used within their prescribed safety limits.

In mainland China, dosage is now mostly indicated in metric weights and measures. The traditional measurements such as *liǎng*, *qián*, *fēn*, and *lí* are now used only in Chinese pharmacies abroad, such as in Taiwan or the USA.

The conversion to metric weights varies. China (PRC) uses a rough conversion standard based on the equivalence of the traditional jīn to half a kilo (500 g). A closer equivalence is 1 jīn to 600 g, which is used in Taiwan, Hong Kong, and Korea, as well as in most overseas Chinese communities.

Traditional Unit	Close Metric Equivalent	PRC Equivalent
1 *jīn* (=16 *liǎng*)	600	500
1 *liǎng*	37.5 g	31.25 g
1 *qián*	3.75 g	3.125 g
1 *fēn*	0.375 g	0.3125 g
1 *lí*	0.0375 g	0.03125 g

7.2 Method of Use

Method of use is the method by which medicinals are taken or applied to the body. This often includes the final stage of preparation, such as boiling crude drugs to make a decoction. Since patients traditionally often do the final preparation for medicine and take it at home without direct practitioner supervision, it is important for practitioners to give their patients clear and precise instructions for the use of the medicinals prescribed.

7.2.1 Decoctions

For formulas that are decocted in water, attention has to be paid to the correct kind of utensil to use, the quality of water, quantity of water, the size of the flame, and the duration of heating.

Utensil: Use an earthenware, pyrex, or enamel pot. Do not use use pots made of iron (e.g., traditional wok) or aluminum. Stainless steel is generally regarded as being quite safe.

Water: Use clean tap water, filtered water, or bottled water.

Amount of water: Decoction usually involves boiling materials two or three times. For the first boiling, the materials are placed in the utensil and then enough water is poured over them so that they are fully immersed. This is usually about 500–600 ml. After the first decoction has been strained off, a second batch of water is added, but a lower amount is used the second time. The pot is then brought to a boil and is simmered a second time. The reason for the smaller quantity is that during the first decoction the materials absorb a large amount of water that they retain after the first decoction has been strained off.

Predecoction soaking: Ideally, materials should be soaked before decoction, though in practice few people heed this advice. Soaking helps the active constituents to dissolve in the water. It also reduces the cooking time and hence prevents destruction of active constituents that occurs as a result of boiling. Most items should be soaked for 20–30 minutes; seeds are soaked for an hour.

Size of flame and cooking time: The usual practice is to bring the pot to a boil over a "martial flame'' (high flame) for several minutes and then simmered over a "civil flame'' (low flame) for the rest of the decoction. The length of the decoction process depends on the nature of the materials.

=(pic of door gods, Mr. Civil and Mr. Martial and comment on the metaphor civil/martial symbols in Chinese society and their metaphorical use here)=

Exterior-resolving medicinals and aromatic medicinals are generally brought to a boil over a martial flame, then simmered over a civil flame for 10–15 minutes. They should not be boiled for too long, otherwise their aroma is lost and their medicinal strength is reduced.

Supplementing medicinals, which tend to be rich, should first be brought to a boil over a martial flame, and then simmered over a civil flame for 30–60 minutes.

Shells, fossils, and most minerals should be boiled for considerably longer than other medicinals. When used in formulas with other medicinals, as they usually are, they have to be predecocted (see ***Predecoction*** below).

Number of decocting times: Materials can be boiled three times. They should be boiled at least twice. This ensures maximum extraction of the active constituents. Immediately after each decoction, the decoction fluid should be strained off and reserved. As noted above, the

amount of water for each decoction after the first requires less water than the first.

Combining and dividing the decoctions: The product of each of the two or three decoctions are poured into one container and mixed. This is then usually divided into two or three parts to be taken over the space of a day. If the condition is severe and acute, the patient can be given medicine at four-hour intervals throughout the night and day, in order to maintain the strength of the medicinal action.

Predecoction: Some medicinals require a much longer decocting time than average. These include shells and minerals such as *cí shí* (Magnetitum) and *mǔ lì* (Ostreae Concha). They also include toxic medicinals such as *fù zǐ* (Aconiti Radix Lateralis Praeparata) and *chuān wū* (Aconiti Radix). The precipitant action of *dà huáng* (Rhei Radix et Rhizoma) is reduced by longer boiling, so it can be predecocted for a milder action.

Adding at the end: Some medicinals need a much shorter decocting time than others, so they are added when the other medicinals are almost completely decocted, and boiled for just a few minutes. Examples include *bò hé* (Menthae Herba), *qīng hāo* (Artemisiae Annuae Herba), *xiāng rú* (Moslae Herba), *jīng jiè* (Schizonepetae Herba), *shā rén* (Amomi Fructus), and *gōu téng* (Uncariae Ramulus cum Uncis). When *dà huáng* (Rhei Radix et Rhizoma) and *fān xiè yè* (Sennae Folium) are used to free the stool, they can be added at the end, or simply soaked in the ready-made deocoction.

Decocting in a cloth bag: Pollen, small seeds, and powdery materials should be put in a cloth bag to prevent them from floating to the surface. *Pú huáng* (Typhae Pollen), *tíng lì zǐ* (Lepidii/Descurainiae Semen), and *huá shí* (Talcum) are examples. Items like *chē qián zǐ* (Plantaginis Semen) are wrapped to prevent them from sticking to the pot and burning. *Xuán fù huā* (Inulae Flos) and *xīn yí* (Magnoliae Flos) are decocted in a cloth bag to prevent their hairs from being swallowed and irritating the throat.

Decocting separately: Expensive items such as *rén shēn* (Ginseng Radix) and *xī yáng shēn* (Panacis Quinquefolii Radix) can be decocted separately to prevent their active constituents from being absorbed by other materials.

Melting: Gelatinous products such as *ē jiāo* (Asini Corii Colla), *lù jiǎo jiāo* (Cervi Cornus Gelatinum), *guī bǎn jiāo* (Testudinis Carapacis et Plastri Gelatinum), and *fēng mì* (Mel) easily stick to the pot and burn when added to decoctions. Instead, they are melted in heated water or yellow wine (rice wine of the type used for cooking), and further diluted in the decoction. They can also be simply mixed in with the strained decoction.

Taking drenched: Some powdered items are not decocted with the other medicinals in the formula, but instead are placed in a bowl and immersed in warm water or a little of the decoction, swirled around, and swallowed. This is called "taking drenched." The following items are often taken in this way:

Expensive items and those used in small quantities in powder form, such as *shè xiāng* (Moschus), *líng yáng jiǎo* (Saigae Tataricae Cornu) *niú huáng* (Bovis Calculus) *zhēn zhū* (Margarita), *xī yáng shēn* (Panacis Quinquefolii Radix), *lù róng* (Cervi Cornu Pantotrichum), and *gé jiè* (Gecko).

Items whose effects are weakened when prepared in decoction form. Examples include:

Blood-stanching items such as *sān qī* (Notoginseng Radix), *bái jí* (Bletillae Rhizoma), *xuè yú tàn* (Crinis Carbonisatus Crinis Carbonisatus), and *zōng lǘ tàn* (Trachycarpi Stipulae Fibra Carbonisata).

Wind-extinguishing tetany-checking medicinals such as *wú gōng* (Scolopendra), *quán xiē* (Scorpio), *jiāng cán* (Bombyx Batryticatus), and *dì lóng* (Pheretima).

Acid-controlling and pain-relieving agents like *hǎi piāo xiāo* (Sepiae Endoconcha), *wǎ léng zǐ* (Arcae Concha), *hǎi gé ké* (*qiào*) (Meretricis seu Cyclinae Concha), and *yán hú suǒ* (Corydalis Rhizoma).

Items that cannot be exposed to high temperatures such as *zhū shā* (Cinnabaris).

Concentrated powders, including granule extracts or concentrated powders of medicinals such as *shuǐ niú jiǎo* (Bubali Cornu), are often taken drenched.

Additionally, liquids such as *zhú lì* (Bambusae Succus), *shēng jiāng zhī* (Zingiberis Rhizomatis Succus), and *xiān dì huáng zhī* (Rehmanniae Radix Recentis Succus) are taken fresh.

Decoctions used as water: Some medicinals are first decocted and then carefully strained, and the resulting decoction is used instead of water to decoct the remaining medicinals in the formula. This method is used for *zào xīn tǔ* (Terra Flava Usta) to reduce the murkiness of

the final decoction. It is also used for bulky items requiring large quantities of water, e.g., *yù mǐ xū* (Maydis Stigma), *sī guā luò* (Luffae Fructus Retinervus), and *jīn qián cǎo* (Lysimachiae Herba).

Temperature at which the decoction is taken: Most decoctions are taken warm. Formulas that disperse wind-cold should be taken hot. Decoctions intended to treat vomiting or drug poisoning should be taken in frequent small amounts. When using the paradoxical method of treatment (i.e., treating heat with heat or cold with cold), it is sometimes stipulated that cold medicinals should be taken cold or hot medicinals should be taken hot.

Observe reaction: When using powerful sweat-promoting and draining-precipitant agents, the patient's reaction must be closely observed. Generally, as soon as sweating or diarrhea occur, the medication should be discontinued to prevent damage to right qì.

7.2.2 Pills, Powders, Pastes

Pills: Small pills are simply swallowed with water. Large honey pills can be broken and swallowed with water in smaller pieces. Water pills can be crushed and dissolved in water.

Powders: Powders can be drenched with water or mixed with honey before taking. In modern practice, they are now sometimes packed into capsules.

Pastes: These are drenched with water to aid swallowing.

Concentrated powders: Modern concentrated powders, also known as granules, are made by decocting single medicinals or whole formulas and then removing the water content. They are usually swallowed with water or mixed in a small amount of warm water. These are now the preparations that are most commonly used in Taiwan, Japan, and the United States.

Syrups: Syrups can be taken without the addition of water.

Medicinal liquors: These are made by steeping medicinals in distilled liquor such as sorghum liquor. They can be taken orally or applied topically.

7.2.3 Timing of Medication

The times at which medication is taken vary. Decoctions are usually prepared each day (usually using one pack). Each daily brew is split into two doses taken 4–6 hours apart.

There are rules for taking medication (decoctions or any other preparation): before meals, after meals, before sleep, and on an empty stomach. "Before meals'' and "after meals'' mean an hour or two before or after meals.

Before meals: Most enriching medicinals are taken before meals, as are medicinals addressing complaints below the diaphragm, such as stomach, liver, and kidney problems.

After meals: Stomach-fortifying medicinals and medicinals that irritate the stomach and intestines are taken after meals, as are medicinals used to address complaints above the diaphragm, such as dizziness, headache, eye problems, and sore throat.

Before sleep: Spirit-quieting medicinals are taken just before going to bed at night.

On an empty stomach: Worm-expelling and draining-precipitants are taken on an empty stomach.

Any time: In acute problems such as vomiting, fright reversal, stone strangury, and throat problems, medication can be "drunk as tea" at any time.

8. Contraindications

Some medicinals are "contraindicated" under certain conditions. This means they should not be taken, although in practice it is often possible to use contraindicated medicinals if they fit the pattern or are balanced by other medicinals within a formula. Other medicinals are to be "used with care," which means they can be be used sparingly, but care must be taken to minimize side effects.

There are three kinds of contraindications of medicinals: combinative contraindications, pregnancy contraindications, and dietary contraindications.

8.1 Combinative Contraindications

The combinative contraindications of a medicinal refers to another medicinal or medicinals with which it

should not be combined. In the seven relations described above, aversion and clashing are in effect combinative contraindications. Over the centuries, there has been considerable disagreement about what medicinals should not be used in combination. In the Jīn-Yuán period, combinative contraindications were formulated into the "nineteen fears" and the "eighteen clashes." Other slightly different sets of rules were offered in later literature, but these two became the universal standard.

8.1.1. Nineteen fears

The nineteen fears are relationships of aversion (not fearing in the seven-relation sense) between nineteen medicinals. These are listed below. Note that medicinals not discussed in the monographs of this book are marked with an asterisk (*).

- *Liú huáng* (Sulphur) fears *pò xiāo* (Natrii Sulfas Non-Purus), a type of *máng xiāo* (Natrii Sulfas)
- *Shuǐ yín* (Hydrargyrum)* fears *pī shuāng* (Arsenicum Sublimatum)
- *Láng dú* (Stellerae seu Euphorbiae Radix)* fears *mì tuó sēng* (Lithargyrum)*
- *Bā dòu* (Crotonis Fructus) fears *qiān niú zǐ* (Pharbitidis Semen)
- *Dīng xiāng* (Caryophylli Flos) fears *yù jīn* (Curcumae Radix)
- *Chuān wū* (Aconiti Radix) and *cǎo wū* (Aconiti Kusnezoffii Radix) fear *xī jiǎo* (Rhinocerotis Cornu)
- *Yá xiāo* (Nitrum Equidens)* fears *sān léng* (Sparganii Rhizoma)
- *Ròu guì* (Cinnamomi Cortex) fears *chì shí zhī* (Halloysitum Rubrum)
- *Rén shēn* (Ginseng Radix) fears *wǔ líng zhī* (Trogopteri Faeces)

8.1.2. Eighteen Clashes

The eighteen clashes are eighteen clashing relationships between medicinals.

Gān cǎo (Glycyrrhizae Radix) clashes with:

Dà jǐ (Euphorbiae seu Knoxiae Radix)
Hǎi zǎo (Sargassum)
Yuán huā (Genkwa Flos)
Gān suì (Kansui Radix)

Wū tóu (a generic term for aconite, Aconiti Radix) clashes with:

Chuān bèi mǔ (Fritillariae Cirrhosae Bulbus)
Zhè bèi mǔ (Fritillariae Thunbergii Bulbus)
Guā lóu (Trichosanthis Fructus)
Bàn xià (Pinelliae Rhizoma)
Bái liǎn (Ampelopsis Radix)
Bái jí (Bletillae Rhizoma)

Lí lú (Veratri Nigri Radix et Rhizoma) clashes with:

Rén shēn (Ginseng Radix)
Shā shēn (Adenophorae seu Glehniae Radix)
Dān shēn (Salviae Miltiorrhizae Radix)
Xuán shēn (Scrophulariae Radix)
Kǔ shēn (Sophorae Flavescentis Radix)
Xì xīn (Asari Herba)
Bái sháo (Paeoniae Radix Alba)
Chì sháo (Paeoniae Radix Rubra)

In older literature, *bái sháo* (Paeoniae Radix Alba) and *chì sháo* (Paeoniae Radix Rubra) were not distinguished from one another; the same is true for *chuān bèi mǔ* (Fritillariae Cirrhosae Bulbus) and *zhè bèi mǔ* (Fritillariae Thunbergii Bulbus), as well as *chuān wū* (Aconiti Radix) and *cǎo wū* (Aconiti Kusnezoffii Radix).

The nineteen fears and eighteen clashes are not without critics. It has been pointed out that there are formulas that combine *bā dòu* (Crotonis Fructus) and *qiān niú zǐ* (Pharbitidis Semen), *gān cǎo* (Glycyrrhizae Radix) and *gān suì* (Kansui Radix), *gān cǎo* (Glycyrrhizae Radix) and *hǎi zǎo* (Sargassum), *dīng xiāng* (Caryophylli Flos) and *yù jīn* (Curcumae Radix), and *wū tóu* (Aconiti Radix Wutou) and *xī jiǎo* (Rhinocerotis Cornu).

8.2 Pregnancy Contraindications

Many medicinals can damage the fetus and hence are contraindicated in pregnancy. There are two kinds: those that are absolutely contraindicated and those that should be used with care. The contraindicated agents are those with great toxicity or that are harsh in their actions. Those that are to be used with care are agents that free the channels and eliminate stasis, move qì and break stagnation, and agents that are hot and acrid.

In the list below, note that items marked with an asterisk (*) are contraindicated in pregnancy. Those not marked with an asterisk are used with care.

Ch 1: Exterior-resolving medicinals

No specific agents are contraindicated, but exterior-resolving medication must be used with care in pregnant and postpartum patients.

Ch 2: Heat-clearing medicinals

Tiān huā fěn (Trichosanthis Radix) (according to some sources, based on the fact that it induces uterine contractions when given by injection) *
Mǔ dān pí (Moutan Cortex) *
Mǎ chǐ xiàn (Portulacae Herba) *
Shè gān (Belamcandae Rhizoma) *
Chì sháo (Paeoniae Radix Rubra)
Niú huáng (Bovis Calculus)
Bái huā shé shé cǎo (Oldenlandiae Diffusae Herba) (according to some sources)
Dà xuè téng (Sargentodoxae Caulis)
Bài jiàng cǎo (Patriniae Herba) (according to some sources)

Ch 1: Draining-precipitants medicinals

Dà huáng (Rhei Radix et Rhizoma)*
Máng xiāo (Natrii Sulfas)*
Fān xiè yè (Sennae Folium)*
Lú huì (Aloe)*
Gān suì (Kansui Radix)*
Dà jǐ (Euphorbiae seu Knoxiae Radix)*
Yuán huā (Genkwa Flos)*
Qiān niú zǐ (Pharbitidis Semen)*
Shāng lù (Phytolaccae Radix)*
Bā dòu (Crotonis Fructus)*
Yù lǐ rén (Pruni Semen)

Ch 4: Wind-damp–dispelling medicinals

Shēn jīn cǎo (Lycopodii Herba)

Ch 5: Aromatic dampness-transforming medicinals

Hòu pò (Magnoliae Officinalis Cortex)

Ch 6: Water-disinhibiting dampness-percolating medicinals

Water-disinhibiting strangury-freeing medicinals are generally not appropriate in pregnancy.

Huá shí (Talcum)*
Mù tōng (Akebiae Caulis)*
Chuān mù tōng (Clematidis Armandii Caulis) *
Qú mài (Dianthi Herba)*
Hǔ zhàng (Polygoni Cuspidati Rhizoma)*
Dōng kuí zǐ (Malvae Semen)
Tōng cǎo (Tetrapanacis Medulla)

Ch 7: Interior-warming medicinals

All interior-warming medicinals should be used with care in pregnancy during hot weather.

Fù zǐ (Aconiti Radix Lateralis Praeparata)*
Cǎo wū (Aconiti Kusnezoffii Radix)*
Chuān wū (Aconiti Radix)*
Ròu guì (Cinnamomi Cortex)*
Huā jiāo (Zanthoxyli Pericarpium)*

Ch 8: Qì-rectifying medicinals

Zhǐ shí (Aurantii Fructus Immaturus)

Ch 9: Food-dispersing medicinals

Shén qū (Massa Medicata Fermentata) is not suitable for reduced food intake in pregnancy

Ch 10: Worm-expelling medicinals

No contraindications.

Ch 11: Blood-stanching medicinals

Sān qī (Notoginseng Radix)*
Raw *pú huáng* (Typhae Pollen)*

Ch 12: Blood-quickening medicinals

All medicinals with a blood-quickening action should be used with care in pregnancy.

Yán hú suǒ (Corydalis Rhizoma)*
Yù jīn (Curcumae Radix)*
Jiāng huáng (Curcumae Longae Rhizoma)*
Rǔ xiāng (Olibanum)*
Mò yào (Myrrha)*
Hóng huā (Carthami Flos)*
Xī hóng huā (Croci Stigma)*
Táo rén (Persicae Semen)*
Yì mǔ cǎo (Leonuri Herba)*
Zé lán (Lycopi Herba)*
Niú xī (Achyranthis Bidentatae Radix)*
Zhè chóng (Eupolyphaga seu Steleophaga)*
Zì rán tóng (Pyritum)*
Sū mù (Sappan Lignum)*
É zhú (Curcumae Rhizoma)*
Sān léng (Sparganii Rhizoma)*
Shuǐ zhì (Hirudo)*
Méng chóng (Tabanus)*
Bān máo (Mylabris)*
Chuān shān jiǎ (Manis Squama)*

Chuān xiōng (Chuanxiong Rhizoma)
Wǔ líng zhī (Trogopteri Faeces)
Dān shēn (Salviae Miltiorrhizae Radix)
Wáng bù liú xíng (Vaccariae Semen)

Ch 13: Phlegm-transforming, cough-suppresing, panting-calming medicinals

Tiān nán xīng (Arisaematis Rhizoma)*
Bái fù zǐ (Typhonii Gigantei Rhizoma)*
Zào jiá (Gleditsiae Fructus)*
Zào jiǎo cì (Gleditsiae Spina)*
Méng shí (Chloriti seu Micae Lapis)*
Yáng jīn huā (Daturae Flos)

Ch 14: Spirit-quieting medicinals

Zhū shā (Cinnabaris)

Ch 15: Liver-calming wind-extinguishing medicinals

Quán xiē (Scorpio)*
Wú gōng (Scolopendra)*
Zhēn zhū mǔ (Concha Margaritifera)
Zhě shí (Haematitum)

Ch 16: Orifice-opening medicinals

Shè xiāng (Moschus)*
Bīng piàn (Borneolum)*

Ch 17: Supplementing medicinals

Guī bǎn (Testudinis Plastrum)*
Biē jiǎ (Trionycis Carapax)*

Ch 18: Astringent medicinals

Chì shí zhī (Halloysitum Rubrum)

Ch 19: Ejection medicinals

All ejection medicinals are best avoided in pregnancy, in particular the following two:

Cháng shān (Dichroae Radix)*
Lí lú (Veratri Nigri Radix et Rhizoma)*

Ch 20: Medicinals for external use

Xióng huáng (Realgar)*
Liú huáng (Sulphur)*
Dà fěng zǐ (Hydnocarpi Semen)*
Chán sū (Bufonis Venenum)*
Mǎ qián zǐ (Strychni Semen)*
Qīng fěn (Calomelas)*
Zhāng nǎo (Camphora)*

8.3 Pattern Contraindications

Certain medicinals are contraindicated in certain disease patterns. For example, *má huáng* (Ephedrae Herba) is acrid and warm. It promotes sweating and resolves the exterior, disperses wind-cold, and also diffuses the lung, calms panting, and disinhibits urine. It treats externally contracted wind-cold exterior patterns without sweating or nondiffusion of lung qì with cough and panting. It is contraindicated in spontaneous sweating due to exterior vacuity or night sweating due to yīn vacuity, and lung-kidney vacuity panting.

Another example is *huáng jīng* (Polygonati Rhizoma), which enriches yīn and supplements the lung, as well as supplementing the spleen and boosting qì. It is mainly used for lung vacuity dryness cough, spleen-stomach vacuity, and kidney vacuity and essence depletion. Because it is rich, it easily fosters dampness evil, and for this reason it is contraindicated in spleen vacuity with dampness and cough with copious phlegm. Many medicinals have pattern contraindications, and these are stated in the Warnings section of the monographs.

8.4 Dietary Contraindications

While taking certain medicinals, a patient should avoid certain foodstuffs. Ancient literature specified that scallions were contraindicated when taking *cháng shān* (Dichroae Radix); scallions, garlic, and Chinese radish were contraindicated when taking *shēng dì huáng* (Rehmanniae Radix) or *hé shǒu wū* (Polygoni Multiflori Radix); turtle meat was contraindicated when taking *bò hé* (Menthae Herba); vinegar was contraindicated when taking *fú líng* (Poria); and amaranth was contraindicated when taking *biē jiǎ* (Trionycis Carapax).

Raw and cold foods, sticky and clogging foods, fishy smelling foods, and foods that cause irritation are often difficult to digest and should be avoided as much as possible while taking medication.

Foods stuffs unsuitable for specific conditions are given below.

Cold patterns: Raw and cold foods; chilled beverages.

Heat patterns: Hot spicy food, oily foods, and fried foods.

Chest impediment: Animal fat, organ meats, alcohol (and smoking).

Spleen-stomach vacuity: Deep-fried foods, sticky foods, cold foods, and solid foods that are difficult to digest.

Water swelling: Salt.

Hyperactivity of liver yáng with dizziness, agitation and irascibility: Pepper, chili, garlic, and distilled liquor.

Jaundice: Animal fat, hot spicy food, alcohol (and smoking).

Sores: Fish, prawns, crab.

9. Names of Medicinals

Chinese medicinals can be referred to by English, Latin, and Pīnyīn names. In this book, we provide all three names at the head of each monograph, together with the name in Chinese characters. In the text, we use Pīnyīn followed by Latin; where a name is repeated in one paragraph, each mention after the first is given in Pīnyīn only.

The Chinese, Pīnyīn, and Latin names used in this text are those used by the *Pharmacopoeia of the People's Republic of China*. Only a few exceptions have been made. For example, in the *PRC Pharmacopoeia*, Rehmanniae Radix is referred to as 生地 *shēng dì* and Rehmanniae Radix Praeparata as 熟地 *shú dì*, which are actually abbreviated names. We give them their full names 生地黄 *shēng dì huáng* and 熟地黄 *shú dì huáng,* because both come from the plant called 地黄 *dì huáng*. Keeping the full name in Pīnyīn helps students to see the connection between the two items.

In the Chinese literature of Chinese medicine, many medicinals have alternative names. We have consistently referred to all medicinals by the same name, and the most commonly used alternate names are listed under the individual monographs.

9.1. Pīnyīn names

Pīnyīn names are given with intonation marks. These can be ignored by readers, but for those learning Chinese, the addition of the tone marks is helpful. Chinese is a tonal language; each word (character) is pronounced with one of four tones:

First tone: A high flat tone, e.g., *zhī*, as in *guì zhī,* Cinnamomi Ramulus, cinnamon twig.

Second tone: A high rising tone, e.g., *bái,* as in *bái sháo,* Paeoniae Radix Alba, white peony.

Third tone: A low dipping tone, e.g., *jiǎ,* as in *biē jiǎ*, Trionycis Carapax, turtle shell.

Fourth tone: a high falling tone, e.g, *dì,* as in *dì lóng,* Pheretima, earthworm.

9.2. Latin names

Latin pharmaceutical names are derived from the scientific names of the source item. For example, black sesame seed comes from the plant known as *Sesamum indicum* L. The Latin pharmaceutical name is Sesami Semen Nigrum. "Semen" means seed, which is the part of the plant used. "Sesami" is the Latin genitive form, which means "of sesamum" (or sesamum's). "Nigrum" means black. Other common plant part names seen in Latin pharmaceutical names include: Radix (root), Rhizoma (rhizome or lateral root), Herba (herb, whole plant), Flos (flower), and Fructus (fruit). The Latin word "Et" means "with," while "Seu" means "or."

9.3. English names

English names are given only at the head of the monographs. Pay attention to them, because if you are not familiar with Latin or Chinese, the English name helps you to identify familiar items. *Shēng jiāng* and Zingiberis Rhizoma may be obscure to some readers, but most readers will know its common name of fresh ginger. Note that in some cases, the part name is written in brackets, e.g., ginger [rhizome]. This means that the part name can be omitted without any confusion, since only one part of that particular plant is widely used in Chinese medicine.