The Healing Power of Ginseng and the Tonic Herbs

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"Nobody can imagine that the Chinese and Tartars would set so high a value on this root if it did not constantly provide good effect."

Père Jartoux, Jesuit Missionary to China, 1711.

"If the people of the United States were educated as to its use, our supply of ginseng would be consumed in our own country and it would be a hard blow to the medical profession,"

Dr. Arthur Harding, ginseng expert, 1909

Ginseng in Chinese and American History

Ginseng is the most famous of the Chinese herbs throughout the world, and has been the most valued herb in China since the dawn of written history there. An American variety of ginseng played an important part in the early history and economy of the United States after trade in the plant began with China in the 1700s. In this section, I'll describe the history of both varieties right up to the present, when they make up one of the fastest growing categories in herb sales in the U.S.

Chinese ginseng

Ginseng has probably been used as a medicine in Asia since the dawn of civilization there. Its first written mention was in the first century B.C. in the *Book Interpretations of Creatures* by You Shi. The earliest mention of it in formal Chinese medical literature is in the *Shen Nong Ben Cao Jing, (The Divine Husbandman's Classic of the Materia Medica),* the earliest Chinese book to describe the uses of specific herbs. The book appeared in the first century A.D. Ginseng was certainly in use before this, in the shamanic medicine that existed for thousands of years before the appearance of the *Classic.* Ginseng probably came into wide use by the Chinese around 3000 B.C., when knowledge of its properties was introduced from Manchuria.

The Divine Husbandman

The authorship of the *Shen Nong Ben Cao Jing* was ascribed to the mythical "Divine Husbandman" — the legendary patron of Chinese herbalism who was supposed to have "tasted the hundred herbs" and given their properties to humanity, He was also supposed to have introduced agriculture and the breeding of domesticated animals into Chinese culture. The book's actual authorship is unknown. Chinese herbalism at the time of the writing of the *Classic* was intertwined with the study of alchemy, with the goal of achieving longevity. Herbs in the *Classic* are classified according to grade. The lowest grade expels disease. The middle grade corrects imbalances in the body. The highest grade — the one to which ginseng belongs in the book — nourishes life itself. The *Classic* describes ginseng thus:

> *"It is used for repairing the five viscera, quietening the spirit, curbing the emotion, stopping agitation, removing noxious influence, brightening the eyes, enlightening the mind, and increasing the wisdom. Continuous use leads one to longevity with light weight."*

This highest class of drugs are the tonic herbs — food-like substances with little potential for toxicity, that may be taken for long periods of time without danger. The *Classic* says of them:

> *"The first class of drugs . . . are considered to perform the work of Sovereigns. they support human life and they resemble heaven. They are not poisonous regardless of the quantity and duration of administration."*

The *Classic* described ginseng, but did not say how to use it in formulas. About 200 A.D. another Chinese medical text appeared which gave twenty-one formulas for ginseng out of a total of 113 formulas. By the mid-1600s 509 out of 2216 prescriptions in a Korean medical text included ginseng — nearly a fourth of the total.

Man-root

The Chinese name for ginseng, *ren shen,* means "man-root," for its characteristic shape resembling the trunk, arms and legs of a human being. From the earliest times, the Chinese had mystical stories about ginseng. It was supposed to have a mystical connection with the constellation Orion, which also has a man shape. One story goes that it was discovered when a woodsman repeatedly heard a voice crying out in the night. Eventually he found the root, shaped like a man, that was making the sound.

Names for Chinese and American ginseng

Common: ginseng, Chinese ginseng, Korean ginseng

Botanical: *Panax ginseng*. The Greek *pan* means "all" and *akos* means "to cure." *Panax* means "cure all" or "panacea," which is derived from the same two Greek words. It received this name in 1843 from the botanist C.A. Meyer showing that its "cure all" properties were well known to European botanists of the time.

Chinese: ren-shen, jen-seng, schin-seng. All three names are transliterations of the same original Chinese characters. The two characters are "essence of earth" (or "root") and "in the form of a man"

Japanese: Ninjin **Korean:** Insam, yin sam

Common: American ginseng

Latin: Panax quinquefolium (five-leaved)

Chinese: xi yang shen. A literal translation of the Chinese characters is: "root from the Western seas."

Appalachian dialect: sang, shang

Mohawk: Garentoquen — "thigh and leg of the human body"

Onondaga: Da-kyen-too-keh **Oneida:** Ka-lan-da-goo — "forked plant"

Japanese: Seiyojin **Korean:** Soyangsam

Botany

The botanical name for ginseng is *Panax ginseng.* Three other plants in the Panax genus all have tonic properties, but none are identical in their action to ginseng.

Common name: Chinese ginseng

Latin name: *Panax ginseng*

Use: *Chi* tonic, longevity elixir

History: Use from prehistory in China, through the present. It is the most renowned herbal tonic in the Chinese civilization.

Common Name: American ginseng

Latin name: *Panax quinquefolium*

Use: In America as a general tonic and stimulant. In China as a *yin* and mild *chi* tonic, reducing heat while building the strength.

History: Used to some extent by Native American tribes, it was "discovered" in Canada by a Jesuit missionary in 1716, and export began to China soon after.

Common name: Japanese ginseng

Latin name: *Panax japonicus*

Use: A minor remedy in China, it is used there like American ginseng.

Common name: Tienchi ginseng, sanchi ginseng

Latin name: *Panax psuedoginseng*

Use: to stop bleeding and disperse bruising and swelling after trauma, and for heart disease. Also as a blood and *chi* tonic. History: first appeared in Chinese medical texts around 1600 A.D.

The *shens*

In Chinese herbalism, which is organized around medicinal action rather than botanical classification, *ren shen* is one a family of other *shens* — fleshy roots with tonic properties. The *shens* have been sought out and harvested since antiquity in China. The Chinese sometimes refer any of these as types of ginseng, but do not generally consider the others as medicinal substitutes for *ren shen*.

Chinese name	Common name	Uses
ren shen	ginseng	*chi* tonic, especially Spleen and Lungs
dang shen	codonopsis	Spleen and Lung tonic
sha shen	adenophora	Lung tonic
hsuan shen	scrophularia	Kidney tonic
tan shen	salvia	Heart tonic
hai er shen	prince ginseng	*chi* tonic
xi yang shen	American ginseng	yin tonic, for febrile diseases
zhu jie shen	Japanese ginseng	yin tonic, for febrile diseases

Medicinal uses

Ginseng was, and still is, used in China to increase strength in those who are weak, to build the blood in those who are anemic, to strengthen the appetite, improve respiration in those short of breath from weakness, to calm the spirit and nerves, as a remedy for impotence, and to increase wisdom in spiritual pursuits. A major use has been to aid in the recovery from the low energy and dehydration that follows debilitating feverish diseases. High doses of ginseng are used today in Chinese emergency rooms for patients in critical shock from blood loss or serious chronic disease. We'll see more detail about the Chinese use of ginseng in Chapter Six.

Ginseng and the West

Tales of ginseng first reached the West after reports from a 17th century Dutch traveler who had been shipwrecked in Korea. Parts of Europe and Russia may have been exposed to ginseng after the Mongol invasions of the 13th century. The Mongol soldiers used ginseng to increase their stamina. Ginseng first became known in detail through the botanical writings of a Jesuit missionary to Beijing, China, named Père Jartoux in 1711. The account was published three years later in English. Jartoux described ginseng this way:

> *"Nobody can imagine that the Chinese and Tartars would set so high a value on this root if it did not constantly provide good effect. Those that are in health often make use of it to render themselves more vigorous and strong; and I am persuaded that it would prove an excellent medicine in the hands of any European who understands pharmacy, if he had but a sufficient quantity of it to make such trials as are necessary, to examine the nature of it chemically, and to apply it in a proper quantity according to the nature of the disease for which it may be beneficial.'*

Chinese ginseng has never been much in demand in the West, especially by medical professionals. It was first exported the U.S. in any quantity when Chinese communities began to develop after immigration during the last century. Its use was mainly

confined to Chinatowns until the 1970s, when it became available in health food stores and began to grow in popularity with the public, mainly based on its reputation as a sexual tonic. With the rise of the acupuncture profession in this country since the 1970s, the full medicinal properties of ginseng have become better known. In 1994, ginseng sales were growing at a rate second only to garlic as an herbal medicine.

American ginseng

A few years after the Jesuit Jartoux published his paper on Chinese ginseng, Joseph Francois Lafitau, a missionary to Canada, found a North American variety there, now called American ginseng or *Panax quinquefolium.* Prophetically, Jartoux had said in his original paper, ". . . if it is to be found in any other country in the world, it may be particularly in Canada, where the forest and mountains . . . very much resemble these here." Lafitau sought out the plant without success until he described it to some Indians, who walked a few feet away and brought him one of the roots.

The Chinese, whose own stock of wild indigenous ginseng was becoming rare through over-harvesting, were hungry for export of the new plant, and bought it up by the ton. Soon they realized that it had different properties than their own ginseng, but a large trade in it has continued even today, when about 95% of the American ginseng crop is exported to China. A half century before the American Revolution, ginseng harvesting in the wild became a way for trappers, traders, and Indians throughout the Eastern U.S. to obtain ready cash. American ginseng was found throughout the forested areas of the Eastern U.S. and Canada, from Maine through Quebec and Ontario to Wisconsin in the North; to Iowa, Missouri, Arkansas in the West; and Alabama, Georgia, and South Carolina in the South.

Export of American ginseng has continued unabated now for more than 250 years, and is intimately interwoven with American history, during which time more than a 100,000 tons of American ginseng, either harvested in the wild or cultivated on farms, have been exported to China. The demand in Asia is so great that American ginseng now costs about twice as much as Chinese ginseng in the U.S.

Some highlights from American history

- The French had a substantial trade in North American ginseng by the early 1700s. This trade prompted them to intrude southward into the lands of the Iroquois, who had a treaty with the British, thus touching off the first skirmishes of century-long conflict between the French and the British in North America.
- Explorer Daniel Boone, who opened up a Southern route for settlers through the Cumberland Gap into Kentucky and Tennessee, is said to have sold fifteen tons of ginseng to a trader in Philadelphia.
- George Washington noted in his diary that while traveling West into Ohio, he "met with many mules and packs laden with ginseng going east over the Forbes-Braddock road."
- In 1773, the sloop Hingham left Boston with the wealthiest cargo shipped from the colonies to that date — fifty-five tons of ginseng valued at three dollars a pound.

- John Jacob Astor, who amassed one of the greatest early American fortunes through the fur trade, got his first big break exporting ginseng rather than furs. With a partner he sent a ship load of ginseng to China, bringing back tea. His profits from the excursion were more than $55,000, at a time when a week's pay was only a few dollars. The equivalent today would be about $15 million.
- By the late 1800s, the clearing of much of the Eastern forests for agriculture resulted in a greatly reduced natural habitat for ginseng. Cultivation began around 1890.

Native American Uses

From the early 1700s on, ginseng was an important item of trade between Native Americans and the European trappers and traders. Cherokee Indians in North Carolina in the 1800s could obtain the equivalent of two days pay for a pound of wild ginseng root. Today it is difficult to distinguish between which native uses of ginseng were original, and which were learned from the traders who told of the plants use in China. The following table shows the uses of American ginseng by some tribes:

Crow: to induce childbirth

Cherokee: headaches, muscular cramps, female problems

Creek: fresh chewed root applied to wounds to stop bleeding; warm tea for croup in children; hot compress soaked in ginseng tea for sore throat; ginseng and ginger to sweat out a fever

Menominee: general tonic to increase physical strength and mental powers

Ojibwa and Potawatomie: tonic and strengthener of mental powers

Penobscot: to increase the fertility of women

Potawatomie: tea of powdered root for sore eyes and earache

Seneca: a tonic for the elderly

Sac-Fox: universal remedy; stomach disorders, menstrual difficulty

Seminole: nosebleed, shortness of breath

Ginseng in American medicine

Although ginseng was used briefly in American medicine during the 1800s, it has never been valued in the United States to the extent that it is in Asia. American ginseng was an official medicine in the *U.S. Pharmacopoeia* from 1840 to 1880. American homeopaths used ginseng preparations in tincture and low potencies in the nineteenth and early twentieth centuries. Eclectic physicians, who specialized in herbal medicine, used ginseng until the 1930s. Its declining use prompted Dr. Arthur

Harding, an expert on the medicinal uses of ginseng, to comment in 1909: "If the people of the United States were educated as to its use, our supply of ginseng would be consumed in our own country and it would be a hard blow to the medical profession," because of the improved health of the ginseng consumers. Harding quit his medical practice to devote his full time to cultivating and researching ginseng. He said that ginseng had cured every patient he had used it on where the root of the illness had been poor nutrition, except one case of advanced tuberculosis. In that case, the woman who died said that ginseng had been the only medicine that had done her any good at all.

The 1947 Edition of the *United States Dispensatory,* written during the dawning heyday of wonder drugs, includes ginseng in a section devoted to historical curiosities. The authors state: "The extraordinary medicinal virtues formerly attributed to ginseng had no other existence than in the imagination of the Chinese." The text then goes on to say that research had demonstrated that the plant has "a sedative effect and a mildly stimulating action on the vital centers." As we'll see in the following chapters, this mildly stimulating effect is what gives ginseng it power, because mild stimulation over a long period of time can accomplish a restoration of a weakened system that no powerful drug taken for a short time could ever do.

Conclusion

American ginseng grew in demand in this country along with the rising popularity of Chinese ginseng. Still, only about 5% of the domestic crop, either cultivated or harvested in the wild, remains in the U.S. What are the properties of this mysterious plant so highly valued in Asia and so much in demand in the U.S.? Conventional medicine, which has never been interested in ginseng, cannot answer this question. To find out, we'll have to take a trip to China.

Ginseng in context: an introduction to Chinese herbalism

There is a tale of four blind men who examined an elephant. One felt the leg, another the trunk, the third the hide, and the last one the tail. They then began to argue about what the elephant was, each on the basis of his own narrow experience of it. The understanding of ginseng in North America is much like the understanding of those blind men.

Knowledge of ginseng has come to us from a distant land and culture with a very different world view than our own. Even what we know about American ginseng, we learned from the Chinese, who value it so highly and have imported thousands of tons of it over the last two-and-a-half centuries. American ginseng was used as a minor remedy by some American physicians in the nineteenth century, but has never been fully adopted by any Western medical system. Likewise Chinese ginseng remains foreign to Western medical systems. In the last several decades, Western clinical research has supported ginseng's use for stress and a few other conditions, and some of its chemical constituents have been identified. I'll discuss this research in Section III. But Western scientific understanding of ginseng is no better than the blind men's understanding of the elephant. We know something about it, but still don't know what the elephant is.

To really understand how to use ginseng — it cannot simply be popped like a pill — you will have to understand how the Chinese use it. So in the following sections of this book, I'll take you on a trip to China. Not physically, but into the world of Chinese culture and medicine. I'll introduce you to the reality of *chi* — the basic vital energy. I'll show you how to figure out whether you are "hot," "cold," "excess," "deficient," "exterior," or "interior" — all basic concepts in Chinese medicine and essential to understand in order to use ginseng wisely. I'll introduce you to some other Chinese tonic herbs, which may be taken along with ginseng or as substitutes for it.

In short, I'll show you the elephant.

2 *Chi*

To understand what ginseng does, in Chinese terms, you will need to learn about *chi* (pronounced *"chee"*). *Chi* is basic vital energy, and has no parallel concept in modern conventional Western medicine. An understanding of *chi* is so important that you won't be able to use ginseng or other Chinese tonics effectively without it, because ginseng and the tonic herbs *build chi.* And they will work only in the context of a lifestyle and activities that also support and cultivate the *chi.*

A meditation

Step back for a moment, from your current beliefs about health, the body, and even the very makeup of the universe. Forget, for the moment, that the universe is made of atoms, that your body is made up of cells and biochemical processes, that germs are the cause of disease, and forget the names of any medical conditions you might have or medicines you might be taking for them. You can have these concepts back later, but for now, sit quietly for a few moments and just experience how you feel. Feel your breath moving in and out in its natural rhythm. Take a few deep breaths. Then meditate and pay attention to the life in yourself. Feel the vibrant life force in your lungs, your belly, your arms, legs, hands, feet, and head, animating and vitalizing all your life process — your breathing, digestion, your muscles, your nervous system, your mind. Feel it throbbing in your heart and moving throughout your circulatory system. Feel it keeping your body warm. Feel and know the *reality* of this life force.

Now think back to someone you remember in vital good health. This life force will invariably be strong and radiant in them. You can sense it in a healthy person, and almost see it. Think of the vitality radiating from a newborn baby or a young child. Then think of someone you know who is seriously ill with a chronic disease, or is simply run down. Invariably, this life force will be dull, their body unanimated, the sparkle gone from their eyes. Think of healthy or sick plants or pets you have had, and remember the vibrant subtle energy around the healthy plant or animal, and the lack of it in the sick one.

Now you are thinking like the Chinese.

Chi and Chinese medicine

The reality of this life force — *chi* in Chinese medicine — is the center around which Chinese medicine is built. The atom and the cell are the starting points for the Western view of reality and medicine, but the reality of this vital *chi* is the starting point for the traditional Chinese view. It is *chi* that animates everything that lives, grows, and evolves — plants, animals, humans, even atoms and stars — and unites them into one living whole of Life. Western physicists see the universe as composed of matter and energy, and recognize the interaction of the two. Einstein's famous formula $E=mc^2$ states that matter and energy can be transformed into each other in predictable ways. In traditional Chinese philosophy, both matter and energy are expressions of *chi,* and it is *chi* that governs their transformation into each other.

The traditional Chinese physician will acknowledge that we have cells and molecules in our body, but will say that it is the *chi* that moves them and makes them alive, and not the other way around. If the *chi* is strong and vibrant, the person will be in good health, be able to withstand stress, accomplish much in life, have a vital sexuality, and be more likely to have a long natural life. If the *chi* is low and depleted, the person will be tired, run down, and in poor health. If *chi* is completely absent, the person will be dead.

Chi and electricity

An analogy for *chi* is electricity. You can't see electricity, but you can readily see its effects. If you turn on a light switch, the light goes on. Or if the battery in your flashlight starts to run down, the light grows dim. Electricians and engineers may understand much more about electricity that we do, but we have a *functional* definition in it. We recognize its effects, and, because we see them, we acknowledge the existence of electricity without question. In the same way, the Chinese recognize *chi.* They observe its effects in the body, and don't question its reality any more than we question the reality of electricity. One difference is that electricity flows from an external source — a power station or battery where it is stored. *Chi*, on the other hand, resides in the body, interpenetrating it. The body itself *is* the power source, the battery. And ginseng is for people with a run-down battery.

Herbs, foods, lifestyle, and *chi*

Just as the Chinese define *chi* by observing it at work, they observe that some plant and animals substances — ginseng and some other tonic herbs and foods — increase the *chi* or help it circulate in the body, increase health, and prolong life. Over the centuries they did not worry so much about exactly *how* it does this or what chemical reactions were involved (although extensive modern research into ginseng and other plants is now conducted in China). They pay more attention to the *way* that plants affect the chi, observing how plant selection, harvesting, preparation and dosage affect the herbal *chi*-building properties. They have also observed the effects of different lifestyles and exercises on the development, maintenance, and circulation of *chi*, and these practices are interwoven with Chinese culture. Go to any public park in China today, and you will see people — sometimes thousands of them at once — practicing *tai chi*, a set of slow-motion martial-arts-like exercises that build and circulate the chi in the body. Even traditional Chinese cooking, with its small easily-digested portions of fresh seafood or freshly-butchered meats mixed with stir-fries, has evolved at least in part because of its chi-building properties. I'll discuss the Chinese lifestyle in more detail in Chapter Three, because it is a tenet of Chinese medicine that ginseng and herbs alone will not do the job of building *chi* — they must be taken in the context of a chi-building and chi-supporting lifestyle.

Where *chi* comes from

The Chinese say that *chi* comes from three sources.

- Prenatal *chi*. This is the chi that we are born with, that we receive from our parents at conception through birth. Different individuals may have more or less of it, which at least partly explains some people, even at the earliest age, naturally have more vitality than others. This chi resides in the lower abdomen.
- Food *chi*. This chi is developed through the digestion of food. Healthy or poor digestion can have an immediate impact on this chi and on our overall energy level.
- Air *chi*. The air we breathe is the source of this *chi.* Deep full breathing and at least light aerobic exercise are necessary to have a healthy amount of Air *chi.*

How *chi* moves

Chi moves and circulates through the body much in the same way that blood does — it moves through channels. Known as *acupuncture meridians* in the West, these channels carry the *chi* from its sources in the digestive system and lungs, and circulate it to every organ and cell in the body. Needles inserted at points along these meridians can affect the flow of *chi* through them. Most of the work of an *acupuncturist* is using needles on these points to increase or decrease the flow of *chi* to some organ or other part of body when that flow has become disturbed. Ginseng and tonic herbs, when combined with other herbs in formulas, may also direct the *chi* to specific organs and regions of the body. Like *chi* itself, these meridians are defined *functionally*. Some may correspond to nerve pathways or blood vessels, or may have no apparent physical counterpart, but the Chinese have observed their function and the effects of needles at various points on the flow of *chi*. Chinese practitioners have also observed that *chi* does not flow evenly through the organs at all times. Each organ has a daily cycle with several hours of peak *chi*, and a natural depression or resting of *chi* at the opposite time of day. The *chi* of the digestive function, for instance, peaks in mid-morning and is at its lowest several hours before midnight. In China, acupuncturists may select a time for treatment — even in the middle of the night — in order to take advantages of this ebb and flow of *chi.*

Disorders of *chi*

The major disorders of chi are *deficiency*, which I will discuss below, and *stagnancy*. *Chi* must be able to flow and circulate throughout the body freely. When it becomes blocked for any reason, disease may result. Imagine a garden hose with water flowing through it. If the hose becomes crimped, the water pressure above the crimp increases and the hose swells there. Below the crimp, the flow is decreased. Thus stuck *chi* can cause too much *chi* in one place, and not enough in another. Chinese physicians consider stuck *chi* to be one of the important causes of pain and tension in Chinese medicine, in the areas of the body where *chi* has becomes stagnant — like the area of the hose above the crimp. Organs or tissues below the site of obstruction may also not function properly due to a local deficiency of *chi,* like the end of the hose with its diminished water flow. Physical or emotional trauma, improper diet, exposure to extremes of weather, lack of exercise, constitutional weaknesses — those that your are born with — or other factors may cause stuck *chi. Chi* obstruction is very important to consider when taking ginseng or other *chi*-building herbs. To build up the *chi* when it cannot flow freely would be the equivalent of turning up the water pressure in a hose that is crimped. For this reason,

chi-building herbs are not taken when pain, tension, inflammation, emotional frustration, anger, high blood pressure, or other signs of *chi* obstruction are present.

What *chi* does

To understand *chi deficiency* — the condition for which ginseng and tonic herbs are appropriate — let's look at what exactly *chi* does. Whether ginseng is appropriate for you, or even which variety of it to use, you'll need to understand how to diagnose deficient *chi.*

- *Chi* is responsible for all movement in the body. The involuntary muscles like those in the heart, the arteries, and the intestinal wall, all move because of the presence of *chi*. Likewise the muscles used in voluntary movement are animated by chi. If *chi* is depleted, the breathing may be depressed, the digestion sluggish, and the body lethargic with poor endurance, weak lower back, knees and legs.
- *Chi* supports mental activity. Thinking, remembering, planning, learning, mental growth and so on all rely on *chi*. If *chi* is deficient the mind may be dull and inefficient.
- *Chi* transmutes food and air into energy and the various substances of the body. If *chi* is deficient, and this transmutation is not effective, the energy will be low and deficiencies may appear in the tissues and substances of the body. [bullet] *Chi* warms the body. With insufficient *chi*, signs of cold may appear, such as a feeling of chilliness, lowered body temperature, or cold hands and feet.
- *Chi* protects the body. A layer of *chi* circulates at the surface of the body between the muscles and the skin. This layers ensures proper functioning of the immune system at the surface of the body, protects the body against external cold and heat, and regulates the sweat glands. If the *chi* is weak, a person may get frequent colds or infections, feel aversion to cold and wind, and may sweat spontaneously, even without exercising.
- *Chi* holds the organs in place and ensures their proper function. If it is seriously deficient, the organs may become *prolapsed* and collapse or fall out of place. Or any organ function may be deficient if it is not receiving sufficient *chi.*

Note that *all* the above symptoms are not necessarily present when the *chi* is deficient. *Chi* deficiency can affect different functions selectively. A general pattern of the above signs indicates that ginseng or other tonic herbs might be appropriate for you. On the other hand, the opposites of these conditions — overactivity and excitation, feeling of heat rather than cold — would indicate that ginseng is not appropriate for you. I'll give more details about indications and contraindications for ginseng and tonics herbs later in this chapter.

Table 2.1 Functions of *Chi* and some possible signs of its deficiency

Function	Deficiency sign
Movement of voluntary and involuntary muscles	Depressed breathing, low voice, poor digestion, heart palpitations or racing heart, physical weakness and fatigue, lack of endurance, weak back and legs
Thinking, reasoning, learning, remembering	Dull and lethargic mind, poor memory
Transmutation of food and air into the substances and energy of the body	Low energy, malnutrition, low metabolism, depressed sexual function or menstrual irregularities
Maintenance of body warmth	Depressed body temperature, feeling of cold, cold hands and feet
Protection of the body from heat, cold, and infection	Frequent colds, aversion to wind, spontaneous sweating
Stabilization of the organs within the body	Prolapsed organs
Organ functioning	Dysfunction of any organ in the body may be the result of deficient chi

Chi and Blood

In Chinese medicine, *chi* and blood are intimately connected. The blood arises from the mixing of *chi* derived from food and from air. So blood is dependent on *chi*. Circulating blood then nourishes the entire body. But throughout the process, *chi* and blood remain inseparable, almost like two sides of a piece of paper. The *chi* of the heart pumps the blood, and the *chi* of other organs and vessels contains the blood and maintains blood pressure. So the Chinese say that "*chi* is the *commander* of the blood." But *chi* is also dependent on blood, because the tissues require adequate nutrition for *chi* to function in them. So the Chinese also say that "blood is the mother of *chi*."

We'll see in Chapter Twelve that some tonic herbs, like ginseng, are primarily *chi* tonics. Others are primarily *blood tonics.* Because of the interdependence of *chi* and blood, a deficiency of one is often accompanied by a deficiency of the other, and *chi* and blood tonics are often combined in formulas. Many people take ginseng alone in China. But in formal Chinese medicine, it is almost always combined with other tonics, usually blood tonics. Table 2.2 shows some of the symptoms of blood deficiency. One of the main medical uses of ginseng and other *chi* tonics in China is to combine it with other herbs to treat anemia, the Western term for some of the symptoms of blood deficiency.

Vital energy in the history of Western medicine

Table 2.2

Some symptoms of blood deficiency

- pale complexion
- dizziness
- spots before the eyes
- pale tongue
- pale lips
- pale nails
- insomnia
- palpitations
- poor memory
- poor appetite
- mental fatigue
- menstrual irregularity

The concept of the central role of a vital energy in health and disease is not completely foreign in the history of Western medicine, although it is entirely lost in modern conventional medicine. Harris Coulter, in his book *Divided Legacy,* traces both vitalist and materialist medicine back to the roots of European history. He concludes that these two approaches tend to ebb and flow like tides in Western history. We are currently probably past the high tide of conventional materialistic medicine, as alternative systems of medicine, most of them vitalist, are enjoying an upsurge in popularity and are attracting the attention even of conventional physicians.

The Western concept of *vital force* is not as well-thought-out as the Chinese concept of *chi*. Vital force as seen in the West is a vague although important energy that both animates the body, coordinates its functions, and produces symptoms in an attempt to heal any imbalance. The essential point of Western vitalist systems is to create a context in the lifestyle that supports the vital force, to use medicines or methods that help it to express in the body, to remove obstructions to its harmonious expression, and above all never to *suppress* symptoms that the vital force produces in attempts to heal the body. conventional medicine, on the other hand, systematically suppresses symptoms as they arise, usually at the expense of the overall vitality.

Until about three hundred years ago, most of Western medicine was vitalist. Even a hundred years ago in the U.S., homeopathy — a vitalist system of medicine — had a strong position and a large following among the U.S. public. Some vitalist systems now making a comeback in the U.S. are:

Homeopathy

Homeopathic doctors use highly diluted substances — ones which have no direct physiological effect — in order to directly affect the vitality of the patient. With the increased vitality, the patient's own body and unconscious intelligence can throw off the disease from within.

Naturopathic medicine

Practitioners in this profession employ diet, exercise, medical herbalism, spinal manipulation, hydrotherapy, homeopathy, some principles of Chinese medicine, and other methods to enhance the vital force and restore its activity in the body.

Chiropractic

Chiropractors adjust misalignments of the spine that impinge on the functioning of the nerves passing through the spine. This is a vitalist system, because it is essentially the flow of vital force that is blocked. Some chiropractors may be overly dogmatic about the spinal misalignments being the sole cause of disease, but whether you call it nerve force that is blocked in the spine, or *chi* blocked in the meridians along the spine, even the soft tissues around the misalignment that block the flow, many millions of people have experienced healing and increased vitality following a course of spinal manipulation.

Medical herbalism

Some medical herbalists use herbs the same way that conventional physicians do. They will give "this" herb for "that" condition without looking at the overall picture of the patient. Other herbalists, however, use a vitalist approach, and select their herbs and other methods in such a way to support the vital force in its work in the body.

Traditional Chinese Medicine

Acupuncture and Chinese herbalism are spreading rapidly in the U.S., with at least twenty-two schools of Oriental medicine now turning out licensed acupuncturists and herbalists

Ayurvedic medicine

This medicine from India, like Chinese medicine, relies primarily on diet, herbs, and exercises (yoga) to restore balance in the body and support the vital force.

An advantage of vitalist and tonic medicine

I have a friend, a naturopathic physician and acupuncturist, who used to work in an AIDS clinic in San Francisco that was run by conventional medical doctors. One of the M.D.s once said to her: "You know what I like best about your kind of medicine? You can treat people when there's nothing wrong with them!" He meant that with a her methods that treated disorders of *chi* and blood, she could help patients who did not have a disease that fit into a conventional diagnostic category. This is the great strength Chinese medicine and other vitalist systems. It's also the great strength of ginseng and tonic herbs. About half the people visiting a regular M.D. leave the office without a diagnosis, because there's not yet anything "wrong with them." They feel run-down, sick, tired, or anxious. But do not have anything objectively abnormal on their blood tests or physical examination. They are actually in the first stage of

chronic disease, only nothing has actually become physically deranged in their bodies yet. Sometimes an M.D. will give such a patient an antidepressant or sedative drug, or refer them to a psychiatrist, saying it "all in the head." Such a patient would surely receive a prompt and detailed diagnosis from a Chinese practitioner, and receive treatment — often with tonic herbs — based on that diagnosis.

A comparison of the Western and the Chinese view of the patient with the "blahs," i.e. who feels bad but has nothing apparently wrong according to Western medicine, is like the difference between English-speakers and the Eskimos in their view of snow. English-speaking North Americans have only one word for snow because they do not require more than that to function in their environment. Eskimos, on the other hand, have more than thirty separate words for snow — all required for them to survive in a snowy environment. Conventional medicine has no language for the indefinable state of feeling bad without a diagnosable disease. Chinese doctors, however, have a wide vocabulary for these states — many more than the thirty Eskimo words for snow — that are just as important to their medical system as the differentiation of types of snow is to the Eskimo. The reason for the well-developed analyses of states of "pre-illness" in China is that the goal of traditional Chinese medicine is to treat disharmonies *before* they become serious diseases. An ancient Chinese text says: "To treat disease after it has already arisen is like digging a well when you are already thirsty, or forging swords after war has already broken out." Chinese medicine can certainly treat the whole range of advanced illnesses as well, but it is early-stage harmonizing and tonic therapy that sets it apart from conventional Western medicine.

My story

In one recent year, I was under tremendous stress. I had lost a major publishing contract which accounted for more than half my income. My fiancee got cold feet and backed out of plans for marriage. This was followed by three months of unemployment. Eventually I got a book contract, one with a very short deadline. As a result, for about six weeks, I had to write into the night, sometimes until dawn, five or six nights a week, even as my bills mounted and remained unpaid. I was in my late forties, and did not have the stamina for these all-nighters that I had when I was younger. Despite this invitation to exhaustion, I continued to exercise very vigorously, up to ten hours a week of aerobic exercise to "let off steam."

By the time I finished the book, I was in a state of physical collapse. I developed insomnia so severe that even when I was lying down, I could not get into deep sleep. My adrenal glands were in a "fight-or-flight" state twenty-four hours a day. What's more, my feet swelled up with edema so severe that for a few days I couldn't get my shoes on. For about three weeks, I was too mentally exhausted to sit and write for even five minutes. The edema got a little better, but persisted for weeks.

The edema was of the sort that if you poked your finger into the swelling, an indentation would remain for a long time afterwards — "pitting edema" in conventional medicine. This kind of edema is usually considered the sign of grave disease. Heart failure, kidney failure, liver failure, or terminal cancer are some of the possibilities, and I accepted the fact that I might not have long to live. I sought out the best conventional medical specialists I

could find, including an ultrasound specialist who had written a book on the subject. The first doctor I saw was so alarmed by the symptoms he said he was considering sending me to the emergency room. I had about two weeks of medical tests, and eventually the doctors ruled out all the usual causes of such symptoms. My heart, lungs, liver, and kidneys were not only normal, they were unusually healthy. There were no tumors visible on ultrasound that could account for the edema. The last doctor I saw, a specialist in internal medicine who was open to alternative medicine, said my condition was a mystery, and gave me "permission" to try alternative methods.

My symptoms would have been no mystery to a Chinese practitioner. In Chinese medicine the "Kidney" — a translation from Chinese medicine that does not correspond exactly to the physical kidneys — is responsible for water balance in the body. This Chinese "Kidney" includes the physical kidney function, but also the glands and hormones that handle water balance, stress reactions, and the sexual function. Three things that tend to deplete this Kidney function are excess stress, staying up too late at night, and over-exercise — all of which I had been engaged in. My actual Chinese diagnosis was beyond the scope of this book, but, in short, I had severely deficient *chi* which had deranged the ability of my Kidney to maintain water balance.

I treated the condition at first using four vitalist systems of medicine — naturopathic medicine, hydrotherapy, chiropractic, and homeopathy. I moderated my exercise, and took several week-long vacations, and increased my daily meditation routine. After about three months, the edema was gone. I was mostly recovered, but my energy remained somewhat low. I felt that I was running on four spark plugs in a six-cylinder car. Eventually I took a course of American ginseng and some of the other tonic herbs that I'll discuss in Chapter Thirteen. Within two weeks I was restored to full vitality, more than I had had for years. Ever since, I have been sure to take a short course of tonic herbs whenever I am under unusual stress or have to stay up late at night.

The main point of my story is that, although I was sicker than I have ever been in my life, I had absolutely no diagnosable Western condition! There was "nothing wrong with me." This is because conventional medicine does not recognize the vital force or the *chi*, and has no methods to build it up. Even the other natural methods I was using could only take me so far.

At the beginning of this chapter, I asked you set aside your beliefs about conventional medicine. I hope you have now learned something about *chi*, but I won't ask you to abandon Western medicine completely. I have nothing against conventional medicine, and use it as I judge it to be appropriate. I am alive today because of a life-saving round of antibiotics in a serious systemic infection when I was a young adult. I would be blind in one eye today had I not had eye surgery as a child. And I have friends who I enjoy who are alive because of heroic organ transplants. But for many people, a vital-centered approach, including ginseng and tonic herbs when appropriate, is the best first line of defense against disease, and is a least a valuable complement to conventional Western treatments. Even people with a diagnosable conventional disease may have underlying *chi* and *blood* deficiencies as the cause. As one ancient Chinese text says: "If blood and *chi* fall into disharmony, a hundred diseases may arise."

Another point of my story is that I took the ginseng and tonic herbs in the context of important *chi*-cultivating lifestyle changes — rest, recreation, moderation of excess exercise, meditation, and other vitalist medical treatments. This brings us to the next chapter, in which I'll discuss some of the *chi*-building practices from Chinese culture, and make suggestions for changes you can make to maintain and develop your own *chi* — whether or not you take ginseng or other herbs.

3 A *chi*-Cultivating Lifestyle

I once consulted an expert Chinese herbalist and acupuncturist, whose advice demonstrated for me dramatically how Chinese treatments are always seen in the context of lifestyle. She had recently moved to the U.S., after being in charge of a section of a hospital in Beijing for more than twenty years. She was preparing for her Oregon acupuncture board exams, and studying the English required for medical interviews. As a favor, I let her interview me and take my case for practice. I considered myself lucky because she had both a traditional Oriental Medical Doctor degree and a conventional M.D. degree, and was recognized as an expert in her profession in China.

My chief complaints were a chronic mild cough and insomnia. No doubt an American M.D would have given me a cough syrup and a sedative and sent me on my way. This doctor asked me a few questions, analyzed my pulse (in six different locations along the wrist), and looked at my tongue. After less than two minutes of examination, she said: "You have deficient Lung Qi," which is a diagnosis typical of chronic cough with shortness of breath. Then she said: "You also have deficient *chi*." (We discussed this in the last chapter.) She further stated that the deficient *chi* was not new, but was itself chronic. Then she surprised me by saying: "I could give you herbs and acupuncture, but they won't do any good unless you change the way you think." Needless to say, I was surprised. She said that I worried too much, and as a result worked too hard, and that was the cause of the deficiency. She said she could also give herbs to make me sleep, but that it was the mental worry that was keeping me awake.

This way of thinking is typical of a Chinese practitioner. The acupuncturist's needles and herbs are viewed as allies in restoring harmony to body, but the traditional Chinese practitioner would never expect them to do the job by themselves. China has a culture that is conscious of *chi* — what depletes it and what builds it — and Chinese medicine must be understood in the context of this cultural viewpoint. The Chinese take ginseng and other tonic herbs *in addition to* a *chi*-preserving and cultivating lifestyle. Of course it would be a mistake to over-generalize the cultural practices of a country that accounts for about a fifth of the world's population, and there is certainly a wide variation of behavior among its people. However, the following are some elements of the Chinese culture that help build and preserve *chi*.

Food

Most Americans are aware in general of the Chinese diet from eating in Chinese restaurants. The meals are simple — rice, stir-fried dishes, soups, egg rolls, and so on. Meats and seafood may be included in the stir fries, but in modest quantities. Compared to an American meal of steak, potatoes and a vegetable, a Chinese meal is lower in fat, lighter, and much easier to digest. We saw in the last chapter that digested food is the most important source of *chi*. A friend of mine who travels regularly to China says that the Chinese "eat their *chi*." The vegetables that the Chinese eat are more likely to be locally grown and fresh, still vibrant with their own *chi*. Freezing and canning of vegetables depletes their vitality. Meats and seafood in China are also more likely to be fresh and recently slaughtered or caught. The American habit of

Table 3.1 Some differences in the Chinese and American Lifestyles

Chinese culture	American culture
Underfed	overfed
simple food	complicated food
deficiency through malnutrition	deficiency through poor quality food and malabsorption
Active	sedentary
Thin	obese
exposed to elements of weather	sheltered from extremes of weather
Engage in chi building exercises	more likely to overexercise

eating large meals of hard-to-digest and depleted foods, and gulping junk food (an average of one-third of a pound per person a day), leads to digestive disorders and malabsorption of food, tending to deplete the *chi*-building properties of the digestive system. In my practice as an herbalist, I have often seen people regain their energy simply by changing their diet and correcting digestive disorders with herbal medicines.

The Chinese are also more likely to eat earlier in the day, when the food can be digested and transformed into *chi* when it is most needed. Many American skip breakfast or eat lightly, and have their main meal at dinner, when it is harder to digest and when the energy demands of the day are already over. I'll explain this principle in more detail in Chapter Five on the Chinese Organ Systems.

Exercise

Most Chinese lead a more active lifestyle than American do. Scenes from Chinese cities show the streets crowded with bicycles and people walking. Manual labor on farms or in cities is much more common among the population than in America. Americans are much more likely to ride in cars, to work at desk jobs, or to sit in front of a television set than the Chinese. This Chinese habit of regular moderate exercise increases the respiration, circulates *chi* and blood, and stimulates the digestion. When Americans do exercise, it tends to be sporadic — a few times a week rather than every day — and heavily aerobic. Heavy exercise can deplete the *chi* rather than build it.

Rest

The Chinese sleep on the average eight to nine hours a night, and sometimes even longer during the winter months in agricultural regions. This helps to restore the *chi*. Americans, on the other hand, sleep an average of seven-and-a-half hours a night, and a third

of Americans sleep six hours a night or less. Ginseng and the tonic herbs can build energy, but probably wont overcome the *chi*-depletion of insufficient rest.

Table 3.2

Some things which deplete *chi*

Poor quality of food: sugars, junk food, ice cream, pizza, etc,

digestive malabsorption

sedentary lifestyle

over activity

over work

over weight

over exercise

insufficient sleep

stimulant abuse

over-indulgence in sex

Chi-building exercises

Go to any park in a city in China today, and you will see people — sometimes thousands of them at once — practice *tai-chi*. These graceful, slow-motion, martial arts-like exercises, done rhythmically along with deep breathing help to both build and to circulate the *chi*. Another types of exercise in China is *chi-gong.* These vigorous yoga-like breathing exercises and movements are often prescribed medically to build the *chi* or to circulate it through the meridians. Americans have no equivalent to these exercises.

Moderation of sexual indulgence

Here we are entering an area that is sure to be foreign to most Americans. In the Western culture and in modern medicine we have no concept of the connection between sex and health, except for the possibility of contracting a sexually transmitted disease. But traditional healing systems around the world, including traditional Chinese medicine, Ayurvedic medicine, and Arabic medicine, all stress the importance of conserving sexual energy. They list such conditions as impotence, premature ejaculation, low back pain, weakness in the legs, dizziness, poor memory, spiritual malaise, and general low energy as the consequence of over-indulgence. Even in the West, medical-level herbal texts from a hundred years ago list so many remedies of "ill effects of excess sexual indulgence," that it is clear that treatment of this condition was considered a routine part of office practice. Likewise the older homeopathic texts list many remedies for such overindulgence.

In Ayurveda it is sometimes recommended that, for a male, more than four ejaculations in a month will lead to a decline in the mental or physical faculties. In Arabic medicine, one text suggests that more than three ejaculations in a month may lead to the same result. The Chinese are less specific, noting that frequency of sex without ill consequences can vary widely with the individual, the season, and other factors in the lifestyle. But Chinese medical practitioners routinely diagnose and treat syndromes associated with overindulgence. The usual treatment is to recommend more moderation while at the same time prescribing herbal

formulas to build the sexual stamina. Women are less likely to lose energy in the sexual act, but may develop the same kind of syndromes after childbirth, especially after having many children.

Table 3.3

Some things which build *chi*

Appropriate diet: simple high-quality foods

healthy digestive system

mild to moderate exercise

proper sleep

rest and recreation

sexual moderation

meditation

Tai Chi, Chi Gong, Yoga

Taiwanese traditional practitioners have prescriptions for sexual abstinence to accompany many of their treatments. I once overheard an acupuncturist from Taiwan telling a women that he could help her avoid surgery for torn ligaments in her shoulder if she would take acupuncture treatments and herbs and refrain from having sex for two months.

The idea of sexual moderation as a health-protecting practice is well-known throughout the Chinese culture. Taoist practitioners, who probably first formulated the concept of *chi* and observed the meridians and organ systems during their meditations, have advocated this for thousands of years. These monks, unlike Western celibate monks, were usually married, and observed the intimate connection between their sexual activity and their mental and spiritual progress. They also developed sexual practices that prevented ejaculation by the male. Stories of Chinese emperors using these practices appear throughout Chinese history. Books on Taoist sexual practices are available in English in many bookstores in the U.S.

These ideas are not just relegated to a few eccentric monks of esoteric medical practitioners, but are widely known, recognized, and practiced in the Chinese culture. In the 1980s the Chinese government published and widely disseminated [editor: ;-)] a brochure about sexuality. This was newsworthy here in the West because the Chinese society is somewhat puritanical, and open discussion of sex by a government agency raised eyebrows among the Western journalists. The government considered it a public health matter. Besides education about sexually transmitted disease, one of the injunctions was against excessive sex. The pamphlet said that "excessive" might be a very different frequency for different individuals, but that the first sign of over indulgence would be fatigue after sex.

Many Americans seek out ginseng when they hear stories that it will enhance sexual performance. Ginseng can help to restore a system that has been depleted through overindulgence, although several other tonic herbs — *he shou wu* and dendrobium, for instance — are better for this purpose. A Chinese-style program of deliberate moderation accompanied by tonic herbal treatments might be more effective at building a more satisfying sexual life than simply overstimulating the system to unnatural heights. Restraint — not outright denial — according to the Chinese, can enhance health and vigor, memory, creativity, and spiritual happiness.

The accompanying tables compare some of the lifestyle differences between the Chinese and Americans and list some habits that either deplete or build the *chi*. If you have deficient *chi*, and are thinking of taking ginseng or other tonic herbs, you will be more successful in your recovery if you make some changes in your lifestyle.

4 Ginseng and constitutional medicine

To continue our journey into the Chinese medical world view, I'll now explain constitutional medicine, and how ginseng use fits into it. A person's *constitution* is much like the constitution of a nation, the basic rules by which a country makes its laws and runs its affairs. Different nations have different ground rules, and so do different individuals. No two individuals have an identical constitution, but they fall into certain categories of Chinese medicine. One individual is naturally robust, another frail. One is hot-blooded and another always has cold hands a feet. One thrives in dry mountain air and another feels best by the ocean. One puts on weight with the slightest dietary indiscretion, and another cannot put on weight no matter what they eat. Western medicine ignores such considerations, but they are perhaps the most important consideration in Chinese medicine.

Western medicine looks at diseases rather than individuals. Any of the types above might have arthritis, or an ulcer, or high blood pressure, and conventional medicine will treat each disease the same, regardless of the patient's constitution. Chinese medicine, on the other hand, will take the symptoms of the disease into account, but will select treatment on the basis of the constitution. To understand the significance of this, let's meet two fictional characters.

The Businessman and the Grandmother

Standing before us are a businessman and a grandmother. Both have an ulcer. The businessman is angry, red-faced, robust, overweight, aggressive and hard-driving, with a pulse pounding so hard you can almost see it beating in his temples. He is hot, kicks off the covers at night, and likes cold drinks. The grandmother is frail and thin. Her face is pale, her voice soft. She is weak and tired. Her pulse is so thin that you can barely find it. She has cold hands and feet, wears extra layers of clothes, and likes warm drinks. She is more fearful than angry.

Although both these patients have an ulcer, they have very different constitutions. Western medicine would probably give each of them a drug to reduce the secretion of stomach acid. Chinese medicine, however, would give them entirely different diagnoses, and treat them differently. The businessman would receive herbs, diet, acupuncture, or exercises to reduce the stress and the heat in his system. He might receive herbs with a bitter flavor to "cool" his digestive tract. The grandmother would receive treatments to warm her up and increase her strength. She might receive warming herbs such as ginger or sweet ones like licorice for her digestive problems. Most important, she would be treated with tonic therapy, possibly with ginseng, while the businessman would not. In fact, tonic therapy could make the businessman's symptoms worse. In the United States, where the public is generally unaware of the appropriate use of ginseng, the aggressive businessman would be more likely to use it to enhance his drive, while the grandmother, who could really benefit from it, is most likely unaware that it exists.

Six principles

Chinese medicine uses three basic polarities to assess the state of a patient. Bear in mind that almost no patient is purely of one type, but will usually fall toward one end of a spectrum on the polarities of excess vs. deficient, hot vs. cold, and exterior vs. interior. The Chinese also have another five-phase method of constitutional evaluation, but the six principles above will suffice for the purposes of understanding how to take ginseng and the tonic herbs. These herbs are used in China for cold, deficient, and interior patterns, and are avoided or used with caution in hot, excess, and exterior conditions. The hundreds off millions of ginseng consumers in China understand these distinctions well. By learning them, American ginseng users can avoid the Ginseng Abuse Syndrome, which I discuss in detail in Chapter Seven. See the accompanying checklists to determine where you fall on these polarities. Note that people

Table 4.1

Checklist for excess and deficiency

Excess		**Deficiency**	
(The Businessman)		(The Grandmother)	
Agitation	___	Lethargy	___
Active limbs	___	Curled posture	___
Desire for activity	___	Desire for quiet	___
Red or flushed complexion	___	White or pale complexion	___
Loud voice	___	Low voice	___
Restless and talkative	___	Little desire to speak	___
Rough breathing	___	Shortness of breath	___
Distended abdomen	___	Soft abdomen, or distention with periodic relief	___
Complaint worse with pressure	___	Complaint better with pressure	___
Complaint better with activity	—-	Complaint better with rest	___
Strong pulse	___	Weak pulse	___
Wide pulse	___	Narrow pulse	___
Thick tongue coat	___	Little or no tongue coat	___

may have some signs on both sides of the polarity, but usually have a preponderance on one or the other.

Excess vs deficient.

The most important guide for the use of ginseng and other tonic herbs is the excess vs. deficient polarity. Note that "deficiency" as a Chinese term may have no relation to "deficiency" in Western medicine, such as "calcium deficiency." The Chinese term is sometimes translated as "vacuity" or "emptiness." In our example above, the businessman had an excess constitution, and the grandmother a deficient one. Ginseng and tonics are contraindicated in Excess conditions, which might be worsened by taking these herbs. Ginseng and other tonics, on the other hand, are the ideal treatment for Deficiency patterns. In Chapter Twelve, I'll go into much greater detail on how to evaluate deficiency. One kind of deficiency pattern that requires caution using tonics, especially Chinese ginseng, is deficiency with heat signs. Chinese ginseng is contraindicated in patterns which include heat signs.

Table 4.2

Checklist for hot and cold

Heat		**Cold**	
Red complexion	___	Pale or white complexion	___
Normal to high body temperature	___	Low to normal body temperature	___
Aversion to heat	___	Aversion to cold	___
Agitation	___	Cold hands and feet	___
Fewer layers of clothes, bedding	___	Extra layers of clothes, bedding	___
Thirsty	___	No thirst	___
Desire for warm drinks	___	Desire for cold drinks	___
Scanty urination	___	Plentiful urine	___
Dark colored urine	___	Clear urine	___
Hard stool	___	Thin stool	___
Diarrhea with foul smelling stool	___	Light colored stool	___
Red tongue	___	Pale tongue	___
Yellow coat on tongue	___	No coat or white coat on tongue	___
Rapid pulse	___	Deep pulse and/or slow pulse	___

Hot vs cold

The hot patient does not necessary run a fever, but you can take one look and see the heat. They usually feel hot, even if their temperature is 98.6°. They may have a red face. They may be agitated and restless. Their pulse will usually be fast. Cold patients may likewise have a normal body temperature, but will feel cold. They will be pale, and their pulse will be slow. Chinese ginseng and other warming tonics are not appropriate for self-medication in deficient patients with heat signs. American ginseng, on the other hand, is ideal for the hot and deficient patient. I'll explain the differentiation between these two ginsengs later in this section. Tonic herbs are classified as heating or cooling, and are selected for a particular patient on the basis of signs of cold or heat, respectively.

Exterior vs interior

The terms *Exterior* and *Interior* refer to the area of the body where symptoms are predominant. Exterior patterns have a concentration of symptoms at the surface of the body — the skin, muscles, and mucous membranes. Most common acute illnesses, such as colds or flu, allergies, muscle and joint aches, headaches, and skin rashes, are exterior. Other complaints without such external manifestations are considered to be interior. Ginseng and other tonics are contraindicated in all exterior conditions, which the herbs may aggravate. This means that if you are taking ginseng, and you catch a cold, you should stop taking the ginseng until the acute condition passes. Exterior and interior patterns may also be characterized by heat or cold, but for the purposes of this book, be aware that pronounced surface symptoms usually contraindicate ginseng and other tonic herbs. Also note that if you have an illness, you should consult a

Table 4.3

Symptoms of exterior and interior

Exterior

Symtpoms located in external organs, skin, muscles, joint, mucous membranes, lungs. Symptoms are located in the internal organs or the body, the digestive tract, heart, kidneys, bladder, uterus, etc.

pulse floating near the surface of the skin

fever

headache

aversion to cold

aversion to wind

pain in the muscles

pain in the joints

nasal congestion

cough

thin white tongue coat

Interior

Symptoms are located in the internal organs or the body, the digestive tract, heart, kidneys, bladder, uterus, etc.

Pulse deep towards the wrist bones

Table 4.4

The pulse and tongue in the six categories

	Hot	Cold	Excess	Deficient	Exterior	Interior
Pulse	**fast**	**slow**	**wide,firm**	**narrow, weak**	**at the surface**	**deep**
Tongue	**red**	**pale**				
Tongue coat	**yellow**	**white**	**thick**	**no coat or thin coat**		

physician, whether Western of Chinese, rather than attempting to self-medicate with tonic herbs. In the appendix, I list places where you can locate an acupuncturist or other natural physician.

Conclusion

If you have checked your own constitution and symptoms against the lists in this chapter, you have laid the ground to determine whether ginseng is appropriate for you, which kind to take, and what other tonic herbs or formulas are best for you. If you learn nothing else from this chapter, remember this: Tonics are for deficient constitutions. They may be used in special circumstances, such as by athletes, to improve performance, because athletes have a deficient constitution relative to the level of their activity. they might be used cautiously by normally healthy people who are under unusual stress. I'll cover the use of tonic by athletes in detail in Chapter Sixteen. Athletes will generally do better to take a balanced tonic formula, the way Chinese athletes do, rather than simply take ginseng.

5 The Chinese organ systems

At the beginning of this section, I told the story of the blind men and the elephant. Here we come to another major feature of the "elephant" — the Chinese organ systems. You will need to have some knowledge of these systems in order to understand what ginseng and the other Chinese tonic herbs do. Ginseng's remarkable medicinal action, from the Chinese point of view, is that to some extent it can benefit *all* the organ systems, while most tonics only benefit a few.

Organs East and West

The names of the Chinese organ systems can be confusing, because, when translated, they have the same names as Western *physical* organs. Chinese medicine, which evolved in a culture that was reluctant to cut open the physical body, defines functional systems and relationships that often have no apparent connection from the Western point of view. The Chinese Heart *(xin)* for instance, includes the physical heart, the propulsion of blood throughout the body, the tongue, the complexion of the face, and also the conscious mind. Herbal or acupuncture treatments for this Heart system might benefit physical heart disease, or might just as readily be given for forgetfulness, excessive dreaming, or insomnia — disorders of the consciousness. The Chinese might not say that the physical heart has a direct cause and effect relationship with the conscious mind, yet even in the West, we recognize that a shock to the conscious mind can affect the heart! Just as the Chinese developed a functional definition of *chi* — remember our example of electricity and the light switch — they observed over many centuries functional relationships in the body and psyche that they defined as organ systems. It is my opinion that it would be better to keep the original Chinese terms — as we do with *chi* — rather than to mix the languages of the two systems in this confusing way. These translations are now a standard convention in Chinese medicine in the West, however, so I'll use them throughout the book, but I will capitalize the Chinese term, while keeping it lower-case when it is used in the Western context.

Organ *chi*

In Chapter Two, I mentioned that one of the types of *chi* is *organ chi* — the *chi* that supplies vitality and enables the function of each organ system. An overall *chi* deficiency may manifest primarily in one or several organs, and the tonic herbs I'll cover in Chapter Thirteen are selected accordingly. Ginseng or one of its substitutes is invariably prescribed by Chinese physicians in formulas to treat deficient organ function when there is an overall *chi* deficiency. If you have a physical disease, or any serious disorder, you should probably not self-medicate with these herbs. If you want Chinese herbal treatment, I've provided a referral number in the Appendix where you can locate a trained practitioner of Chinese medicine.

Imbalances of organ *chi* can be complex. For instance, if *chi* is not flowing properly, it may be deficient in one organ system, but in excess in another. In this case, if you took ginseng or tonics, you might help the deficient organ, but you might just as well increase

Table 5.1

The Chinese Organ Systems

Bladder (pang-quang)

The *pang-quang* receives and excretes the urine.

Gall Bladder *(dan)*

The *dan* includes the function of the physical gallbladder, and the mental function of decision-making.

Heart *(xin)*

Xin in Chinese medicine includes the physical heart and its function, the propulsion of blood, the arterial system, the complexion, the tongue, the external ear, the conscious mind, and the containment of the spirit.

Kidney *(shen)*

The *shen* includes the physical kidneys, the adrenal glands, ovaries, testes, brain, spinal column, bones, teeth, anus, urethra, inner ear, and the functions of stress-response, fluid balance, reproduction, and growth. The Kidney assists in respiration.

Large intestine *(da-chang)*

The *da-chang* includes the physical large intestine and the function of the elimination of solid wastes and psychological release.

Liver *(gan)*

The *gan* includes the physical liver, the tendons, ligaments, external genitalia, and the functions of storing blood and regulating the smooth and orderly flow of blood and emotions.

the excess in the other, increasing your discomfort. A trained acupuncturist can ensure that the *chi* of the organs is properly balanced, and can recommend tonic formulas tailored to your particular body-type and condition.

The five viscera

The Divine Husbandman's Classic, the oldest book of Chinese herbal medicine, says that one of the properties of ginseng is that is used for "repairing the five viscera." Although Chinese medicine recognizes twelve organ systems, five are considered the

Lung *(fei)*

The *fei* includes the physical lungs and its functions, the skin, the hair, the refinement of *chi*, the maintenance of rhythm in the body, the immune defenses at the surface of the body, and psychological boundaries.

Pericardium *(xin-bao)*

The function of the *xin-bao* is to protect the heart. This organ was described in the chinese classics, but today the functions are held to come under the Heart.

Spleen *(pi)*

The *pi* includes the physical spleen, the pancreas, the lymph network, large muscles, flesh, the lips and eyelids, the function of extracting and converting nutrients into blood and *chi*, nourishing the muscles, and keeping the blood in its proper channels.

Stomach *(wei)*

The *wei* prepares the food for digestion, and it downward-moving *chi* sends it to the Spleen.

Small Intestine *(xiao-chang)*

The *xiao-chang* includes the upper intestinal tract below the stomach and liver, and the function of separating out the useful components of food and transmitting wastes to the organs of elimination — the Large Intestine and the Kidney.

Triple Burner *(san jiao)*

The *san jiao* has no corresponding organ in Western medicine. The "upper burner" is the area of the body above the diaphragm, including the head; the "middle burner" is the area of the body below the diaphragm but above the navel; the lower burner is the area of the body below the navel. The Triple Burner is the functional relationship between all these organs that regulate water balance.

most important — the Spleen, the Lung, the Liver, the Heart, and the Kidney. Table 5.1 gives a brief overview of each of the twelve systems. I'll describe the five major ones in more detail, and show how ginseng affects them. Remember that the Chinese concept includes far more than the physical organ. Each of the Chinese organs has a pattern of influence that interpenetrates the entire body in one way or another.

The Spleen

For understanding how the Chinese use ginseng and other *chi* tonics, the Spleen is the most important organ to learn. The Spleen is like the Grand Central Station of *chi*. The organ *chi* of the Spleen — Spleen *chi* — is like the power supply of the Spleen itself. It drives Spleen functions that have far-reaching effects in the body. The Spleen *chi* transform food into *chi* and blood. It sends this transmuted food essence upwards to the lungs where *chi* from the air is added to it, and blood is formed. Spleen *chi* also transports the generated *chi* and blood to the muscles and the flesh. And last, Spleen *chi* keeps blood in its proper channels. If the Spleen *chi* itself is deficient, or not otherwise functioning properly, a wide array of physical disorders can result. An overall *chi*-deficiency, chronic fatigue, or blood deficiency may occur. The digestion can become poor, and abdominal bloating or diarrhea can occur. The muscles can become weak and the body thin and emaciated. Heavy menstrual bleeding can occur, or other bleeding disorders. Although this diverse set of symptoms have no apparent relationship to each other according to Western medicine, Chinese doctors treat them routinely and successfully with acupuncture and herbal treatments to the Spleen, and appropriate dietary and lifestyle changes.

The Spleen *chi* is most easily thrown into disorder through improper diet and eating habits. Poor quality, heavy, and greasy food, meals eaten in a hurry or at the wrong time of day, food allergies, or a diet improper for an individual's constitution can all disrupt the Spleen, and result in any of the symptoms above. Once the Spleen *chi* is deficient, a vicious cycle can occur. The deficient Spleen turns out less *chi*, overall *chi* deficiency develops, and the Spleen *chi* then in turn has even less *chi* to do its work. This is the reason for the great emphasis placed on diet and digestion in Chinese medicine and in all systems of natural healing. In my own herbal practice I have many times seen run-down patients regain their strength and health with nothing more than diet changes and simple Western herbal digestive formulas.

One of ginseng's primary functions is as a tonic to Spleen *chi,* the power supply of the Spleen. It directly benefits overall *chi*, and also tones up the *chi*-generating properties of the Spleen. But for ginseng to do its work, the digestive system must be in shape. In Chinese practice, digestive herbs such as poria, licorice, jujube dates, or ginger are included with ginseng in a formula to ensure this. Other Chinese herbs, such as atractylodes, are even better tonics to Spleen *chi* than ginseng — atractylodes is more likely to be prescribed than ginseng for simple Spleen *chi* deficiency — but these other herbs do not have the wide-ranging effects that ginseng does on overall *chi* and on the other organ systems.

The Lung

Ginseng is also a tonic to the Lung. The Lung takes in external *chi* from the air and mixes it with *chi* derived from food by the Spleen. The Lung also circulates protective *chi* to the surface of the body, where it controls sweating and the immune system at the surface of the body. The rhythmic motion of the Lung ensures the rhythmic circulation of *chi* throughout the body. The Lung also has a role in disseminating moisture throughout the body, particularly to the skin. They also drive liquids down toward the Kidney. Thus if Lung *chi* — the vital power that allows breathing and dissemination of the protective *chi* and moisture — is deficient, deficient *chi* or stagnant *chi* due to improper circulation can occur overall or in any part of the

body. An individual may develop poor resistance to colds and flu, or may sweat spontaneously with little exertion. The skin may become very dry. Chronic cough or shortness of breath may develop. Even urinary problems may develop.

Part of ginseng's great power as a *chi* tonic comes from the fact that it benefits both the Spleen and the Lung, the two main partners in *chi*-generation. Codonopsis, a ginseng substitute used in China, also tonifies these two organs, and some practitioners hold that it does so even better than ginseng. Astragalus, a Chinese herb with growing popularity in the U.S. as an immune stimulant, is a premier Lung tonic in Chinese medicine, and has a particular strengthening effect on the circulation of protective *chi* by the Lung. Ginseng's effect on the lungs can be readily experienced. A short while after taking ginseng I feel a deepening and easing of my breathing. American ginseng is especially good for this effect.

The Heart

Another benefit of ginseng, which is not shared by the other tonics to the Spleen and Lung, is its beneficial action on the Heart. In the Chinese system, the Heart functions include those of the physical heart organ and the arteries. The Heart circulates the blood. But just as important, the Heart pattern includes the conscious mind. "The Heart contains the Spirit," according to classical texts. When the Heart is disturbed, physical symptoms such as palpitations or irregular heartbeat may occur. Mental symptoms such as clouded mind, anxiety, restless, insomnia, or excessive dreaming may also appear. In fact, the mental symptoms even without the accompanying physical symptoms will be treated through the Heart in Chinese medicine. Heart symptoms often accompany deficiency syndromes, and ginseng has a specific calming effect on the mental symptoms.

The Liver

The Liver is not directly affected by ginseng, expect through its overall *chi* and blood-building properties. Other tonic herbs I'll describe in Chapter Thirteen have specific effects on this organ, however, so I'll describe it here. The Liver is described in one Chinese classical text as "the general of the army," because it directs the *chi*, blood, and even the emotions to flow in an orderly manner. When the Liver is not operating properly, *chi* or blood may become stagnant, or erratically excess, and you might feel "stuck" emotionally as well. Frustration, anger, and outbursts of rage are common symptoms of a Liver disharmony. The Liver has a smoothing effect on the flow of *chi*, blood, and emotions. An analogy for this smoothing function is a high-quality surge protector for a computer. Electricity can come from a plug socket in an uneven flow, rising and falling as other appliances come on or off, as the power in the electrical grid of the city fluctuates, or when lightening strikes. A surge protector smoothes out these fluctuations to ensure an even flow of current to the sensitive elements of the computer. The human body may not be as vulnerable to destruction as a computer, but a wide variety of symptoms may appear if the Liver's regulating function is not working properly.

The Liver also affects the digestion through its control of the flow of bile through the Gall Bladder, and affects the direction of blood to the periphery of the body during activity, and back to the internal organs during rest.

It is very important that the Liver be functioning properly if you want to use ginseng or other tonic herbs. Otherwise, it could be like introducing a spike of electricity to a computer with a malfunctioning surge protector. Anger, frustration, and tension are common side effects in people who use ginseng improperly. Herbs to benefit the liver are often included in *chi* and blood tonic formulas.

Kidney

The Kidney is the most important organ to learn to understand the action of yin and yang tonic herbs, two categories I'll explain in Chapter Thirteen. These herbs are most often used to treat sexual weakness, low back pain, premature aging, and other symptoms. Ginseng does not directly affect the Kidney according to modern medical texts, but its reputation as a sexual tonic and stress-relieving herb and its action to speed the metabolism indicate that it has some indirect action here. Ginseng or one of its substitutes is often included in formulas to strengthen the kidney function.

The Kidney is considered to be the seat of life. It governs the entire process of reproduction, as well as the growth, maturation and maintenance of the entire body and of each organ system. The heat of the Kidney is the source of metabolic fire that rules both water balance and overall metabolism. These functions correspond to the actions of the hypothalamus, adrenal, and pituitary glands in Western medicine. People with deficient Kidney function may become cold or develop water imbalances or reproductive disorders. The Kidney participates with the lungs to control breathing, and Kidney deficiency can sometimes cause shortness of breath or chronic cough. The Kidney also rules the development and health of the bones, and bone disorders such as osteoporosis are treated through the Kidney in Chinese medicine. Because the Kidney also governs the ears and the hearing, deafness and tinnitus are treated through this organ. Many of the normal signs of aging, such as weakened hearing, frail bones, greying of the hair, low metabolism and feeling cold are due to the natural decline of Kidney function toward the end of life. If these signs appear early, a Chinese physician will select tonic herbs and acupuncture treatments that affect the Kidney. The Kidney can easily be injured through such activities as overwork, overindulgence in sex, and staying up late at night.

Ginseng's reputation as an anti-aging and endurance-building herb is based on its indirect actions on the Kidney. Steamed ginseng, which has a red color and more heating properties than unprocessed ginseng, is a direct tonic to the Kidney fire. Other tonics, such as *he shou wu* (Fo Ti in the West) affect the Kidney directly and also have reputations as sexual restoratives and longevity-promoters.

The cycle of *chi* in the organ systems.

In Chapter Three, I discussed lifestyle, and included the recommendation to eat a substantial part of your daily caloric intake early in the day, and to get good rest at night. Now that we've seen something about the Chinese organ systems and organ *chi*, I can say more about why this is so.

The *chi* in each of the Chinese organ systems peaks at a certain time of day, and is at its low point at the opposite time on the clock (See Table 5.2). The organs that

support digestive function and activity have the peak of their organ *chi* between 7 A.M. and 7 P.M., while the *chi* of the organs that support rebalancing and regeneration of the system peak in the opposite hours. The best time for digestion and for production and circulation of *chi* is from 7 A.M. to 1 P.M. Thus the Chinese have a saying: One should eat like a king for breakfast, like a prince for lunch, and like a pauper for dinner. 9 A.M. to 11 A.M., when the spleen *chi* is at its peak, is the best time to take some hard-to-digest tonic herbs, especially blood tonics. The Spleen function has fallen below average by 4 or 5 P.M., and it's the best time to eat like a pauper. On the other hand, sleeping during the day, eating late, and staying up at night during the time when the organ systems are trying to regenerate the body depletes the *chi*.

Many people will say that this cycle does not fit their natural rhythm. However, it's entirely possible that their habitual rhythms are due to imbalances of the organ systems. Poor appetite during the daytime hours can be due to Spleen deficiency rather than an innate hunger-clock. Likewise nocturnal habits and insomnia can be due to imbalances in the regenerative organs. The *chi* of the Heart, the organ whose deficiency is most likely to be involved in insomnia or mental unrest, is at its low ebb from 11 P.M. to 1 A.M.

Conclusion

Many of the tonic herbs I'll describe in Chapter Thirteen are specific organ tonics. Their action is mainly in one or two organ systems rather than on the whole system. In that Chapter, I'll list which organs each herb affects, and you're now prepared to understand what that means in Chinese medicine. We've now seen a large part of the "elephant' of Chinese medicine, and in the next Chapter I'll explain specifically how the Chinese use both chinese and American ginseng.

Table 5.2 The Cycle of Chi in the Chinese Organs Systems

The Cycle of Chi in the Chinese Organs Systems	
Organ system	Function
5 A.M. to 7 A.M. Large Intestine	Completion of the night's regenerative function. Preparation for evacuation. Psychological release through dreaming. Good time for meditation or prayer in preparation for the day.
7 A.M. to 9 A.M. Stomach	Best time to eat. Peak time for digestion of food and for its transformation into *chi* and blood. Nutrients are circulated to the muscles and flesh for the day's work.
9 A.M. to 11 A.M. Spleen	
11 A.M. to 1 P.M. Heart	Peak time for circulation of *chi* and blood. The conscious mind is also at its peak. Worst time of day to sleep. The Spleen function is declining. Best time to finish lunch, with lunch and breakfast together making up most of the caloric intake for the day.
1 P.M. to 3 P.M. Small Intestine	
3 P.M. to 5 P.M. Bladder	The Kidney's metabolic fire is at it's peak, and Spleen function has declined. Good time to finish work, take a nap, meditate, or pray, and eat a light meal.
5 P.M. to 7 P.M. Kidney	
7 P.M. to 9 P.M. Pericardium	Good time for light activity and mental pursuits. The time for metabolic balancing and regeneration begins. Best time to review the day and go to bed. Spleen function is at its low-ebb.
9 P.M. to 11 P.M. Triple-Burner	
11 P.M. to 1 A.M. Gallbladder	Best time to be asleep. Activity during this time draws blood away from the Liver and internal organs, and inhibits regenerative functions.
1 A.M. to 3 A.M. Liver	
3 A.M. to 5 A.M. Lung	The Lung regenerates the immune function and supports the restorative work of the Liver. Poor time to be awake. z

6 How the Chinese use ginseng

Herbalism in China includes folk herbalism, self-medication with patent medicines — a rough equivalent to over-the-counter medicines in this country — the herbalism of acupuncturists and others using the formal tradition of Chinese medicine, and herbalism as practiced in modern hospitals, often by doctors with dual degrees in conventional and traditional medicine. These areas all may overlap, but I'll use these divisions to show how the various groups use both Chinese and American ginseng.

Ginseng as a household medicine

The knowledge of ginseng and how to use is common in most households in China. Families know, for instance, that it builds *chi*, moistens a dehydrated system, is used for deficiency, that it is not appropriate for the young, and that it is contraindicated when a person shows signs of heat or has an acute illness. Ginseng is used specifically for conditions of weakness and low energy — especially by the elderly and those over forty years old — and to aid recovery in the aftermath of febrile and other illnesses. It might also be used as a general tonic for older people even when they are in good health, especially in the winter months (in the summer it may be too warming). The Chinese may also use ginseng to enhance spiritual pursuits and meditation. It has been known to "increase wisdom" since before the time of the earliest Chinese texts.

Families may have their own stash of ginseng roots, which are expensive in the third-world economy of China. Elders are highly respected in the Chinese culture, and the treasured roots may be reserved for them in their time of need during health crises. A typical way to take the roots is prepared in water or liquor along with a few jujube dates. I'll explain how to do this yourself in Chapter Fifteen. Another method is to steam the root, cut it into thin slices, and eat a few a day.

Ginseng gifts

The roots are so highly valued that they are often given as gifts. It is a sign of esteem and respect for status to give a well-formed root to a superior, a good customer, or an honored guest. I heard the story of an American school teacher who spent some time in a Chinese village teaching English, as a service, without pay. When it came time for her to leave, the village elder presented her with a beautiful cloth-wrapped wooden box. Inside was a ginseng root. It is possible that this cultural aura placed on the roots inflates their value far above their actual medicinal value.

Patent medicines

Whereas the roots are expensive, a variety of lower-priced Chinese patent medicines, extracts, and teas containing ginseng are available through shops, and are widely consumed in China. You will see many of these same products in Chinese and Korean stores in the U.S. I'll describe several of them and tell you how to order them in the next section of this book. These

products are much weaker than the whole ginseng roots. The teas probably contain very little ginseng at all. The better-quality extracts, even though they are made from the poorest quality roots, and are variable in quality, have a definite mild tonic effect. Some popular extracts use ginseng alone, or in combination with one or several other herbs such as astragalus or royal jelly.

Ginseng in traditional medicine

Traditional Chinese medicine, which uses herbs, acupuncture, diet, lifestyle changes, and exercises as its main tools, exists as a system of medicine parallel to conventional medicine in China. Some hospitals use only traditional methods. Overlap between the two systems exists, because even in modern conventional hospitals, some traditional methods are used.

Ironically, the higher up you go into formal Chinese medicine, the less ginseng is used, even by traditional doctors. This is because the herb codonopsis, which I'll describe in detail in Chapter Thirteen, is routinely substituted for ginseng in all classical formulas except those used in emergency situations. This doesn't reflect a devaluing of ginseng, but rather its high cost, and also of the effectiveness of codonopsis. Ginseng was used historically in traditional medicine in formulas. I'll describe the most important formula below.

The Four Gentleman

The Four Gentlemen formula has appeared in classical Chinese texts since about 1100 A.D. This is a classical formula for tonifying the *chi*.

In modern practice codonopsis is substituted for ginseng, at 2-3 times the dosage. Codonopsis tonifies the Spleen and Lung and also moistens dryness. The formula, like all chi tonic formulas, focuses on the Chinese Spleen. I discussed the importance of the Spleen to *chi* in detail in the last chapter. The transformative function of the Spleen is the source of *chi* and blood in the body. Atractylodes is included because it is even more powerful as a Spleen tonic than ginseng, and because its bitter flavor also tones up the Stomach. Poria is included because abdominal bloating so often accompanies Spleen deficiency. It reduces such bloating, and is also diuretic. Licorice, when fried in honey, is a warming *chi* tonic, and improves digestion. It has a tendency to cause bloating itself, so it goes well with the Poria, which has the opposite tendency. The two balance each other, while aiding the deficient digestion to handle the other herbs in the formula. Licorice is also understood in Chinese medicine to "enter" all the twelve acupuncture meridians. It is included in many formulas to "guide" the effects of the formula throughout the entire body. Chinese formulas are very versatile — notice that the amounts of the herbs in the formula are given in ranges rather than fixed doses. These are the dose ranges used by modern practitioners. The Chinese herbalist can modify the various proportions of the herbs to fit the individual patient. He or she might use more poria and less licorice, for instance, if there is abdominal bloating, more or less ginseng depending on how deficient the patient's *chi* is, and more or less atractylodes depending on the extent of Spleen deficiency.

Table 6.1

The Four Gentlemen formula For overall chi and Spleen chi deficiency

Herb	Amount	Action
Ginseng	3-9 grams	chi tonic, moistens dryness, tonic to Spleen and Lung, calms the Heart
Atractylodes	6-9 grams	Spleen tonic, Stomach tonic
Poria	6-9 grams	Spleen tonic, dispels abdominal distension
Honey-fried licorice	3-6 grams	chi tonic, strengthens digestion, disperse the action of the formula into all twelve meridians

Table 6.2

Some variations of the Four Gentlemen Formula

Source: Bensky and Barolet

To treat deficiency accompanied by diarrhea and vomiting in children

Ginseng	7.5 grams
Atractylodes	15 grams
Poria	15 grams
Honey-fried licorice	3 grams
Aucklandia	6 grams
Agastache	15 grams
Pueraria	15-30 grams

Chinese formulas are also modified by adding more herbs to them. This Four Gentlemen formula is the root formula for dozens of other *chi* tonic formulas, each adapted to one of the many variations of *chi* or blood deficiency, and the state of the organs in the individual patient. Here are some examples:

For intermittent fevers with spontaneous sweating and cold signs.

Astragalus	12-24 grams
Ginseng	9-12 grams
Atractylodes	9-12 grams
Honey-fried licorice	3-6 grams
Dong quai	6-12 grams
Citrus Peel	6-9 grams
Cimicifuga	3-6 grams
Bupleurum	3-9 grams

For chronic cough from deficiency with heat signs

Ginseng	60 grams
Poria	60 grams
Honey-fried Licorice	150 grams
Gecko lizard	1 pair
Mori alba	60 grams
Almond kernel	150 grams
Fritillaria	60 grams
Anemarrhena	60 grams

Other formulas

Ginseng or its codonopsis substitute are included in dozens of other classical formulas used to treat a wide variety of conditions and diseases due to deficiency. Table 6.3 shows the wide range of possible conditions that can have deficiency as a contributing factor. In most cases ginseng is not included to treat the disease directly, but to provide the energy in the system for the other herbs to do their work.

Table 6.3

Some herbal combinations with ginseng in traditional Chinese medicine

Source: Bensky and Gamble

Ginseng with *Vitex rotundifolia (man jing zi)* berries and astragalus *(huang qi)* for eye disease, tinnitus, deafness, and dizziness from deficient conditions.

Ginseng with ginger root *(gan jiang)* and pinellia *(ban xia)* for vomiting due to deficiency and cold.

Ginseng with cinnamon *(rou gui)* and rehmannia *(shu di huang)* for heart palpitations due to deficient Heart and Kidney

Ginseng with prepared aconite *(fu zi)* for the profuse sweating, icy cold extremities, shortness of breath, and other symptoms associated with shock.

Ginseng with atractylodes *(bai chu)* for anorexia, diarrhea, vomiting, abdominal distension, and fatigue from deficient Spleen.

Ginseng with schizandra *(wu wei zi)* and Ophiopogon *(mai men dong)* for shortness of breath and spontaneous sweating associated with deficient qi and yin.

Ginseng with rehmannia *(shu di huang)* and Asparagus root *(tian men dong)* for fever, thirst, irritability, shortness of breath, and a dry red tongue from deficient qi and yin.

Ginseng with astragalus for general debility, decreased appetite, fatigue, and spontaneous sweating from Deficient chi

Ginseng with polygonum *(huang jing)* for weakness and debility, decreased appetite, fatigue, and emaciation as the aftermath of prolonged illness or as the result of chronic wasting disease.

Ginseng with polygonum *he shou wu*, angelica *(dong quai)*, carapax *(bei jia)* and anemarrhena *(shi mu)* for chronic intermittent fever and chills with physical debility

Ginseng with deer antler *(lu rong)* for palpitations, lower back pain, and decreased or difficult urination associated with severely deficient Heart and Kidney

Ginseng with Gecko lizard *(ge jie)*, *Semen Juglandis regia (hu tao ren)* and schizandra *(wu wei zi)* for cough and wheezing from deficient Lung and Kidney, and for impotence, decreased sexual function, diarrhea, and frequent urination induced by deficient Kidney yang.

Ginseng with asparagus root *(tian men dong)* and rehmannia *(shu di huang)* for debility and low-grade fever from Deficient yin, as in the aftermath of a severe illness.

Ginseng with ophiopogonis *(mai men dong)* and schizandra berries *(wu wei zi)* for profuse sweating, wheezing, increased heart rate, and exhaustion association with severe deficiency of Heart and Lung, and for excessive loss of fluids in hot weather.

Ginseng with cornus fruit *(shan yu rou)*, dragon bone *(long gu)*, oyster shell *(mu li)*, aconite *(fu zi),* for profuse sweating from devastated yang with collapsed *chi.*

More on patent medicines.

Above I mentioned the patent ginseng preparations that many Chinese purchase in shops. A very wide variety of such medicines exist, and they are used in traditional medical practice as well as by the lay public. Go into any well-stocked Chinese store, and you can find dozens of these brightly-packaged products. Many are based on classical formulas. They are more complex to take than American over-the-counter medicines, however. You might take an aspirin for a headache or a decongestant for a cold. But the cold medicine you select in a Chinese shop might be for either "wind-cold" or "wind-heat," terms the Chinese understand. In most such shops in North America, as in China, the proprietor or a key employee is an expert herbalist, and will give consultations. Lay self-prescription of herbs and traditional medicine thus meet in such stores.

The many patent remedies based on classical formulas that once called for ginseng mostly contain codonopsis instead today. The Chinese patent medicines are usually made from the lowest grades of herbs, with the better quality herbs sold in bulk at higher prices. Many American companies now make equivalent of these patents, but from higher grade herbs. Some of these formulas actually contain high quality ginseng instead of the codonopsis substitute. I'll describe some of these products — both Chinese and American — and tell you how to obtain them when I cover each of the tonic herbs, and in Chapter Nineteen on products.

Raising the dead

Ginseng is used today, as it was in the past, to temporarily revive terminally ill patients. This was a practice with dying Chinese emperors. When it became apparent that the ruler was about to lapse into death, he would receive large doses of ginseng. This would revive him to consciousness for a few hours or days so he could settle his affairs.

As unlikely as such a story might sound to a Westerner, American herbalist and acupuncturist Michael Tierra of Santa Cruz, California, tells of two cases where he witnessed just such a revival. One man was dying of heart failure, the other of cancer. Each apparently only had days or weeks to live. He prescribed one whole ginseng root a day for each patient. "It brought them out of a comatose state," he says, "noticeable within two or three days." They died as expected, but the ginseng gave them a last chance to say last goodbyes to families and attend to any unfinished business. "No other herb would have done that," says Tierra.

Emergency medicine

In a way closely related to the above use, The Chinese use ginseng in high doses in emergency medicine, for traumatic shock and for severe chronic diseases. The following formula is a standard in traditional hospitals and emergency rooms in China, sometimes prepared ahead in intravenous form.

Unaccompanied ginseng decoction

du shen tang

30 grams of ginseng (Classical formulas called for 60 grams!)

decocted with five jujube dates.

This formula is used for life threatening shock from blood loss. it is used for trauma, wounds, and bleeding after childbirth and other severe uterine bleeding. When a person has experienced a trauma, especially with blood loss, the body may lose its ability to regulate blood volume. Capillaries, the tiniest of the blood vessels, dilate, and even the normal amount of blood in the body becomes insufficient to fill them. Ginseng is used routinely and effectively in traditional hospitals for such cases.

Ginseng and Aconite Decoction

shen fu tang

Ginseng	12 grams
Prepared aconite	9 grams

Classical formulas called for 30 grams of ginseng and 15 grams of aconite. The lower amounts above are the doses generally used in hospitals in China. This formula is used for chronic diseases such as heart failure or heart attack, that have reached a critical stage, and sometimes for the emergency situations described above. Aconite is an extremely powerful herb, never appropriate for self-medication.

Ginseng and athletes in China

Many professional athletes in China use ginseng to improve their performance. During the last Olympics, Chinese women distance runners performed so well that their coach was accused of using drugs to build them up during training. They all passed their drug tests, however, and he revealed that he had given them nothing more than Chinese tonic herbs. He didn't reveal the formula, but it probably included ginseng. Top Chinese athletes invariably take ginseng and tonic herbs in formulas rather than alone. I'll explain in detail how athletes can use ginseng and other tonic herbs in Chapter Sixteen.

American ginseng

The Chinese consider American ginseng a different plant, with different properties than Chinese ginseng, and do not consider it a substitute for their native variety. Few of the uses of the two plants overlap. This does not mean that they to not value it highly. It is a prized medicine in the Chinese culture. The demand for it in China puts a constant strain on the American supply, and drive the price here to about $300 a pound, much more than even Chinese ginseng. In recent

decades, the Chinese have begun cultivating their own American ginseng plants. According to the eighteenth century Chinese herbal in which American ginseng first appeared, it tastes like ginseng but has cold properties, and is used to generate fluids in dehydrated patients and break fevers. This is how it is still used in Chinese medicine today. It benefits the lungs, and is used for coughs resulting from lung *chi* deficiencies. It is also used for loss of blood, thirst, fever, irritability, and tiredness. Although it is considered, like Chinese ginseng, to be a tonic, none of the Chinese literature classifies it as a general tonic. Because of its cooling properties, American ginseng is popular in the hot climates of southern China and Southeast Asia, and in the rest of China during hot weather. It will relieve tiredness, and does not have the contraindication for heat signs that Chinese ginseng does. It will quench thirst due to hot weather and sun exposure.

Albert Y. Leung, in his book *Chinese Herbal Remedies,* tells of how he saw the two ginsengs used when he was a child in China. He was not allowed to take Chinese ginseng, but was told that he was "young and strong and should not require it [Chinese ginseng] to overdo what nature was already doing" for him. But he remembers taking American ginseng on many occasions, especially in the summer to cool down. When one of his sisters had scarlet fever, a condition for which Chinese ginseng would be contraindicated because of its heating properties, his grandmother gave her American ginseng to help cool her fever. She recovered with no complications.

Conclusion

The stories above about treating terminally ill patients with a whole ginseng root a day to revive them should raise your awareness about the caution necessary when using ginseng, especially in large amounts. If it can so energize a comatose, dying patient, imagine the overstimulation and imbalance such a dose could cause in a healthy person! In the next Chapter, I'll discuss ginseng abuse, including some cases where individuals took such large doses.

7 Ginseng abuse

The "Ginseng Abuse Syndrome" was big news in herbal circles in the U.S. in the late 1970s after an article by that title appeared in the *Journal of the American Medical Association.* A researcher had tracked down 133 long term users of ginseng, and found that it could cause insomnia and high blood pressure with long term use. Other symptoms included diarrhea, skin eruptions, and nervousness. The research was so poorly done that it should have been an embarrassment to the editors of the *Journal.* The author did not ask the participants what kind of ginseng they were taking, or identify any of the original herbal material. He also apparently did not notice that the individuals in the study were also taking caffeine, something that was evident from the published data. The adverse effects should have been labeled the "ginseng-caffeine" abuse syndrome. I will talk more in detail about the problem of taking ginseng and other tonics along with stimulants in Chapter Eleven.

American herbal companies immediately attacked the *Journal* study, circling the wagons around one of their top-selling products. When smoke from the argument clears, however, you can look in any good Chinese medical text, it will tell you that long term use of ginseng can lead to insomnia and hypertension, along with heart palpitations, muscle tension, and headache! The *Journal* author, although his science was faulty, had uncovered some basic facts about ginseng.

Ginseng toxicology

Overall, ginseng has very low toxicity, and is much safer than over-the-counter pharmaceutical drugs you can purchase in any convenience store. Perhaps ten million people in the U.S. consume ginseng regularly, and no truly serious side effects have appeared in the medical literature. In human toxicology studies in Russia, about twelve ounces of a 3% alcohol solution of ginseng (97% water) caused a mild degree of restlessness. This is a very common side effect to ginseng use. Twenty-four ounces produced the symptoms of overdose — systemic rash, itching, dizziness, headache, or fever. In severe cases, bleeding occurred. A single dose, the equivalent of about two quarts of the solution, has caused death. There are no recorded cases of death from ginseng in this country, despite regular abuse by those who are ignorant of its properties. It is hard to say exactly how the data above translates into doses of either whole roots or of products available in the U.S., because the number of roots in the solutions was not specified in the research. Note that this research showed immediate effects of single doses. Some of these symptoms can appear at lower doses when ginseng is taken for long periods.

One or several of the minor symptoms above are very common side effects to ginseng overuse. The Chinese know this from several thousand years of observation, and know to stop taking ginseng if any of these signs appear. More often, though, they avoid side effects entirely by not taking ginseng when they have excess conditions, heat signs, acute illnesses, or painful conditions. Tables 7.1 and 7.2 show contraindications and possible side effects to ginseng use.

Table 7.1 Contraindications for taking Chinese ginseng

heat signs (see Chapter Four)

signs of excess (see Chapter Four)

high blood pressure (may be ok in mild or moderate cases)

any acute illness, such as colds, flu, or allergy attacks

any painful or inflammatory condition

proneness to nosebleed

excessive menstrual bleeding

pregnancy

use by children, unless prescribed by a licensed practitioner

the habitual use of stimulants (caffeine, ephedrine, mahuang)

Table 7.2 Possible side effects to regular ginseng use

diarrhea

headache

heart palpitations

heavy menstrual bleeding

high blood pressure (with prolonged use)

irritability

insomnia

itching

mild fever

muscle tension, especially in the neck and shoulders

nosebleed

rash

red burning eyes

Restlessness

Estrogenic effects

Three different anecdotes reporting estrogenic effects with ginseng in women, including vaginal bleeding in a seventy-two-year-old woman, have appeared in scientific journals. According to Varro Tyler, Ph.D., in his book *The Honest Herbal*, these reports are inconclusive as to whether ginseng was actually the cause.

A case study

Here is a case study of ginseng abuse that was submitted to my *Medical Herbalism* newsletter by herbalist Jonathan Treasure of Oregon. A man in his forties had been on a vegan diet (no animal products at all) for about four years. He was run-down and depressed, and started taking ginseng to "get going." He took two capsules of eleuthero root (Siberian ginseng) and two vials of Korean ginseng, a liquid form of ginseng available in Asian stores and some health food stores, five days a week. After about three months, he started getting headaches. He kept taking the ginseng, and finally developed a severe nosebleed with a severe, incapacitating headache. Both these symptoms were observed in the Russian research I described above. He was also drowsy, with a heavy feeling. The episode lasted for four days. He cut his ginseng dose down to three days a week on his own.

He first saw Treasure about three weeks after the event. The patient complained of depression, slow healing of infections, and numbness and tingling in his limbs. The symptoms suggested a vitamin B12 deficiency, and other vitamin deficiencies as well. Vitamin B12 is not present in a vegan diet. Treasure recommended B12 shots, oral B12, and a multivitamin and mineral complex. He also gave an herb for the depression, and recommended that the man eliminate the ginseng altogether. The patient's symptoms at this point reflected his original underlying condition rather than the ill-effects of the ginseng. The patient did not return for his follow-up visit, but Treasure saw him later, and he said that he was "better." He had also started taking the ginseng again!

This patient was definitely deficient, and his problem did not arise because he took the ginseng when he couldn't use it, a situation that will lead to side effects much faster than the three months they took to show up for him. He is a walking illustration of the point I made in Chapter Three: Don't expect ginseng to take the place of a reasonable diet and lifestyle. His deficiency was due at least in part to his extreme diet, which was not suited to his constitution. He also took the ginseng for too long. A normal course is to take a complete break from ginseng for a week or two every six to eight weeks. And he took too much. Half the dose would have been more appropriate for long term use. Finally, he did not know the signs of overdose, and kept taking the ginseng after they appeared.

My story

If you take ginseng when you don't need it, adverse effects can show up much faster than they did in the case above. My own story illustrates this perfectly. In the 1980s, before I understood how to use ginseng properly, I was to attend a convention where I would have to sit in board meetings for long hours for several days. The site was at a higher altitude than I was

accustomed to. I wasn't particularly deficient, but I thought I'd fortify myself for the stress by taking some ginseng, something I had never done before. I took three or four tablets of a high-quality commercial product each day, along with extra vitamin C. I also drank a lot of coffee while there. I am not the sort that should usually take ginseng, having a robust and active constitution, and prone to develop heat signs easily. I kept taking the ginseng (and drinking coffee) for a week after the convention. One night, while trying to go to sleep, I noticed that my pulse was racing at about ninety beats per minute and that I had heart palpitations. The men in my family are prone to heart disease, so I went for a complete heart checkup. The doctors couldn't find anything wrong. I finally figured out that the ginseng was causing the symptoms, stopped taking it, and the symptoms went away. My story illustrates two points: don't take ginseng if you don't need it, and don't take it along with stimulants, which I'll discuss in great detail in Chapter Eleven. [2]Abuse on a grand scale

I've heard reports of two men who systematically abused ginseng for decades. Their stories show the folly of using this wonderful medicine to extremes. The men were both ginseng traders, with unlimited access to high quality roots from China. Thus they were in a position something like drug lords who have unlimited access to cocaine. One of these men once ate a whole $12,000 wild Asian ginseng root in one sitting! I heard their story in confidence from one of their professional colleagues, also in the ginseng trade. Both were young when they started taking ginseng, and probably did not need it at all. Both of them took it regularly for fifteen to twenty years, sometimes in high doses. And both began to show definite signs of premature aging while still in their forties. One man's hair suddenly turned completely grey over the course of a single year. The other one, after consuming the whole expensive root, had to retire from business within a month, and moved to a monastery, where he appeared to age a decade or more within a year.

In Chinese medicine, the essence of life and growth is contained in the Kidney, and premature aging is seen as a sign of depletion of this essence. It runs down naturally as we age, but excessive activity, and especially excessive sexual activity, can deplete it prematurely. Perhaps these young men drove their systems to such a high level of activity and stimulation that they literally "spent" part of their later years prematurely. Their story is not so much a warning to the public. Most of us couldn't afford to abuse ginseng in that way, and would not be disposed to do so anyway. It's more a call to use ginseng wisely. In an indirect way, it is also a testimony to the overall safety of ginseng. Despite abuse in a worst-case way, both remained in apparent normal health for decades.

Misuse in America

For twelve years in the 1970s and early 1980s I managed health food stores with herb departments. In that time I saw many people purchasing ginseng. I must say that I cannot recall a single person who appeared to need it. Most were young, aggressive males who already had plenty of energy, wanting to boost their activity level or sexual prowess to unnatural heights. This is the type of person who can most easily develop the ginseng abuse syndrome. The Chinese have long held that ginseng can increase the wisdom, but you need a little wisdom in the first place to use it properly.

I would especially caution against taking large doses of ginseng. We saw in the last chapter that a thirty gram dose — about an ounce, or one larger root — can revive a person from a coma or save them from life-threatening shock. The dose for normal tonic use is a few small slices of such a root. What if the larger dose were taken by a person who is healthy, such as the man in the last example above? It could not possibly benefit their system, and may disrupt it to a great degree. It would certainly cause great discomfort.

Here are some tips for avoiding the symptoms of ginseng abuse:

- Take it only if you need it
- Don't take it on an ongoing basis. Breaks of a week or two out of every six to eight weeks are appropriate.
- Stop taking it if it has done it work. Once you are no longer deficient, or begin to show signs of excess, you no longer need it.
- Stop taking it if the above side effects begin to appear. The first signs are usually restlessness and tension in the neck and shoulders.
- Don't take it along with caffeine or other stimulants.
- Stop taking it while experiencing transient colds, flu, or other acute illnesses

Section III

Ginseng in Science

Ginseng is without a doubt the most highly studied medicinal plant in the world. Since the turn of the century, more than 3,000 scientific research articles have appeared on ginseng or its constituents. Most of these have been done in Asia and Russia, and most fall into one of two categories: 1) studies of ginseng's chemical constituents or 2) studies of the effect of these constituents or extracts of the whole plant on animals.

For the high volume of ginseng studies, there are surprisingly few human studies, especially double-blind clinical trials — the gold standard of scientific proof. Most of these trials are on Asian ginseng, with very little research available on American ginseng. In this section, I'll review the ginseng research, discuss its constituent, and explain how scientist think ginseng produces the wide variety of medicinally actions attributed to it.

8. Ginseng research

Scientific research into ginseng began at about the same time that the modern scientific approach was evolving in the mid-10th century. Because of its fame as a medicine, ginseng attracted the curiosity of some of the first medical researchers.

Constituents

The American scientist Garriques isolated a constituent he called panaquilon from American ginseng in 1854. The Russian Davydow isolated a similar constituent from Asian ginseng five years later. By 1915, researchers in Japan and Korea had isolated similar constituents, and identified them as *saponin glycosides*. I'll discuss these substances, which are now called *ginsenosides* or *panaxosides* later in this chapter. Other substances isolated included a fatty acid and an essential oil.

Early animal research

Animal research into ginseng's effects began in the early twentieth century. Stimulating effects on the central nervous system, defensive actions against stress, and metabolism-raising, blood sugar-lowering, anti-atherosclerotic, and aphrodisiac properties were all demonstrated in animals by the 1920s. Most notably, researchers demonstrated even by this early date that ginseng affects the entire system, not just one organ or mechanism within it. The first published book of ginseng research, the *History of Ginseng* contained sixty-six research papers abd was published in 1936.

The adaptogen theory

Ginseng research declined during the time before and during World War II. The real breakthrough in ginseng research came from the Russians in the late 1940s and 1950's. Led by the Russian Itskovity Brekhman, a team of scientist performed extensive ginseng experiments in both animals and humans. Their work was an important breakthrough because they came up with a way to describe the action of ginseng and other tonic herbs in Western terms. Ginseng's action has been unaccessible to most Western scientists because they have no knowledge of the principles of Traditional Chinese Medicine. You can't just say that ginseng has "tonic" properties in a scientific article, or that it "builds *chi*." Even if conventional scientists did study Chinese medicine, the results of their work would have to be translated back into Western terms in order to report the results. Perhaps the Brekhman team's most important contribution to ginseng research was to develop a scientific term for "tonic."

Adaptogens

Brekhman and his colleagues coined the term *adaptogen.* An adaptogen is a substance that enables the body as a whole to respond to *non-specific stress.* A flu-shot might strengthen the body's response to the influenza virus, or anti-malarial medicines might protect against

malaria, but an adaptogen will protect against a whole range of stressors — sleep deprivation, overwork, physical exercise, trauma, heat, cold, work stress, infection, cancer, and even radiation. An adaptogen does this not on the strength of its own chemical activity, but by strengthening the body's own innate response mechanisms. Other properties of an adaptogen, in the Russian model, are that it is non-toxic, and that it may be taken as a food. Adapotgenic substances also tend to normalize body functions — increasing them if they are deficient and reducing them if their are in excess. Adaptogens are receiving growing recognition in Western science as medicines for stress and fatigue.

Ginseng

After conducting a tremendous amount of research into ginseng, including animal and human studies, Brekhman published the research in 1957 in Russian in the book *Zen-shen*. He had demonstrated the principle of non-specific resistance by subjecting animals to a wide variety of stresses and comparing the behavior or health of ginseng-treated groups with untreated groups. He also showed improved resistance to stressors and improved athletic performance in humans.

Most of this research unfortunately remains in Russian, and is not accessible to most Western scientists. This has led many Western reviewers to conclude that ginseng is poorly-researched. Brekhman went on to study other Chinese and Russian plants, and discovered adaptogenic properties in the Russian *Eleutherococcus senticosus,* known in the West as eleuthero root or Siberian ginseng. Eleuthero root, although not as versatile or powerful as Asian ginseng, has become a common anti-stress medicine both in Russia and in the U.S.

Learning

During this period, the Bulgarian scientist Vesselin Petkov performed research into ginseng's effect on learning and cognitive function. In conditioned learning experiments, such as where the experimenter provides a mild electrical shock to an animal after sounding a bell, animals will learn to associate two different stimuli. Later, if the bell is sounded without the shock, the animal will respond as if a shock were about to arrive. Petkov demonstrated that both humans and animals will learn associations faster when pre-treated with ginseng. He also showed that they will *unlearn* faster. If the experimenter stops providing the second stimulus, ginseng treated animals and humans will learn to forget it faster than untreated subjects. Petkov demonstrated that Ginseng's adaptogenic effects are not only physical. They extend into the realm of psychology and learning as well.

Research into constituents

In the 1950s and 1960s Japanese and Russian scientists further identified the saponin glycosides that had been discovered earlier in the century. The Japanese Shibata and Tanaka groups found thirteen different kind of saponins in Asian ginseng and named them *ginsenosides.* an aromatic compound called panacene was also discovered. Most ginseng research since then has focused on studying these isolated constituents rather than whole ginseng root. Many of ginseng's properties were attributed to these compounds. In the last six years, Korean

researchers, using more sophisticated isolation techniques, have discovered that some properties attributed to the ginsenosides were actually due to impurities — other ginseng constituents — in the previous extractions. Korean research today is focusing on these other constituents rather than on the ginsenosides. I will cover ginsenosides and other constituents in more detail in the next chapter.

Aging

The Chinese have taken ginseng as an anti-aging tonic since before the dawn of recorded medical history. Although it is very difficult to design a clinical trial to evaluate an increase in the length of life, science has at least given some support to the this anti-aging effect. In a variety of studies, scientists have demonstrated that ginseng retards the degeneration of cells, promotes cellular proliferation, and improves general health problems usually associated with aging. Ginseng is also an antioxidant, helping to rid the body of destructive free-radicals that scientists today think play an important part in aging. When this evidence is combined with the other effects noted below — immune building, anti-atherosclerosis, blood-pressure-lowering, stress-resisting, anti-diabetic, liver-protecting, and detoxifying — it seems reasonable to conclude that ginseng can extend life.

Alcohol detoxification

An experiment on alcohol detoxification used as subject healthy male volunteers between twenty-five and thirty-five years old. The men abstained from alcohol and ginseng for a week before the test, then drank 2.5 ounces of fifty-proof alcohol for each 140 pounds of body weight — the equivalent of three or four drinks — over forty-five minutes. Researchers then measured the levels of alcohol in the mens' blood. A week later, the experiment was repeated, but this time the equivalent of three grams of ginseng, in extract form, was added to the alcohol for each 140 pounds of body weight. Seventy percent of the men now had blood alcohol levels in a range 30-50% lower than in the previous test. Animal experiments have revealed similar results, and also demonstrated how ginseng increased alcohol detoxification: it increases the activity of alcohol dehydrogenase and aldehyde dehydrogenase, two liver enzymes responsible for alcohol detoxification.

Anemia

Traditional Chinese practitioners use ginseng to treat anemia. Scientific experiments have verified this blood-building property of ginseng. In one trial, fifty patient who had been unresponsive to anti-anemia medications were treated with ginseng, and showed a rise in the red blood count and improvement of the subjective symptoms of anemia. Various research has also shown that ginseng increases white blood cells and platelets, blood components responsible for clotting.

Athletic performance

The first test of the effects of ginseng on humans was conducted in 1948 by Russian scientists. Researcher Dr I.I. Brekhman gave a ginseng extract to a group of fifty soldiers a few hours before they took part in a three-kilometer run — about two miles. Another fifty soldiers received a placebo, a spoonful of flavored water. The soldiers who took ginseng finished the course in an average of fourteen minutes and thirty-three seconds. The soldiers who took placebo took, on the average, fifty-three seconds longer to finish the race. Brekhman commented on the results: "Let us for a moment suppose that both groups were carrying batons with important messages . . . those that had drunk ginseng would have delivered their message forty-five minutes earlier." Subsequent trials by the Russians showed that some other tonic herbs, including eleuthero root, also positively affected athletic performance.

Subsequent human research has demonstrated that ginseng

- Increases aerobic power and aerobic capacity
- Lowers the peak heart rate on standardized exercise tests Hastens the return of the heart rate to normal after exertion
- Decreases the rise in lactic acid after exercise (Lactic acid is responsible for muscle pain after exercise.)
- Improves the reaction time

Animals subjected to vigorous exercise after treatment also improve performance after taking ginseng. Research has shown that they:

- Utilize less stored glycogen
- Increase the time to reach exhaustion
- Improve in most measures of performance

Cancer (see also Immunity below)

Ginseng is not a cure for cancer, but clinical studies have shown that it can reduce the symtpoms of cancer and increase weakened immunity in cancer patients. It might be used alone, or in conjunction with anti-cancer drugs to increase their effectiveness or reduce their side effects.

A group of 100 cancer patient, suffering from gastric, colonic and pancreatic cancer, were treated for three months with a constituent isolated from ginseng. In about 75% of the patients, the injections prevented both the relapse of cancer and the growth of tumors, and improved red blood cell counts and blood measures of immunity.

In another trial with 150 patients suffering from rectal, breast and ovarian cancer, taking ginseng orally for thirty to sixty days prevented progression of the disease. White blood cell

counts and other measures of immunity improved. Ginseng also normalized the body temperature of one patient in the group who had a fever induced by radiation treatments.

In human patients receiving radiation therapy and chemotherapy, ginseng increased the anti-cancer effects of these therapies.

In animal studies, ginseng increased the resistance of animals to cancer-causing agents, and increased the activity of natural killer cells — white blood cells that are especially important in the fight against tumors.

When tumors were implanted into mice, ginseng extracts dramatically improved the response of the immune system, causing a reduction of tumor weight by 33%-50%

Cardiovascular effect

Ginseng may improve many aspects of cardiovascular disease, including blood pressure, blood flow to the heart, blood lipid levels, and atherosclerosis.

Blood pressure

The effects of ginseng on high blood pressure in animals, like those in the central nervous system, are contradictory. Smaller doses increase the blood pressure while high doses decrease it. Don't take this as advice to take a high dose of ginseng if you have high blood pressure however — animal trials often do not translate well into human clinical experience, and ginseng is considered by the Chinese to be contraindicated in humans with very high blood pressure. Some scientists hold the opinion that ginseng will raise blood pressure if it is too low, or will lower it if is mildly or moderately elevated. This is consistent with the idea of an adaptogen — it will help the system to adapt.

In a case study reported by the Russian researcher I.M. Popov, a fifty-six year-old male patient with high blood pressure and blood cholesterol level of more than 325 mg-% had failed to respond to any conventional medications. He took ginseng extract twice a day for two weeks, and then once a day for another two weeks. At the end of this time, his blood pressure had returned to the normal range and his serum cholesterol had fallen to 225 mg-%.

Blood flow to the heart

Some animal trials have shown that ginseng dilates the coronary arteries, thus increasing blood flow to the heart.

Atherosclerosis

Atherosclerosis is the hardening of the arteries and formation of plaque that contributes to high blood pressure, heart attack, stroke, and other diseases. In clinical experiments, ginseng has lowered total blood cholesterol and triglycerides — important measures of the risk of atherosclerosis — and increased levels of the "good" HDL cholesterol. Subjective symptoms of

atherosclerosis, such as insomnia, cold extremities, numbness in the limbs, and heart palpitations, also improved after ginseng administration.

Ginseng extracts have also lowered blood lipid levels and fatty deposits in the organs and veins of experimental animals. Pretreatment with ginseng has prevented both weight gain and atherosclerosis in animals fed an extreme high-fat diet.

Central nervous system effects

In animal research, scientists have found that ginseng has a dual effect on the central nervous system. Different chemicals in the brain can either stimulate or inhibit nerve response. The balance of these substances determines whether the system is activated or sedated. Ginseng appears to increase *both* the stimulating and the inhibiting processes. It has somewhat more stimulating effects in low doses in animals, and more sedating effects in high doses. These high doses in animal trials may not have relevance to the clinical doses in humans. In lower doses, ginseng has about the same stimulating effect as caffeine in animals. In traditional Chinese use, ginseng will both increase alertness and calm anxiety. Nervousness is one of the first signs of overdose in humans.

Diabetes

Ginseng will not cure diabetes, but it can improve some of its symptoms and help to decrease insulin doses. Ginseng may be most beneficial in mild and moderate cases of diabetes. In mild cases, ginseng can reduce sugar both in the urine and the blood. In moderate cases, it does not have this effect to any significant degree, but decreases symptoms such as fatigue, thirst, and reduced sexual desire. Ginseng is not a substitute for insulin, antidiabetic drugs, or a prudent diet.

Gastrointestinal effects

Ginseng apparently has a preventive effect for peptic ulcer disease. Research reports are contradictory, however. Some scientists caution against using ginseng in active ulcerative diseases.

Immunity

Long term low doses of ginseng increases animals' resistance to disease. It also heightens the inflammatory response to irritants. High doses in animals have the opposite effect.

Ginseng root extracts also increase the activity of a group of immune cells that engulf foreign organisms. Mice develop higher levels of antibodies to injected foreign blood cells when the mice are pretreated with ginseng.

Learning

Both animals and humans treated with ginseng learn conditioned reactions faster than untreated animals.

Liver disorders

In animals, pretreatment with ginseng protects against liver toxins, and also hastens regeneration of the liver after experimental damage. In humans, ginseng along with conventional treatments improves the recovery time in hepatitis-B infected patients, and also prevents acute hepatitis form progressing to the chronic stage. Ginseng may also protect the liver from heavy metal poisoning. It increases the excretion of lead, mercury, and cadmium in the urine

Menopause

In a clinical trial, ginseng powder was given to eighty-three menopausal patients for eight weeks. Menopausal symptoms such as hot flashes, weakness, and tiredness were alleviated in seventy of the women.

Metabolic effect

Ginseng increases the synthesis of proteins and nucleic acids, important markers of the metabolic rate. Ginseng is able to raise the basal metabolic rate in animals that have had their thyroid glands removed. Large doses over short periods of time increase the thyroid activity in rabbits, but long-term doses decrease the thyroid function in rats, animal studies such as these are not always relevant to human consumption.

Radiation exposure

Experiments in both animals and humans have shown that ginseng can minimize the effects of radiation exposure. This could have clinical significance for cancer patients undergoing radiation treatment. One of the main effects of radiation exposure is a drop in the number of both red and white blood cells. A group of cancer patient undergoing radiation therapy received ginseng extracts for thirty days. At the end of that time, abnormally low levels of red and white blood cells returned to normal.

Many animal trials have shown that ginseng can protect against radiation exposure. Red and white blood cell counts, blood clotting factors, mast cells in the skin (responsible for hypersensitivity reactions), were all restored to some extent in mice exposed to radiation. Recovery from injury to the bone marrow and to organs responsible for red blood cell formation was hastened when mice were given ginseng extracts.

One Japanese researcher, Dr. M. Yonezawa, states that ginseng appears to be the most useful agent available for protection against radiation damage.

Sexual and reproductive function

Ginseng has long been used to treat impotence in Asia. Clinical trials have shown that ginseng can increase sperm production and also increase the motility of sperm that it produced. Some scientists think that ginseng has an estrogenic effect, but a review of the literature concluded that the evidence for this is poor. In many experiments, ginseng was shown to improve the sexual behavior in animals exposed to stress. Ginseng enhances the maturation of the sex organs in both male and female organs, prolongs duration of coitus, and increases libido and erection. It appears to increase libido through direct action on the higher brain centers.

Impotence

Russian researchers found that ginseng can effectively treat some cases of impotence. Brekhman gave ginseng to forty-four patients with impotence that had not responded to any other medication. Twenty-one of the patients recovered completely and other patients improved. Popov gave ginseng to twenty-seven impotent patients. Fifteen recovered completely, and nine improved. Other research showed that ginseng helped to improve impotence in diabetic patients.

Hormonal effects

Animal studies have shown that ginseng can increase the secretion of *luteinizing hormone* by the pituitary gland. This hormone in turn regulates the secretion of testosterone in the male. It has a more complex action in the female, but is a key hormone in regulation of the menstrual cycle and is the main hormone that triggers ovulation. In humans, such hormonal effects are not seen in low doses of ginseng (1 gram/day), but are evident at doses of 3 gram or more a day.

Stress and Fatigue

Most ginseng experiments on stress have been conducted on animals. Hundreds of such experiments have been published, and produce consistent results. Animals consistently fare better against such stresses as heat, cold, electrical shock, vibration, low pressure, and immobilization. In animals, ginseng prevents the deterioration of the stress glands — adrenals, spleen, thymus, and thyroid — which normally become somewhat smaller under stress conditions. Hens maintain egg production better in cold weather — production normally falls with the stress of cold.

A typical symptom of severe stress is disturbance of the sexual drive and sexual cycle. In a series of animals trials, mice were subjected to experimental stress, and then their sexual behavior was observed. As expected, sexual behavior was disrupted. In a group of mice that received ginseng immediately after the stress, however, sexual behavior was near normal.

Fatigue

In humans, ginseng strengthens the body's ability to adapt to temperature changes, and has a profound anti-fatigue effect.

Steven Fulder, Ph.D. of Great Britain tested ginseng's anti-fatigue effects on a group of night-duty nurses. When the nurses took ginseng extract they were more alert and felt less tired than when they did not take it. They also scored better on tests of speed and coordination.

Dr M.A. Medvedev of Russia performed a similar experiment on a group of radio operators using morse code. The group that took ginseng did not transmit any faster, but made many fewer mistakes — about half the number of mistakes as those who had not taken ginseng.

Conclusion

Most of the human trials of ginseng do not meet the standards of the highest science: either they were isolated studies, not verified by other researchers, or the trial design was not of a quality to deliver definitive scientific proof.

However, *The Lawrence Review of Natural Products*, a conservative scientific publication that reviews herbal and other natural medicines, concludes in its monograph on ginseng: "Numerous animal studies have confirmed . . . [ginseng's] . . . adaptogenic effect, and preliminary clinical evidence also indicates this effect is demonstrable in man. However, . . . the proper dose and duration of use remains poorly defined."

We'll turn to Chinese traditions for dosages and duration in Chapter thirteen.

9 Constituents

"The effects of ginseng must not be attributed to one or a few active components; they must be the orchestrated effects of a still not completely understood multi-component system."

Florence Lee, Ph.D., Former head, Laboratory of Pharmacology, Korean Ginseng Research Institute

Table 9.1 The constituent groups of ginseng

saponin glycosides (ginsenosides, panaxosides)

polyacetylenes

alkaloids

polysaccharides

essential oils

fatty acids

steroids

amino acids

peptides

nucleotides

vitamins

choline

starch

pectins

cellulose

Ginseng is unusually rich in active constituents. Many medicinal plants have one or a few such constituents, but ginseng may have thirty or more. It's action is due to these many constituents working together, like the instruments in a symphony.

Virtually all pharmacological nd clinical research into ginseng's constituents has focused on *ginsenosides* (also called *panaxosides*), which were first discovered in ginseng. A number of clinical investigations in both animals and humans were conducted using isolated ginsenosides, and many of ginseng's properties were attributed to them by scientists. In stores today it is common to find ginseng extracts "standardized for ginsenosides." More recent research has demonstrated that some of the properties that scientists attributed to ginsenosides actually belong

to other constituents of the plant, but no other specific substances have been identified to account for ginseng's activity..

Ginsenosides

Ginsenosides are of a class of chemicals called *saponin glycosides*. These molecules have a non-sugar backbone with one or more sugar molecules attached. The name "saponin" comes from the English word "soap" because isolated saponins form a soapy foam when shaken in a closed container. Most ginsenosides have two sugar molecules attached to this backbone. Many other adaptogenic herbs also have saponin glycosides as constituents, but they differ somewhat chemically from the ginsenosides.

Nomenclature

Individual ginsenosides are differentiated and named for chemical properties in a common analytical test called *thin layer chromatography.* In this test, a strip of chemically sensitive paper is dipped into a sample and soaks it up. Different constituents in the sample have different solubilities, however, and travel different distances up the paper as they are absorbed. In thin layer chromatography, the different constituents appear as separate bands of color up the paper, something like a rainbow, but without the rainbow's curve. Ginsenosides are all named "ginsenoside R," with a second letter after the R describing, in alphabetical order, their sequence on the chromatography paper. Thus ginsenosides are named ginsenoside R_a, ginsenoside R_b, Ginsenoside R_c, and so on, and further differentiated, in some cases, as ginsenoside R_{a1}, R_{a2}, Rb_1, R_{b2}, R_{b3}, and so on.

Ginsenosides in ginseng species

In all, scientists have isolated twenty-two ginsenosides from Chinese ginseng, thirteen from American ginseng, fourteen from tienchi ginseng, and ten from Japanese ginseng. These four species, which have similar but not identical medicinal properties, have many ginsenosides in common, but each has a unique "fingerprint" of its own mixture of ginsenosides. There can even be a difference in the ginsenoside pattern between the same species grown in different locations. A Korean study found slightly different ginsenosides in two samples of American ginseng — one from the U.S. and the other from Canada. The chart below compares some of the ginsenosides present in Chinese and American ginseng.

Some ginsenosides in Chinese and American ginseng

Chinese	American
Ginsenoside Ra1	
Ginsenoside Ra2	
Ginsenoside Rb1	Rb1
Ginsenoside Rb2	Rb2

Ginsenoside Rb3	Rb3
Ginsenoside Rc	Rc
Ginsenoside Rd	Rd
Ginsenoside Re	Re
Ginsenoside Rf	Rf
Ginsenoside Rg1	Rg1
Ginsenoside Rg2	Rg2
Ginsenoside Rh1	
Ginsenoside Ro	Ro

Ginsenoside soup

Ginsenosides were first isolated by Japanese researchers in the 1960s. Nearly twenty years of subsequent research pointed to the ginsenosides as the constituents that give ginseng it's stress-reducing, anti-fatigue, and some other properties. Each of the ginsenosides is a unique chemical, and many of them have very different effects. One ginsenoside raises blood pressure, for instance, and another lowers it. One sedates the central nervous system, and another stimulates it. The actions of ginseng cannot be attributed to any one of them alone, and the varied pharmacological effects of the different elements of this ginsenoside soup may be contribute to ginseng's versatility as a medicine.

Scientific second thoughts on ginsenosides.

Florence C. Lee, PhD was head of the Laboratory of Pharmacology at the Korean Ginseng Research Institute in the 1980s. She had previously been on the faculty of St. Louis University Medical School. In her book *Facts About Ginseng: The Elixir of Life,* published in 1992, Lee says that new research casts doubt on much of the previous research on ginsenosides. The problem came to light when Korean scientists developed better extraction techniques for ginsenosides. Previous less-refined ginsenoside extractions appear to have contained impurities — non-ginsenoside ginseng constituents which may have actually been responsible for some of the effects attributed to the ginsenosides. Lee says that, in the wake of these findings, that scientists are now shifting attention to these other components.

Dr. Subhuti Dharmananda, president of the Institute for Traditional Medicine in Portland, Oregon, also mentions this research in his paper "The Ginseng Story," which accompanies an Institute video on ginseng. In one Korean experiment, a team of scientists examined the anti-fatigue action of ginseng, duplicating research done decades earlier by Russian scientist. In this test, the time is measured of how long it takes a group of mice to swim to exhaustion. One group of mice receives ginseng in their diet for a period of time before the test. The Koreans matched the results of the earlier Russian trial: mice fed ginseng swim about a third longer than mice on a regular diet. Using highly-purified ginsenosides instead of whole ginseng extracts, however, the effect was lost. The Koreans mention maltol, vanillic acid, salicylic acid, and

various phenolic compounds as possible "impurities" that have properties previously attributed to ginsenosides. Lee says that current research in Korea is focusing on polyacetylenic compounds, phenolic compounds, and alkaloids, all of which are present in minute quantities in ginseng.

Traditional second thoughts on ginsenosides.

Chinese scientists and clinicians have never accepted the theory that ginsenosides are the only active constituents of ginseng. For instance, although fully aware of ginsenoside research, they do not consider ginsenoside content to be a predictor of medicinal potency. Shuchen Zhang, Ph.D., is China's foremost ginseng expert, with thirty years of ginseng research experience at Chinese institutions. He is the former head of China's Institute of Traditional Chinese Medicine and Materia Medica. The Institute, in Beijing, coordinates research in a network of such Institutes in the various Provinces of China. Zhang acts as a consultant to the Jade Research Group, an American consulting group that develops high quality Chinese herbal products and employs internationally-recognized experts in plant research and formulation. Bill Brevoort, coordinator of Jade Research, says that Zhang does not consider ginsenoside content at all when selecting ginseng roots for quality. Instead, he uses traditional Chinese criteria:

- Density. A lighter root has more potency than a heavier root of the same size. Poorer-quality cultivated roots are much more dense than wild roots.
- Ring pattern. Experts judge quality root from the pattern of the rings on the root bark that encircle it. Smaller and closer-together rings indicate a better root.
-]Man-shape. Some ginseng's roots resemble the human figure, appearing to have arms and legs. This is the source of the Chinese name for ginseng — *ren shen,* which means "man-root." The Chinese hold that these well-formed roots have more potency than those whose rootlets give it a different shape.

Says Brevoort: "This may sound like superstition, but after you've eaten twenty-five to thirty roots selected on those principles, you'll believe it." Brevoort adds that Chinese scientist-consultants working for the National Institutes of Health use these same criteria to select ginseng for scientific studies in the U.S.

The Chinese have for centuries attributed ginseng's *chi*-building properties to the central root of the plant, but ginsenosides are the highest in the small rootlets and root hairs that come off the main root. They are also high in the leaves. It would seem that if ginsenosides were solely responsible for ginseng's remarkable tonic qualities, the Chinese would value these peripheral parts more. Quite on the contrary, the rootlets, called *shen xu*, literally "Root Whiskers," are relatively inexpensive in China. They are trimmed from ginseng roots, then cured in rock candy and used as minor tonics for febrile diseases. Likewise the leaf, called *ren shen ye,* or "ginseng leaf," is used in China as a minor tonic in the same manner as the root whiskers. According to Albert Y Leung, Ph.D, in his book *Chinese Herbal Remedies,* the leaf is considered to have medicinal qualities similar to those of American ginseng, used for reducing heat induced by fever or summer heat.

That these peripheral parts of the plant have medicinal value similar to American ginseng indicates that the ginsenosides no doubt play a part in the constituent-picture of ginseng. But to say that ginsenosides are the only important active constituents of ginseng is like defining an elephant as an animal with a long trunk. The trunk is important, and the animal wouldn't be an elephant without one, but there's a lot more to the elephant than that. And you need the whole elephant to perform circus tricks.

Other constituents

Among the ginseng constituents that apparently had been extracted along with ginsenosides in early ginsenoside research were phenolic compounds. This is a large class of chemical compounds that includes the active ingredients in aspirin-like plants, flavonoids such as the bioflavonoids available in health food stores, and blood-thinning coumarin medications. Dr. Lee says that current research in Korea is focusing on these constituents, on polyacetylenic compounds, and on alkaloids, all of which are present in minute quantities in ginseng.

Other constituents in ginseng are called polysaccharides. These are huge sugar-like molecules. Plant research around the world has shown that many polysaccharide compounds are potent immune-stimulants, and are contained in such famous immune-stimulants as echinacea. They are also found in Japanese immune-stimulating mushrooms such as ganoderma and shiitake, which are used in conventional medicine in Japan to treat immune imbalances. Notably, the polysaccharides stimulate the immune system, but also moderate the immune-response that it responsible for auto-immune diseases such as lupus.

10 How ginseng works

Researchers have identified actions of different ginseng constituents throughout the body, on many organs and glands, but cannot explain exactly how these effects occur at a biochemical level. Ginseng's constituents are so diverse that exact knowledge of how it works is beyond the scope of present science. It may even seem impossible that ginseng, a single herb, could have so many physiological effects. But an explanation may lie in the role of hormones in regulating the body, and in ginseng's effects on these hormones.

The hypothalamus

All the diverse functions in the body that ginseng seems to affect — stress, fatigue, blood sugar levels, blood pressure, body temperature, sexual function, detoxification, and immunity — are regulated by the hormones from the hypothalamus, the pituitary gland, and the adrenal glands. Among these, the hypothalamus — a center in the lower brain — is the controller. The hypothalamus constantly monitors the state of the body as well as external threats to it. It receives input from both the body and the brain. The hypothalamus can detect hormone levels, blood pressure, water balance, blood sugar, and many other physiological parameters. It will also respond when the subconscious mind perceives a stressful situation. It rests at the boundary of the mind and the body

The pituitary and adrenal glands

The hypothalamus controls the pituitary gland, which acts like its executive officer, and in turn controls functions in the body such as metabolism, appetite, body temperature, and water balance. The hypothalamus acts to coordinate these key functions of the body in a harmonious way while the pituitary carries out its instructions. The hypothalamus also has a direct controlling influence, without its pituitary intermediary, on sexuality, growth, and reproduction.

One of the most important secretions of the pituitary is a hormone that activates the adrenal glands, the glands responsible for the "fight or flight" state in the body. When the brain perceives a threat to survival, the hypothalamus activates the pituitary, which in turn activates the adrenal glands to flood the body with stress hormones. These stress hormones, once flowing in the body, in turn instruct the pituitary that they are doing their job, and prevent further stimulation by that gland. The interaction of these three glands is called the *hypothalamus-pituitary-adrenal axis* by scientists. Although the precise mechanism is not known, some ginseng researchers now assume that the activity of ginseng and related adaptogens is primarily on this hormonal system. The hormones have wide-ranging controlling effects on the body, and if ginseng can modify them, that would explain its likewise wide-ranging effects.

Ginseng and the adrenal glands

Ginseng's relation to the adrenal glands are well-documented. Ginseng normally increases resistance to stress, but it loses much of this property in animals if their adrenal glands

have been removed. Thus ginseng must act through the intermediary of the adrenal glands, either directly or through the hypothalamus' controlling function. In normal animals under stress, ginseng will stimulate a high production and secretion of the stress hormones. When the stress stops, however, the adrenals will stop producing the hormones faster than in animals who have not taken ginseng. If stress is prolonged, however, the adrenals of ginseng-treated animals will conserve the stress hormones in order to prolong endurance. Thus the overall effect of ginseng and other adaptogens on the adrenals is to make them more efficient and more adaptable to stress. Whether these effects are solely on the adrenal glands, or whether the hypothalamus and pituitary are somehow also involved has not been proven by scientists.

Sensitizing the hypothalamus

Stephen Fulder, Ph.D., a ginseng researcher from Great Britain, performed an experiment that hints a possible role of ginseng in sensitizing the hypothalamus to make it more efficient. It this is in fact true, this single action could explain ginseng's on the sex glands, which the hypothalamus controls directly, and the pituitary glands and adrenals, and indirectly on all the target organ tissues that these glands in turn regulate.

Laboratory rats had their adrenal glands and ovaries removed to eliminate any possibility of internal production of stress steroids. They were then divided into two groups, one group receiving ginseng for eight days, and the other a placebo. the animals were then injected with corticosterone, the main stress hormone. The hormone was "tagged" chemically so the researchers could find out exactly where it went in the body. In the ginseng- treated rats, as much as seven times the amount of corticosterone was deposited in the area of the brain around the hypothalamus. The hypothalamus normally has a feedback loop from corticosterone. When it detects elevated levels, it take action to balance them. Ginseng may sensitize the hypothalamus to this feedback loop, giving greater efficiency its stress-controlling function. Fulder hypothesizes that this "priming" of the hypothalamus initiates hormonal secretions which also improve the efficiency of the brain.

Section IV

The Tonic Herb Family

The oldest book of Chinese medicine lists 365 herbs, and classifies them according to three grades. The lowest grade of herbs dispel disease. The middle grade corrects imbalances in the body in the body. The highest grade — the one to which ginseng belongs — nourishes life itself. These are the tonic herbs, many of them classified as adaptogens by Western science. If you are thinking of taking ginseng, you would do well to learn about these other herbs. Some other members of the tonic family may be better suited for your particular kind of deficiency than ginseng is. One of them — codonopsis — is often used as a ginseng substitute, and costs only about one-tenth as much as ginseng. Another, dong quai, is a warming blood tonic and a renowned women's herb, and is probably the most-consumed tonic herb in China. Learning about these other herbs will also help you to identify them in tonic formulas widely available in health food stores.

The Chinese usually take ginseng in formulas with at least one of these other herbs. In this section I'll explain the difference between a tonic and a stimulant, outline the four categories of tonics, show you the principles behind of tonic formulas, describe the most important members of ginseng's tonic family, and suggest some simple combinations or formulas you might take, either with or without ginseng.

11 Tonics vs. Stimulants

Tonics and stimulants may seem closely related, because they both seem to give a boost of energy. However, the habitual use of stimulants, including caffeine, guarana (another name for caffeine), ma huang, and ephedrine, is incompatible with the use of ginseng or other tonic herbs. Although stimulants and tonics may both seem like "uppers," their effects are actually opposite. The long term effect of a stimulant is to exhaust and depress, however, more than cancelling our the beneficial effects of the tonic.

The distinction between stimulants and tonics here is important, because many people with *chi* deficiency medicate themselves with caffeine or other stimulants, only end up with less *chi* than they started out with. Taking a tonic is like putting money (*chi*) in the bank. Taking a stimulant is like drawing it out. At some point, your account becomes overdrawn. If you continue to spend *chi* without replenishing it, like using a credit card when you are bankrupt, the consequences can be "energy bankruptcy" — severely depleted *chi*. A *chi*-building program, including tonic herbs and other lifestyle changes, is like starting a savings plan — if you're already in debt and overdrawn, its best to cut up your credit cards (stimulants) and start a more rational plan for saving.

Tonics and stimulants do not simply cancel each other out. Taken together they can create great disharmony and tension in the body. Stimulants like those mentioned above give an

initial short-term boost of energy, which, when added to the effect of a *chi*-tonic herb, can create strong temporary overstimulation in one organ system or another. A typical result could be tension, heightened insomnia, or high blood pressure. In Chapter Seven, I described how a Western scientist had identified a number of adverse effects in individuals who took ginseng and caffeine together habitually.

Caffeinism

To demonstrate this *chi*-depleting effects of stimulants, I'll use the example of caffeine. "Caffeinism" — the overuse of coffee and tea — was recognized as medical condition in turn-of-the-century American medical books. Over the last hundred years, our society has turned to caffeine consumption as a normal activity, and lost sight of the consequences of habitual use. Americans consume an average equivalent to one to three cups of coffee a day, coming from coffee itself, soft drinks, or pep pills. Since many people do not take any caffeine at all, this means that many people take much more than this average. About ten percent of the population consumes the equivalent of eighteen or more cups of coffee a day. Many people who would be diagnosed with deficient *chi* by a Chinese practitioner, or with stress-related chronic anxiety by a medical doctor, are actually suffering from caffeinism. Table 11.1 shows the symptoms of chronic caffeinism. Refer to Tables 2.1 and 2.2 and notice that these are identical, to the smallest detail, with the symptoms of deficient *chi* and blood. Note that coffee in particular, which contains irritating organic acids, also impairs the digestive system. Gastrointestinal symptoms of chronic coffee consumption include acidity, dyspepsia, bitter and sour belching, flatulence, and constipation. The digestive system is the main source of *chi* in the body, and this irritation further inhibits the production of *chi*. If you have these symptoms and you consume caffeine in any amount regularly, try cutting it out completely and see if the problems go away. Table 11.3 shows the amounts of caffeine in various products.

Table 11.1

Symptoms of caffeinism resembling deficient *chi* or blood

Symptoms resembling deficient *chi*

physical exhaustion

muscular weakness

mental exhaustion

dejected spirits

dull expressionless features

appearance of premature aging

poor digestion

difficult breathing

disturbed sleep

Symptoms resembling deficient blood

pale skin

dizziness

ringing in the ears

nervous palpitations

emaciation

ringing in the ears

Caffeinism and anxiety

Table 11.2 compares the symptoms of caffeinism with the conventional diagnosis of chronic anxiety — one form of "stress" in lay terms. Note that conventional medical texts do not even suggest asking patients with these symptoms if they drink coffee, drink caffeinated drinks, or take caffeine pills. Instead, the doctor will usually prescribe a sedative like Valium, adding potentially-addictive drug intoxication to the already existing problem of caffeinism.

Some symptoms of caffeinism*	**Some symptoms of chronic anxiety****
Anxiety	apprehension
Tremors	trembling
Insomnia	insomnia
nervous irritability	nervousness
Hysteria	irrational thinking
heart palpitations	heart palpitations
mental confusion	difficult concentration
muscular weakness	motor weakness
physical exhaustion	chronic fatigue
Headaches	headaches

**King's American Dispensatory,* 1898

***Merck Manual,* 1992 edition

You don't need to take a lot of caffeine in order to get these symptoms. Some of us might get away with a few cups of coffee or its equivalent as day, but individuals can develop the symptoms caffeinism even from this amount. In one scientific study, patients with anxiety disorder rated their symptoms on a standard test. Their levels of anxiety and depression

correlated directly with the amount of caffeine they consumed. Another group of six anxiety patients who consumed the caffeine equivalent of 1.5 to 3.5 cups of coffee — about the average for Americans — cut their intake to zero. Within 12-18 months, five of the six were symptom-free.

My story

I stopped drinking coffee several years ago. I had a five-cup-a-day habit and considered it an occupational hazard of being a writer. It was an instant cure for writer's block — one cup of coffee and the words would flow. I found while writing that I would become mentally exhausted after about forty-five minutes, and would have to either drink a cup of coffee or take a long break. Eventually the coffee gave me chronic digestive pain, and I was so run down and nervous that I had to stop. For a few days after stopping, my energy was so low that I couldn't do anything at all. I remained "wiped out" for about three weeks. Eventually, I noticed that, without the coffee, I could write for two hours at a time without having to take a break. The coffee had been creating the problem that I was using it to solve! I noticed during the three-week withdrawal that I had to either take a late-afternoon nap or start drinking coffee again — I couldn't stay awake. I still take that nap now four years later. I had been using coffee, a *chi*-depleter, as a substitute for what remains for me a natural time of rest and *chi*-cultivation.

Ma huang, ephedra, ephedrine

Ma huang is another famous Chinese herb, but it is a stimulant rather than a tonic. It is much more potent than caffeine. Ma huang *(Ephedra sinensis)* is the original source of ephedrine, a common ingredient in allergy medicines, weight-loss products, and pep pills. It has a legitimate medical use in the treatment of asthma and allergies, but its use as a stimulant or weight loss product is unwarranted and dangerous — several deaths have been attributed to its improper use in recent years. It is contraindicated for people with high blood pressure, which is common in overweight people.

I was once teaching a class in Chinese pulse diagnosis at the Rocky Mountain Center for Botanical Studies in Boulder, Colorado. We were measuring the speed of the pulse. Rather than count beats per minute, Western style, Chinese practitioners count the average beats per breath. The average is usually four to five beats per breath. I have taught this class many times. I have the students take each other's pulses, and then we list the averages on the board. The great majority of students always fall around four or five beats per breath, with a few at six beats (a sign of Heat in traditional Chinese medicine). On this particular day, we had the expected cluster around four and five, but we had sixes, sevens, and another cluster between eight and eleven. I was stumped. Then we discovered that someone had brewed a pot of after-lunch tea from a commercial product that contained ma huang along with some other herbs. The students with the fast pulses had all consumed the tea, and it had put them into an aerobic state! This sort of state is completely incompatible with ginseng and the other tonic herbs. We repeated the exercise the next day, without the tea, and got the expected frequency of the pulse.

Table 11.3

Caffeine Content In Foods And Drugs

About 200-300 mg of caffeine a day is the threshold for addiction. Regular use of more than this will result in withdrawal symptoms — headache, weakness, and mental confusion. 150 mg or more can cause the symptoms of *chi* deficiency and anxiety.

8 oz cup of coffee	80-130 mg caffeine
Strong coffees available in many coffee shops	200 mg
8 oz cup of caffeinated tea	50-70 mg
12 ounce caffeinated soft drinks	35-60 mg
4 ounces of chocolate	60 mg

Habitual use of ma huang is extremely *chi*-depleting. I once had a case study of ma huang abuse submitted to my *Medical Herbalism* newsletter. A man noticed that he got an energy boost from an allergy medicine. He figured out that the ma huang was the key ingredient in the formula, and bought some from an herb store. He brewed a cup or two of it a day, like coffee. After about a month of this, one day he was so exhausted that he could not get out of bed, and had to be taken by ambulance to a hospital for an emergency checkup. This case, although extreme, demonstrates the depleting nature of this common stimulant.

Tonics

Tonic herbs, unlike stimulants, do not have instant effects. Think of them as special foods that nourish, rather than as drugs that stimulate. It often takes two weeks or more to see their energy-building effects, and the typical duration of tonic herbal therapy is one to two months. They also do not have the subsequent “crash” that stimulants produce. Taken appropriately and in moderate doses they will not produce anxiety, tension, or insomnia. In fact many of the tonic herbs sedate even as they build the energy. The general effect of ginseng, in low doses, is to increase alertness while relaxing the feeling nature.

12 Types of tonics

In Chapter Two, I described the symptoms of *chi* and blood deficiency, and in Chapter Four I provided a checklist for signs of deficiency vs excess. In this Chapter I'll describe states of deficiency in more detail.

Four deficiencies and four tonics

Chinese medicine recognizes four types of deficiencies for purposes of prescribing tonic herbs, and the herbs are classified according to which of these deficiencies they will strengthen. The four deficiencies are not really separate, but are useful for diagnosis, and form the basis for preparing tonic formulas. I already described *chi* and blood deficiencies in Tables 2.1 and 2.2. Remember that *chi* and blood are closely related — *chi* from the Spleen and Lung build the blood, but sufficient blood is necessary for *chi* to do its work. Signs of these two deficiencies often coexist. *Chi* and blood deficiencies are treated with *chi* and blood tonics, respectively. Because of the interrelation between the two syndromes, either one might be treated with both *chi* and blood tonics.

Yang deficiency, yang tonics

Deficient *chi* can become more severe and progress to a condition called deficient *yang.* Its main manifestation, in addition to symtpoms of deficient *chi*, is signs of cold. Refer to Table 4.2 to review cold signs. Yang deficiency usually involves the Kidney organ, which is viewed in Chinese medicine as the source of heat in the body. In some diagrams of the Chinese organ system, the Kidney is portrayed as a hot cauldron in the lower part of the body. With deficient yang, sexual weakness, low back pain, weakness in the knees, hearing problems, and brittle bones may become prominent along with cold. Some of these Kidney symptoms overlaps with *deficient yin*, which I'll describe below.

Deficient yang is treated with *yang tonics*. These herbs (and sometimes animal substances) are warming in nature, and are very potent medicines. They are contraindicated when heat signs are present.

Yin deficiency, yin tonics

Deficient Blood involves a deficiency in the volume or quality of the blood. A more serious related condition is *deficient yin*, which is a deficiency of body fluids in general. Symptoms of deficient blood are present, but also general dehydration and heat signs. Refer to Table 4.2 to review the signs of heat. The fluids moisten and cool the body, and when they are deficient, the heat becomes prominent with such signs as thirst, dry mouth and lungs, red face, hot hands and feet, insomnia, night sweats, and a rapid pulse. This is a common syndrome in the aftermath of a fever or exhaustion through overwork or prolonged stress.

Yin deficiency is treated with *yin tonics*. These cooling and moistening herbs restore the fluids and reduce heat. They are contraindicated when signs of cold are prominent.

Complex deficiencies

Because of the close connection between *chi* and blood, several of these deficiencies may overlap. *Deficient chi and blood* is a common Chinese diagnosis, as is *deficient yin and yang*. In each case, a mixture of the diagnostic signs is present. Complex deficiency syndromes are treated with complex formulas, combining tonics in the appropriate amount for each of the deficiencies to match the intensity of the symptoms. Deficient yang is always accompanied by deficient *chi*, and deficient yin is invariably accompanied by deficient blood. For this reason, *chi* and yang tonics are usually combined in formulas, as are blood and yin tonics. an exception might be when a particular herb tonifies both *chi* and yang, or blood and yin, at the same time.

Ginseng and the four deficiencies.

Ginseng is known as the King of the tonic herbs, because it can benefit all four of the deficiencies, although skill in avoiding its contraindications is necessary. Ginseng is primarily a *chi* tonic, but it also benefits the blood. It is sometimes used alone or in formulas to treat anemia. Ginseng also "benefits the fluids," alleviating thirst and easing dehydration. It can relieve the thirst that accompanies diabetes, for instance. Nevertheless it is warming, and must be used with care when dehydration and heat signs are present, especially for long periods. Steamed red ginseng has much stronger warming properties, and is used as a tonic to both *chi* and yang. American ginseng, with its cooling properties, is a premier yin tonic, and moistens dry lungs and throat.

Organ deficiencies

The four deficiencies will present overall signs in the body, but symptoms may appear primarily in one or more organ system. The tonic herbs each have affinities for specific organs, and are selected in formulas according to the symptoms of the patient. Table 12.2 shows some symptoms of deficiency that can appear in each of the five major organs. These deficiencies might be classified as yin or yang deficiencies of the organs depending on whether overall signs of deficient yin or yang are present. In the next chapter, I'll describe which organs each of the tonic herbs affects.

Tonic formulas

A basic principal of tonic formulation is that the entire system of blood and *chi* is tonified. A formula may be weighted heavily in the direction of *chi* and yang or blood and yin, but contain something to supplement each. Either herbs with overlapping effects are selected, or tonics of each type is included. Table 12.3 shows the overlapping effects of some single tonic herbs. This principal is evident is some of the most common pairings of herbs with ginseng in Chinese formulas.

Ginseng (*chi* and yin tonic) with astragalus (*chi* and blood tonic)

Ginseng (*chi* and yin tonics) with jujube dates (*chi* and yin tonic)

Ginseng (*chi* and blood tonic) with Dong quai (blood and yin tonic)

Many formulas specifically for blood or yin do not contain *chi* tonics. In this case, because of their overall cooling and moistening nature, other warming herbs are included to ensure good circulation

The three formulas below, which are readily available commercially in pill form, demonstrate the principles of formulation. All three contain a mixture of *chi* and blood tonics. All three benefit both functions. But the overall effect of the formulas is different because of the shift of emphasis on the type of tonic herbs included. The first is more tonifying to the *chi*, the second is balanced, and the third is more tonifying to the blood. Notice that these formulas contains several herbs which are not tonics. These adjuvant herbs are included to promote digestion or circulation. I'll describe a few of them in detail at the end of the next chapter.

Ginseng tonic pills

Ren Shen Yang Rong Wan

A *chi* tonic

Ginseng	4 parts	overall *chi* and Spleen *chi* tonic
atractylodes	4 parts	Spleen tonic
Astragalus	4 parts	*chi* tonic for protective *chi*
citrus peel	4 parts	Spleen tonic; moving adjuvant
Rehmannia	3 parts	blood and yin tonic
Schizandra	3 parts	*chi* tonic
Poria	3 parts	Spleen tonic
jujube dates	6 parts	Spleen tonic
Peony	4 parts	yin and blood tonic
Polygala	1 part	a sedative herb
cinnamon bark	1 part	warming adjuvant
Ginger	2 part	warming adjuvant

This formula actually contains ginseng instead of the usually-substituted codonopsis. It is available in Chinese stores as *Ren Shen Yang Yin Wan.* It is also available from McZand Herbals in liquid form as Ginseng Nutritive Formula.

Ten Flavor Tea

Shi Chuan Da Bu Wan

A general tonic for both blood and *chi*

Codonopsis	2 parts	*chi* and Spleen tonic
Astragalus	2 parts	tonic to protective *chi*
Peony	3 parts	yin and blood
atractylodes	3 parts	Spleen tonic
Poria	3 parts	Spleen tonic, tranquilizing
Rehmannia	3 parts	yin and blood tonic
dong quai	3 parts	yin and blood tonic; promotes circulation
Cinnamon	1 part	warming adjuvant
Ligusticum	1 part	promotes circulation
Licorice	1 part	Spleen tonic; harmonize other herbs

This balanced formula is a common general tonic in China where it can be purchased in pill form. It is taken for long periods of time, with a break for a week or two every three months. The pills, which are very inexpensive, are available in Chinese stores as *Shih Chuan Ta Pu Wan,* or through the mail from East Earth Tradewinds as *Shih Chuan Da Bu Wan.* The McZand company produces this formula in liquid form in a product called Ginseng and Tang Kuei Ten Formula.

Women's Precious Pills

Fu Ke Ba Zhen Wan

A blood and yin tonic formula

dong quai	6 parts	yin and blood tonic
Rehmannia	6 parts	yin and blood tonic; promotes circulation
Codonopsis	4 parts	*chi* and Spleen tonic
Poria	4 parts	Spleen tonic
atractylodes	4 parts	Spleen tonic

Peony	4 parts	yin and blood tonic
Ligusticum	3 parts	promotes circulation
Licorice	2 parts	Spleen tonic; harmonize other herbs

This formula, although containing some *chi* tonics, has more weight on the blood and yin tonic side. It is available in Chinese stores or from East Earth Tradewinds or the Institute for Traditional Medicine as Women's Precious Pills. K'an Herbals sells an excellent variation of this formula as Women's Precious, which includes ginseng instead of codonopsis and adds several other herbs, and uses high grade herbs.

Conclusion

In the next chapter, I will describe thirty-two tonics herbs. For each I will suggest some simple combinations that you might use, following the principles above.

Table 12.1 The Four Deficiencies

Deficiency	Signs in common	Distinguishing signs	Tonic treatment
Chi	Pale complexion fatigue low spirits spontaneous sweating low voice weak digestion enlarged tongue	short of breath pronounced fatigue loose stool dribbling of urine weak pulse	*Chi* tonics

Yang		aversion to cold cold hands and feet plentiful urine clear urine loose stool with undigested food dark colored tongue slow pulse	Warming yang tonics
Blood	emaciation dizziness spots before the eyes heart palpitations insomnia little tongue coat thin, thready pulse	pale complexion pale lips and tongue numbness in the limbs	Blood tonics

Yin		flushed face hot hands and feet dry mouth and throat night sweats premature ejaculation dry, red tongue fast pulse	Cooling and moistening yin tonics

Table 12.2

Signs of Deficiency in the Five Main Organ systems

Spleen

poor appetite
loose stools
bloody stool
abdominal pain better with pressure
weak limbs
undigested food in stool
prolapsed organs
edema
urinary incontinence

Lung

weak respiration
frequent colds and flu
weak cough
daytime or night sweats

dry cough

dry mouth

Heart

palpitations

insomnia

irregular pulse, weak pulse

shortness of breath

Liver

pain in the side

dry eyes

menstrual irregularities

depression

nervous tension

Kidney

frequent urination

dribbling of urine

low back pain

weak knees

premature ejaculation

low sperm count

impotence

sterility

hearing loss

tinnitus

forgetfulness

frail bones

Table 12.3

The overlapping effects of some tonic herbs

Herb	Primary action	Secondary action
Ginseng	*chi* tonic	yin tonic
Red ginseng	*chi* tonic	yang tonic (effects about equal)
American ginseng	yin tonic	*chi* tonic (mild)
Deer Antler	yang tonic	chi and blood tonic
Astragalus	*chi* tonic	blood tonic
Cordyceps	yang tonic	yin tonic (effects about equal)
Dong quai	blood tonic	yin tonic (effects about equal)
Jujube dates	*chi* tonic	yin tonic
Peony	blood tonic	yin tonic (effects about equal)
Rehmannia	blood tonic	yin tonic (effects about equal)

13 The tonic herbs

In this Chapter, I'll say some more about Asian and American ginseng, and then describe thirty-two more tonic herbs. Some of these herbs may be taken by themselves. More often they are combined in formulas, often including ginseng or its most important substitute, codonopsis. For each herb, I'll provide the following information:

- Common name, Botanical name, and Chinese name
- Primary and secondary actions as a tonic (*chi*, blood, yang, and yin). See Chapter Twelve for a more detailed explanation of these.
- Organs affected. Refer back to Table 5.1 for a general description of the organs, and to 12.1 for the symptoms of deficiency that may manifest in the major organs.
- Temperature. This refers to the warming, cooling, or neutral properties of the herb.
- Contraindications. Most of these are related to the temperature of the herb or to its digestibility. Warm herbs are contraindicated when heat signs are present, and cooling when cold signs predominate. Refer to Table 4.2 for more details about signs of heat and cold. the contraindication refers to the use of the herb alone. Sometimes the contraindications can be overcome by including other herbs in a formula to balance the overall effect. this is a common practice in traditional Chinese formulas, but proceed with caution if you are self-prescribing herbs. Be on the lookout for signs of worsening of your condition that might come from taking a contraindicated herb, and stop taking it promptly. Please refer back to my comments on self-medication in the Introduction.
- Dose. Dosages are given in grams. This may be confusing because most herbs are sold per ounce or per pound, and most people do not have gram scales available. A postage or diet scale is usually in ounce gradations. There are about 30 grams in an ounce. Try measuring an ounce on a postal or food scale, then divide in thirds to get ten grams, and then in half to get five grams. If necessary, divide further to get the gram dose you are looking for. The doses are for daily use, so if you are taking herbs twice a day, cut the dose in half. If you are self-prescribing tonic herbs, use the minimum doses. If you are making a formula of several herbs, include the normal dose for each herb, rather than reducing the dose because it is in a formula. A typical total dose of combined Chinese herbs for making teas with many herbs can be several ounces. For eleuthero root, the dose for tincture in milliliters. There are eight milliliters in a ounce bottle of tincture, the size usually available in health food stores.
- And the end of the listings, I sometimes mention company products that include the herb. Please don't take these as exclusive endorsements. Many excellent tonic products are available, and it is beyond the scope of this book to describe them all. I tell where to order the products in Chapter Nineteen.
-

Asian ginseng, Chinese ginseng, Korean ginseng

Botanical name: *Panax ginseng*

Chinese name: *ren shen*

Primary action: *chi* tonic

Secondary actions: yin and blood tonic, sedative

Organs affected: Spleen, Lung, Heart

Temperature: slightly warm

Contraindications: heat signs, high blood pressure

Note: processed red ginseng is more heating, and is a yang tonic instead of a yin tonic.

Dose: 1-9 grams

I covered the Chinese use of ginseng in detail in Chapter Six. This is the most versatile and highly valued of the tonic family. It is unparalleled as a tonic to the overall *chi*, strengthens the *chi* and blood-building organs (Spleen and Lung), and also benefits the yin. Ginseng is calming to the Heart, which in the Chinese system is responsible for such symptoms as anxiety, palpitations, insomnia, excessive dreaming, and mental unrest.

Ginseng is available as whole roots in Chinese stores or through mail order. See the chapters in Section Six on grades of ginseng and how to buy them.

In China, a common way to take whole roots is to make a tea or alcohol extract along with jujube dates. I'll explain details of how to do this in Chapter Fifteen. Some possible combinations

ginseng and jujube dates

ginseng and astragalus

ginseng with atractylodes, poria, and licorice

A wide variety of ginseng products — powders, tablets, capsules, liquid extracts, teas — are available in health food stores, drug stores, and supermarkets. Their quality is highly variable (see "ginseng scams" in Chapter Seventeen). A common Chinese liquid product is called Ginseng Extractum. It's available in Chinese stores or through East Earth Tradewinds.

Another common product in China, often available in health food stores in the U.S., is Ren Shen Feng Wang Jiang. Sometimes the name is run together: Renshenfengwangjiang. This is a combination of ginseng and royal jelly, in liquid form, packaged in small vials. If you can't find it in a store, you can order under the Chinese name from East Earth Tradewinds or as Ginseng/Royal jelly from the Institute for Traditional Medicine. K'an herbals carries the Plum flower brand from China, made with high grade herbs and containing no chemical preservatives or sugars, under the name Imperial Ginseng and Royal Jelly.

The American companies I list in Chapter Nineteen all make ginseng products that are in general superior to Chinese products, because they use higher-grade starting material. Below are some excellent products:

Jade Chinese Herbals

These products are made by one of the most reputable companies in the Chinese herbal business. Their product Heavenly Ginsengs contains the highest grades of ginseng available, including a tiny amount of genuine wild Chinese ginseng, which can cost tens of thousands of dollars per root. It also includes yi-sun ginseng, a cultivated variety that closely resemble wild ginseng. Their Nine ginsengs combines good quality ginseng with tienchi ginseng and other tonic herbs in the "seng" family. They also make a simple ginseng extract.

Dragon eggs

This product line includes a number of tonic herb formulas and single herbs. Four Ginsengs, Sage's Ginseng, and Shiu Chu/Kirin Ginseng are all made from superior grades of ginseng. If you can't find these in stores, they are available through East Earth Tradewinds.

Other Brands

High quality concentrated ginseng extracts are also available from GAIA Herbs, HerbPharm, and McZand Herbals

American ginseng

Botanical name: *Panax quinquefolium*

Chinese name: *xi yang shen*

Primary action: yin tonic

Secondary action: mild *chi* tonic

Organs affected: Lung, Stomach, Kidney

Temperature: cool

Contraindications: cold signs with abdominal bloating

Dose: 3-9 grams

I covered the Chinese use of American ginseng in detail in Chapter Six. I recommend that you don't think of it as a substitute for or equivalent of Asian ginseng, but take it on its own indications. Other herbs such as codonopsis or prince ginseng are better substitutes. If you take Asian ginseng regularly, you might consider switching to American ginseng during hot weather

the way some Chinese do. Asian ginseng is contraindicated when you are hot and sweating, but American ginseng is perfect for this.

Think of American ginseng as ginseng for people who are deficient and hot, with a racing pulse. It can help cool, calm, moisten and strengthen a run down system. It is very well suited to stressed, overworked and over overly-active American who have injured their yin function. Because it specifically strengthens the lungs, it would be a valuable addition to a formula to build athletic endurance, especially for sports played in hot weather.

Herbalist and acupuncturist Michael Tierra suggests that American ginseng is a better overall tonic for stressed-out Americans than Asian ginseng, which can create tension and nervousness. “If you ask the proprietor of a Chinese herb store which ginseng is the better tonic, they will tell you Asian ginseng,” says Tierra. “If you ask them what kind *they* are taking, they will often name American ginseng.” American ginseng is calming rather than stimulating. Tierra also suggests that American ginseng is better for patients with AIDS of diabetes, who often are have yin deficiency with heat signs and lung problems, which match the indications for American ginseng.

American ginseng roots are available in Chinese stores or through mail order from White Crane, East Earth Tradewinds, Frontier Herbs, or Spring Wind. See Chapter Eighteen for a discussion of quality and how to buy them. American ginseng products are widely available as liquid extracts, in health food stores or through the mail. Herb Pharm and Gaia Herbs produce some excellent concentrated products. Use American ginseng in any formula that calls for both a mild chi tonic and a yin tonic. Some possible combinations are:

American ginseng with jujube dates and lycium berries

American ginseng with he shou wu

American ginseng with licorice

Deer Antler, Cornu Cervi parvum

Chinese name: *lu rong*

Primary action: yang tonic

Secondary action: *chi* and blood tonic

Organs affected: Liver, Kidney

Temperature: warming

Contraindications: heat signs

Dose: 1-2 grams as powder; 3-5 grams cooked in a double-boiler or per ounce of liquor if soaked in wine (Wine dose: 1 ounce)..

Deer antler is one of many animal substances that Chinese herbalists use. I remember my instant curiosity and amazement the first time I saw a jar of scorpions next to jars of small dried lizards and seahorses on a Chinese herbalist's shelf. Although reminiscent of the stories of witches' brews, these seemingly-strange substances have potent medicinal properties, containing the various hormones, secretions, and chemicals from the species involved. The deer shed their antlers seasonally, and the discarded antlers are collected on the forest floor.

Deer antler is one of the premier tonics in Chinese medicine, where it has as great a reputation as ginseng. It appeared in the *Divine Husbandman's Classic* in the first century A.D. It's reputation as a yang tonic is built around its power to restore sexual potency, but it is also used as a general tonic. It improves the appetite, gives deeper sleep, decreases fatigue and improves work capacity. It is sometimes prescribed for failure to thrive in children. Because it is warming, it is not taken when heat signs predominate.

Some possible combinations:

antler with ginseng or codonopsis

antler with ginseng, *dong quai*, and lycium

antler with rehmannia and/or dong quai

Antler comes in thin slices. It is available in Chinese herb shops, or by mail order from East Earth Tradewinds. It can be boiled to make a tea. A common method used in China is to soak it in wine for a few weeks.

A Chinese antler extract called pantocrin and a potent American tonic called Antler/Athletic by Jade Chinese Herbals are also available from the same sources. Antler/Athletic includes many other tonic herbs. Seven Forests brand, available from Health Concerns or the Institute for Traditional Medicine also sells a product called Antler 8, which adds other herbs to deer antler to prevent overstimulation.

Asparagus root

Botanical name: *Asparagus cochinchinensis, racemosus, officinalis*

Chinese name: *tian men dong*

Primary action: Yin tonic

Organs affected: Lung, Kidney

Temperature: cold

Contraindications: cold conditions

Dose: 6-15 grams

This member of the lily family is a major herb for treating signs of deficiency heat. It is soothing and moistening to dry and inflamed mucous membranes of the mouth, throat, and lungs.

It has a sweet flavor and a chewy texture. It may be eaten alone — break off pieces of one root and eat it the course of a day.

Some possible combinations:

asparagus with rehmannia and ginseng

asparagus with American ginseng

asparagus with lycium berries and red dates

Astragalus

Botanical name: Astragalus membranaceus

Chinese name: *huang chi*

Primary action: *chi* tonic, blood tonic

Organs affected: Lung, Spleen

Temperature: warm

Contraindications: heat signs

Dose: 9-30 grams

Astragalus, which appeared in the earliest book of Chinese medicine, is rapidly gaining fame in the West as an immune stimulant. To pigeonhole it as an immune herb, however, is to overlook its broader use as a tonic. It strengthens the system, especially the lungs, improves the digestion, and builds up the blood. It increases endurance and body weight in animals. Astragalus is also a significant diuretic. American varieties of astragalus are known as "locoweed" because of their overstimulating effects on cattle that eat too much of them.

In Chapter Two I explained that some of the functions of the *chi* are to protect the body against external changes in temperature, control sweating, and to maintain the immune system. Collectively called *protective chi (wei chi* in Chinese), this function is like the shield around the Starship Enterprise in Star Trek. When overall *chi* becomes depleted, this protective *chi* is weakened, and we become more susceptible to colds and sweat more easily. A deficiency of protective *chi* is what makes AIDS patients so susceptible to opportunistic infections, and astragalus has a demonstrated effect in strengthening AIDS patients. When a distance runner finishes a race with heat exhaustion, he or she has depleted their *chi* to the point of losing regulation of sweating, and loses fluid profusely. Astragalus is like Scotty in the engine room, working feverishly to restore overall power and then circulating it to the shield before the Klingons can destroy the ship.

Astragalus, in combination with another tonic herb ligustrum, gained fame as a possible immune-stimulating and anti-cancer herb in scientific circles in the 1980s. In one trial with nineteen cancer patients, water extracts of astragalus restored the function of the T-cells in 90% of the patients. T-cells are the main immune cells that attack tumors. In another trial, these two herbs in a broader formula increased the survival time of cancer patients receiving chemotherapy. Unfortunately, funding for this promising research in the U.S. was dropped because any eventual product was not patentable, and the drug company could not recoup its investment. Formulas based on these two herbs are used today in AIDS clinics at the Institute for Traditional Medicine in Portland, Oregon, and the Qwan Yin Clinic in San Francisco.

A similar commercial formula, called Astra-8, is produced by the Health Concerns company in Oakland, California. When I attended the National College of Naturopathic Medicine,in Portland, Oregon, Astra-8 formula was routinely given to AIDS patient in our clinic. A related product, Astraisatis, was later used in the Healing AIDS Research Project at Bastyr University in Seattle, Washington. That study, conducted on early-stage AIDS patient, showed that a combination of natural therapies helped delay the progression of AIDS.

Astra-8

Astragalus	*chi* tonic
Ligustrum	yin tonic
Ganoderma	*chi* and blood tonic
Eleuthero root	*chi* tonic
Codonopsis	*chi* tonic
Schizandra	yin and yang tonic, restrains sweating
Licorice	chi tonic, adjuvant
Oryza	astringent, restrains sweating
malt sugar	*chi* tonic

As a general tonic, herbalist Ron Teegarden suggests that astragalus is superior to ginseng for people under forty. It is also beneficial if you work or play for long periods outdoors and exposed to cold wind. It has no known toxicity, but can cause discomfort if you take it alone when you have heat signs. I did so on several occasions before I learned my lesson. Each time I soon felt ill at ease. A mild rash broke out on my legs, and my eyes got red and began to itch. I'm sure if had taken much more of it, and I were a cow, I would have started bellowing and initiated a stampede. The commercial formulas I mention here contain balancing herbs to reduce this possible effect. It is available as a long yellow-colored sliced root in Chinese stores or by mail order from East Earth tradewinds. Simmer the root for about a half an hour to make a tea.

Because its main benefits are to the protective *chi*, astragalus is often combined with another more general *chi* tonic in formulas. Some possible combinations:

astragalus with ginseng

astragalus with atractylodes

astragalus with angelica

astragalus with he shou wu and licorice

It is also widely available in health foods stores as encapsulated powders, teas, and tinctures. A Chinese pure astragalus product called Extractum Astragali is available in Chinese stores or by mail from East Earth Tradewinds. An excellent astragalus formula is Shield Chi, made by Jade Chinese Herbals.

The Ginseng and Astragalus formula from Zand Herbals is available in health food stores or by mail order.

Atractylodes

Botanical name: *Atractylodes macrocephala*

Chinese name: *bai zhu*

Primary action:*chi* tonic

Organs affected: Spleen, Stomach

Temperature: warm

Contraindications: heat signs

Dose: 4-9 grams

This herb has a reputation as the best of the tonics for Spleen *chi.* While many tonics benefit the Spleen function, atractylodes is most appropriate when such symptoms as diarrhea, vomiting, and lack of appetite accompany fatigue. It is an excellent overall tonic, increasing the body weight and improving endurance, and restraining excessive sweating. Atractylodes is diuretic, and is used in China for edema that accompanies Spleen *chi* deficiency. Atractylodes is one of the herbs in the Four Gentlemen formula, the most famous *chi* tonic formula in Chinese medicine (See Ginseng in this chapter). Chinese herbalist Ron Teegarden says that atractylodes is an important herb for use in a weight loss program. Its benefits in weight loss are due to normalization of the appetite and loss of water weight through its diuretic effects.

Atractylodes macrocephala (bai zhu) should not be confused with *Atractylodes lancea (cang zhu)* which has many opposite effects. the latter herb is contraindicated in *chi* deficiency with excessive sweating, a condition that atractylodes macrocephala is used to treat.

Atractylodes is available in bulk in Chinese stores or by mail order. It is found as an ingredient in many commercial tonic formulas. It comes in bulk as T or L-shaped root slices.

Some possible combinations:

atractylodes and orange peel

atractylodes and licorice

Codonopsis

Botanical name: *Codonopsis pilosula*

Chinese name: *dang shen*

Primary effect: *chi* tonic

Secondary effect: yin tonic

Organs affected: Spleen, Lung

Temperature: neutral or slightly warm

Contraindications: none noted in Chinese literature

Dosage: 3-9 grams

Codonopsis is so similar to ginseng in its action that it is substituted for the more expensive ginseng in most formulas in medical practice in China today. Its price is about a tenth that of ginseng. It is not as strong or long-lasting in its effects as ginseng, and a double-sized dose of codonopsis replaces ginseng in formulas. The only situation where it is not substituted is in cases of serious life-threatening shock or other severe illness. According to Dan Bensky, who holds both Chinese and Osteopathic medical degrees, and co-authored the two most famous Chinese herbal reference texts in the U.S., codonopsis is even considered superior to ginseng as a tonic to Spleen and Lung function. Codonopsis is not in the same botanical family as ginseng, but like ginseng, eleuthero root, and several other tonics, its contains saponin constituents. it is safer for general use than ginseng, because it does not have the tendency to generate heat with long term use.

Codonopsis is superior to American ginseng as a ginseng substitute, and much cheaper than the American variety, which is more expensive than even Asian ginseng. Its superiority is clear from the history of Chinese medicine. Both codonopsis and American ginseng were introduced into Chinese medical practice during the eighteenth century — codonopsis through discovery at home, and American ginseng through export. The Chinese were at first excited about American ginseng because it looks so much like their native variety. It was soon found to have very different properties, however, and was quickly assigned its own separate place in the Chinese materia medica. Codonopsis, on the other hand, quickly became a ginseng substitute, and is used today more frequently than the rarer Asian ginseng in medical practice. Like Asian ginseng, codonopsis has secondary blood-tonifying properties, and is often included in formulas for anemia.

Chinese research has shown that codonopsis has immune stimulating properties. It also raises the metabolism, decreases respiratory rate, and increases red blood cell counts.

Ginseng	**Codonopsis**
sweet, slightly bitter	sweet
Warm	neutral or slightly warm
strengthens Spleen function	strengthens Spleen function
benefits *chi* through Lungs	benefits *chi* through Lungs
benefits yin, generates fluids	benefits yin, generates fluids
powerful tonic to *chi*	mild tonic to *chi*
builds to blood	builds the blood
strengthens Stomach	
benefits Heart *chi*	
sedative effect	

Codonopsis is never used alone in China. Combine it with other *chi* or blood tonics, or with warming adjuvant herbs.

codonopsis with atractylodes

codonopsis with astragalus and jujube dates

Codonopsis with dong quai and licorice

codonopsis with ginger

Codonopsis is a common ingredient in herbal soup mixes available at Chinese herb stores. I ask for “herbal soup” mix, or “chicken soup” mix. The mixes come in packages to be cooked along with a pot of chicken soup. I make them up when I am feeling temporarily depleted from stress, or when the seasons change and I am susceptible to catch cold. I make either chicken soup or lamb stew. Cook until the met is done. You can also make up your own from herbs purchased separately in Chinese stores or through mail-order.

Soup mix

codonopsis (or ginseng)	2 parts
Astragalus	2 parts
Dioscorea	2 parts
Lycium	2 parts
Cordyceps	1 part

Cordyceps

Botanical name: *Cordyceps sinensis*

Chinese name: *dong chong zia cao*

Primary action: tonifies both yin and yang

Organs affected: Lung, Kidney

Temperature: neutral

Contraindicated: exterior conditions

Dose: 5-12 grams

This strange-looking medicinal substance is a fungus that grows from the carcasses of the larva of various insects. It looks like a short spindly growth protruding from the body of a small dried caterpillar. As odd as it looks, this is an important tonic. One prominent Chinese herbalist of the sixteenth century stated that cordyceps was as effective and ginseng in building up a depleted system. The more commonly held view is that it is not a *chi* tonic like ginseng, but is used when a formula calls for a yang or yin tonic for Kidney function. It also tonifies depleted immune function, and is especially good for recovery from debilitating illnesses or symptoms of premature aging. Because it tonifies both yin and yang, it is safer for long-term use than the warmer yang tonics.

In China is often cooked in meat stews or with roast duck. It's available in bulk from Chinese stores or by mail order. Use a dozen pieces in a pot of stew.

Dendrobium

Botanical name: *Dendrobium nobile*

Chinese name: *shi hu*

Primary effect: yin tonic for deficiency heat

Organs affected: Lung, Kidney

Temperature: cold

Contraindications: cold or neutral conditions; abdominal distension; heavily coated tongue

Dose: 6-12 grams

This stems and leaves of this Chinese orchid are famous in China, and appeared in the earliest book of Chinese medicine. It is the premier tonic herb to clear deficiency heat with thirst and prolonged low-grade fever. It is also useful for stomach ache and/or dry heaves when heat signs are present.

According to Chinese herbalist Ron Teegarden, it is a favorite of the Taoists to build sexual energy, or to recover from sexual excesses. He suggests that it may be taken with licorice as a daily tea. In extremely large doses, this herb has caused convulsions in animals.

Dioscorea

Botanical name: *Dioscorea opposita*

Chinese name: *shan yao*

Primary actions: *chi* tonic

Secondary action: balanced yin and yang tonic

Organs affected: Spleen, Lung, Kidney

Temperature: neutral

Contraindications: excess conditions

Dose: 9-30 grams

This *chi* tonic is most often used as a secondary herb, to support other stronger tonics. Dioscorea in ubiquitous in tonic soup mixes (See codonopsis above). It is useful in any formula to treat weak digestion, weak lungs, debilitation due to stress, or to restore or build the sexual function.

dioscorea with poria for weak digestion

dioscorea with codonopsis for energy

dioscorea with antler and/or schizandra for Kidney

Common name: Dong quai

Botanical name: *Angelica sinensis*

Chinese names: *dang gui, tang kwei*

Primary action: Blood tonic

Secondary action: yin tonic

Organs affected: Heart, Liver, Spleen

Temperature: warm

Contraindications: heat signs, diarrhea, pregnancy

Dose: 3-15 grams

Dong quai is one of the most famous herbs in China, and is possibly the most-often used herb there. It appeared in the oldest book of chinese medicine. Dong quai benefits a wide variety of gynecological disorders, including painful, irregular, excessive, or scanty menstruation, vaginal infection, or infertility. It is really like two herbs in one, because it both builds the blood and promotes its circulation through its warming effects. Because of these blood-circulating properties it is sometimes used after painful trauma that causes bruising. The dong quai will help to disperse the bruise. It is used the same way for the pain of arthritis. In Chinese medicine, pain is often considered a sign of either "stuck *chi*" or "congealed blood." Chinese research has shown that dong quai has both sedative and pain-relieving properties. The warming, circulation-promoting properties make dong quai contraindicated when heat signs are present, especially deficiency heat, which it will aggravate.

According to legend, the Chinese name dang qui came from an unhappy love affair. A young, recently-married man left for the mountains to prove his manhood after being taunted by other men in the village. He arranged with his wife that if he did not return in three years she would be free to remarry. The three years passed but he did not return, and the wife reluctantly took a new husband. Soon the first husband returned, however, and both were heartbroken. Her health declined and she became weak. The former husband gave her the root of an unknown plant that he found in the mountains, and her health was restored. The Chinese characters *dang* and *gui* have three possible meanings when combined: "should come back," "missing the husband," and "proper order." "Proper order" fits the medicinal action of dong quai which restores the both the blood and its proper circulation. The image of the wife, weak, pale and in poor overall health fits the picture of the ideal dong quai patient.

Dong quai is readily available in bulk in any Chinese store, or through mail-order. It comes in large, mushroom-shaped slices. It may be taken alone, in small coin-sized pieces, or brewed as a simple tea. Brew it in a container with a lid to keep in the warming volatile substances.

Some possible combinations

dong quai with astragalus

dong quai with rehmannia

dong quai with peony and lycium

dong quai with jujube dates

Dong quai is part of the Four Things Decoction, the most famous women's tonic in China. The formula, which regulates the menstrual cycle, also includes equal parts of rehmannia, peony, and ligustrum.

A popular Chinese formula, readily available in stores or through mail-order is Tan Kwei Gin (pronounced "geen"), a liquid containing about 70% dong quai, with the rest of the formula being balancing *chi* tonics and adjuvant herbs.

Eleuthero root, Siberian ginseng

Botanical names: *Eleutherococcus senticosus, Acanthopanax senticosus*

Chinese names: *ci wu jia, wu jia pi*

Primary use: *chi* tonic

Organs affected: Kidney

Temperature: warm

Contraindications: heat signs, insomnia

Dose: 5 grams - 1 ounce. Tincture 2-20 ml/day. Use lower doses in the sick or the elderly.

Eleutherococcus senticosus or eleuthero root, seems to be a plant fated to be misnamed. It is sold widely in North America as "Siberian ginseng," but it is not a ginseng at all. Scientists cannot agree on its Latin name, and its original Chinese name — *wu jia pi* — was shared with as many as thirteen other plants, many of them with entirely different properties than eleuthero root. I'll go into some length to discuss these naming problems, because eleuthero root is mistakenly thought by consumers in the U.S. to be an equivalent of Chinese and Korean ginseng, and because the confusion in Chinese names may have led to toxicity in some American products.

Eleuthero is in the same botanical family as ginseng, but this does not mean that it is ginseng. That name was devised by marketers hoping to capitalize on the popularity of true ginseng. Scientists classify plant and animals according to family, genus, and species. A human being — *Homo sapiens* — is part of the *Primate* family, the *Homo* genus, and is the *sapiens* species within that genus. True ginsengs — the *Panax* genus — are in the *Araliaceae* family. Chinese and American ginsengs are, respectively, the *ginseng* and *quinquefolium* species of *Panax*. *Eleutherococcus senticosus* is also in the *Araliaceae* family, but is not in the *Panax* genus. To clarify the relationship, a modern human — *Homo sapiens* — and a prehistoric ancestor to the human — *Homo erectus* — would have certain important similarities, being in the same genus, and certain differences, being different species. Others in the same *Primate* family but not in the *Homo* genus, including monkeys, chimpanzees, gorillas, baboons, and even tiny gibbons, have much greater difference from humans. Botanically, *Eleutherococcus senticosus*, being in the same family as *Panax ginseng* or *quinquefolium*, has some similarities to those plants, but as great a difference as that between a human and a chimpanzee. Refer to Table 13.1 to see eleuthero root's place in the Aralia family.

Scientists today do not even agree on the genus name *Eleutherococcus* for eleuthero root. Russian botanists gave its first Latin botanical name, *Hedera senticosa*, in 1856. In 1859, the Russian botanist Maximowicz removed the plant from the *Hedera* genus, named it *Eleutherococcus senticosus*, and recognized *Eleutherococcus* as a distinct genus of its own. In 1859 a German botanist combined the *Eleutherococcus* genus with the *Acanthopanax* genus, which formerly had been a subgenus of *Panax,* the genus of true ginsengs. Most botanists worldwide now call the genus *Eleutherococcus,* but Chinese scientists still call it *Acanthopanax,* and call eleuthero root *Acanthopanax senticosus.*

Table 13.1

Ginseng's botanical cousins

Some tonic plants in the Araliaciae family

Panax genus

Panax ginseng	Chinese or Korean ginseng
Panax quinquefolium	American ginseng
Panax japonicus	Japanese ginseng
Panax pseudoginseng	Tienchi ginseng

Eleutherococcus (Acanthopanax) genus

Eleutherococcus senticosus	eleuthero, Siberian ginseng, *ci wu jia, wu jia pi*
Eleutherococcus gracilistylus	*wu jia pi*
Eleutherococcus sessiflorus	*wu jia pi*

Aralia genus

Aralia racemosa	American spikenard
Aralia californica	"
Aralia nudicaulis	"
Aralia quinquefolia	"

Oplopanax genus

Oplopanax horridum	Devil's club

The mystery of *wu-jia-pi*

The Chinese common name for eleuthero root is even more confusing than the Western latin names. The *Divine Husbandman's Classic* from the first century B.C. listed a plant called *wu-jia-pi* as useful for promoting energy and for curing rheumatism. It was classified in the middle category of medicines, not as a tonic. Which plant the *Classic* refers to is not clear, because at least thirteen different plants, probably including *Eleutherococcus (Acanthopanax) senticosus, Eleutherococcus (Acanthopanax) gracilistylus,* and *Periploca sepium,* were used in China over the centuries and all were called *wu-jia* or *wu-jia-pi*. A Chinese physician in about 500 A.D. commented that "the better *wu-jia-pi* is the five-leaved one" — probably *Eleutherococcus senticosus* which usually has five leaves. Later, in the sixteenth century, Chinese physician Li Shih-Chen repeated that the "five-leafed" *wu-jia* was the better one, and drew a picture of it, which closely resembles *Eleutherococcus senticosus.* He furthermore upgraded the classification of the herb from the middle class of herbs to the highest class — the tonics. Note that traditionally the root bark of wu-jia-pi plants was used in Chinese medicine, not the root.

In recent decades the Chinese have renamed the three species that commonly fall under the name *wu-jia-pi. Eleutherococcus senticosus* is now called *ci-wu-jia* and the whole root is specified; *Eleutherococcus gracilistylus* (root bark) is now the only plant that will be called *wu-jia-pi;* and *Periploca sepium* (root bark) is now called *xiang-jian-pi.*

Table 13.2

Chinese plants historically coming under the Classical name *wu-jia-pi*

Latin name	**Modern Chinese name**
Eleutherococcus (Acanthopanax) senticosus	ci-wu-jia
Eleutherococcus (Acanthopanax) gracilistylus	wu-jia-pi
Periploca sepium	xiang-jian-pi

This confusion of the three plants called *wu-jia-pi* in China has possibly had a negative effect on the reputation of eleuthero in China. The three were apparently used interchangeably, but the last of the species, *Periploca sepium*, has a high toxic potential, and cannot be taken for long periods. It is possible that this plant and the weaker effects of the less-powerful *Eleutherococcus gracilistylus* gave *Eleutherococcus senticosus* a bad name, and this may be one reason why eleuthero is not more widely used today in China. Substitution of periploca for eleuthero root has caused toxic reactions from products labeled as Siberian ginseng in the U.S. See the discussion on product adulteration in Chapter Seventeen. Another thing that may have hurt its reputation is that its root bark was traditionally used. It took Russian researchers in the 1950s to discover the tonic properties of the whole root.

Eleuthero and chi in Chinese medicine

Eleuthero has never held a comparable place in Chinese medicine to Chinese or American ginseng, and this reflects its weaker activity as a tonic. It is recognized as a tonic for Kidney chi — aiding in stress resistance and sexual restoration — but is not used like ginseng, or ever substituted for ginseng in China. Even after the physician Li Shih-Chen clarified the botanical identification of eleuthero and upgraded its status to that of the tonic herbs nearly 400 years ago, it never caught on as a general *chi* tonic. As a comparison, consider that when the Chinese came into contact with the American ginseng in the 1700s, a tremendous trade for it developed that continues today, even though it is not as powerful a tonic as Asian ginseng. Codonopsis also entered Chinese medicine in the 1700s, and it quickly became a ginseng substitute.

After Russian researchers claimed forty years ago that eleuthero root is a more powerful tonic than Asian ginseng, Chinese scientists took an interest in it, and entered it in the official Chinese pharmacopoeia as a tonic and adaptogen. But no trade comparable to that of American ginseng has ever developed. The Chinese still pay top dollar for good Chinese and American ginseng, which are rare in the wild and must be cultivated at great expense, even though eleuthero grows widely as a common weed. To use baseball terminology, if ginseng is "major league," and American ginseng is "minor league," eleutherococcus is "college ball." It may still be a ball game, but while the majors and minors are around, baseball-lovers aren't likely to flock to a college ball game on Saturday afternoon. Eleuthero bark is still prepared in rice wine and used, not as a tonic, but to treat arthritis. Eleuthero root is used today in some Chinese hospitals along with chemotherapy in order to reduce the toxic side effects of the cancer treatment.

A tremendous amount of research into the adaptogenic effects of eleuthero root was done in the former Soviet Union. It is widely used today in Russia as an adaptogen to increase resistance to stress, colds, and flu, and is very effective for those purposes. The Russian product is extracted in 33% alcohol.

Eleuthero root has more immediate stimulating effects than most of the tonic herbs, and this may contribute to the misconception that it is a superior tonic. It can also easily overstimulate, with symptoms such as insomnia, anxiety, and tension in the shoulders.

Eleuthero root, usually labeled Siberian Ginseng, is available in bulk, capsules, or tinctures in most health food stores and herb shops. It would be wise to prefer the tinctures, because the great volume of research into eleuthero root was performed on alcohol extracts. The HerbPharm company makes a product according to the specifications of the Russian research, then concentrates it to double strength.

Eucommia

Botanical name: *Eucommia ulmoides*

Chinese name: *du zhong*

Primary action: yang tonic

Organs affected: Kidney, Liver

Temperature: warm

Contraindications: heat signs

Dose: 6-15 grams

Eucommia is used as a yang tonic to treat sexual weakness and to strengthen the bones. It also aids in the smooth flow of *chi* and blood, and is sometimes used as an adjuvant in tonic formulas to ensure circulation. In its own right, eucommia tea has been found to have blood-pressure-lowering properties and anti-inflammatory effects. Eucommia is used in China to prevent miscarriage.

It is available in bulk in Chinese stores and through mail-order. It might be used alone as a tea for mildly elevated blood pressure. Most often it is not used alone, but is added to other yang tonic formulas to promote circulation.

Ganoderma

Botanical name: *Ganoderma lucidum*

Chinese name: *ling zhi*

Properties: *chi* tonic

Organs affected: All five major organs, depending on type

Temperature: warm

Contraindications: signs of excess

Dose: 3-9 grams

The ganoderma mushroom, sometimes called by the Japanese name *reishi* in the U.S., is an immune-stimulating sedative. It first appeared in the oldest book of Chinese medicine. This book identified six types of ling zhi by their colors — red, black, blue, yellow, white, black, and purple. Each of the types were *chi* tonics, but affected different organs systems. Although all called ling zhi, some of these are actually different species in the ganoderma genus. The two types commonly found in the U.S. are red and black. They look nothing alike, the red being more round a compact, and the black being larger and more fibrous or fleshy. the red tastes bitter, and the black more salty. The red ling zhi affects the *chi* and all the organs, but especially the Heart, giving it sedative and calming properties. The black has a stronger effect on the Kidney.

A large amount of scientific research has been conducted into ganoderma, especially in Japan. It is an immune-stimulant, building resistance to infection and tumors. It also has cardiotonic properties, lowering serum cholesterol and increasing blood circulation through the coronary arteries. A number of clinical trials have shown it to be effective for chronic bronchitis.

Ganoderma is especially useful as a sedative for nervousness, restlessness, and insomnia that often accompanies general deficiency.

Go into any chinese store and ask for Ling Zhi, and the proprietor will show you several products to choose from. The one I like claims to combine all six types of ganoderma. You can also buy the mushrooms in bulk from East Earth Tradewinds, Spring Garden, or Frontier herbs, and make them into a tea. Ganoderma is a common ingredient in tonic formulas, usually added for its immune stimulating and sedative actions.

Glehnia

Botanical name: *Glehnia littoralis*

Chinese name: *bei sha shen*

Primary action: yin tonic, Lung tonic

Organs affected: Lung, Stomach

Temperature: cool

Contraindications: acute cough or cold signs

Dose: 9-15 grams

This herb is included in yin tonic formulas when dry chronic cough is a predominant symptom. It is also used for dry itchy skin. Research in China shows that it has an analgesic effect and can reduce fevers.

Glehnia is available in bulk in Chinese stores or through mail-order. It may be added to other formulas for deficient yin.

He shou wu, Fo-Ti

Botanical name: *Polygonum multiflorum*

Chinese name: *he shou wu*

Primary actions: blood and yin tonic

Organs affected: Kidney, Liver

Temperature: slightly warm

Contraindications: Spleen deficiency, excess mucous

Dose: 9 grams-1 ounce

He shou wu is one of the most famous tonics in China, used as a general tonic to postpone or reverse the effects of aging. It is named after a man in 7th century China named He. A retired farmer, too old to work the land anymore, he had to go to the forest to search for food during a famine. He returned several months later, and the villager noticed that his grey hair had begun to turn black, and that he appeared to be younger than when he left. He explained that he had been forced to eat the roots of a particular plant, which the people named in his honor. *He shou wu* means "Black haired Mr. He." The herb first appeared in an official Chinese medical text in 713. Fo ti, the common name in the U.S., was invented by marketing concerns in the U.S. in the 1970s.

The power of this herb is demonstrated by its popularity in Japan. It was first introduced there in the early 1700s. Its use spread rapidly, and it remains today one of the most popular tonic herbs there, where it is called *kashuu.* This is one of my personal favorites as a tonic herb. I once used it with some other herbs to quickly restore me from a state of extreme exhaustion — see my story in Chapter Two — and still use it from time to time when I become run down from overwork, especially working late at night. It is used in traditional Chinese medicine for deficient blood and yin syndromes with symptoms such as insomnia, dizziness, blurred vision. It is also used for deficient Kidney syndromes such as premature grey hair, and weak lower back, knees, premature ejaculation, and infertility.

Although he shou wu is slightly warming, it is not contraindicated in conditions that are usually considered hot. In fact, it will even decrease a fever. In clinical trial, he shou wu tea and glycyrrhiza were given to seventeen patients with the recurring fever of malaria. In fifteen cases the symptoms disappeared completely. The two recurrences were successfully treated with the same formula. It has sedative and blood pressure-lowering properties. I is used by both conventional and traditional Chinese physicians to lower cholesterol. In a clinical trial, a simple tea of he shou wu was given to eighty-eight patients with high cholesterol. In seventy-eight patients the cholesterol decreased, although in eight it increased (the increase was not necessarily due to the he shou wu). In animal experiments, he shou wu enhances resistance to cold and builds the red blood cell count.

"Black Haired Mr He" comes either raw or processed. The processed form is the one available in the U.S. The roots are cooked in the broth of black beans, and acquire the

deep-brown color of the beans. The unprocessed roots have a laxative property that the processing mostly removes. In china, herbalists use the unprocessed root as a laxative, and to detoxify boils and similar accumulations. Side effects to the processed root can include increased frequency of the stool, mild abdominal pain, or a flushed face. These will usually pass in a day or two.

The roots are available in any Chinese store, or through mail order. He shou wu combines well with ginseng in equal parts and a superb general tonic. Prepare them as a tea or wine extraction (see the next chapter for details). Chinese texts caution against cooking *he shou wu* in a metal container. Some other possible combinations:

he shou wu with codonopsis

he shou wu with dong quai

he shou wu with eucommia

he shou wu with peony and ligusticum

Two popular and inexpensive Chinese products available in Chinese stores or through East Earth Tradewinds are Shou Wu Pian and Shou Wu Chih. The first is 100% he shou wu with sugar. The second, a liquid, combines he shou wu with dong quai and some other herbs. Fo-Ti Dragon Eggs, an American product, is more expensive but is much more potent.

Jujube dates, red dates

Botanical name: *Zizyphus jujuba*

Chinese names: *da zao, hong zao*

Primary actions: *chi* tonic

Secondary action: yin tonic, sedative, adjuvant to harmonize harsh herbs

Organs affected: Spleen, Stomach, Heart

Temperature: neutral

Contraindications: abdominal bloating and distension; intestinal parasites

Dose: 3-10 dates

Red dates are a common ingredient in many tonic formulas. These pleasant-tasting fruits are a *chi* and Spleen tonic in their own right, but are included in formulas as adjuvants to enhance digestion and absorption. Red dates are a natural counterpart to warming *chi* tonics like ginseng or astragalus, and are of benefit in any yang tonic formula. They also moisten a dried-out system, and have a sedative effect. Red dates will be useful in any tonic formula for insomnia. Animal research shows that they will increase weight and endurance, and may have a healing and protective effect on the liver.

Red dates are available in any Chinese store or through mail-order. Fresh dates are usually available in Chinese stores, and are of higher quality than dried dates. They can be eaten alone as snacks, or cooked with foods. When my digestion is feeling a little sluggish, I like to chew on one or two dates. The usual way of taking ginseng in China is as a tea or alcohol prepared with jujube dates to improve the digestion of the ginseng.

Licorice root

Botanical name: *Glycyrrhiza uralensis, Glycyrrhiza glabra*

Chinese name: *gan cao*

Primary actions; *chi* tonic

Organs affected: Primarily Spleen and Lung; all twelve organs to some extent.

Temperature: neutral (honey-fried licorice is warming)

Contraindications: nausea, heart disease, kidney disease, high blood pressure, pregnancy, edema (honey-fried licorice: heat signs)

Dose: 3-12 grams

Licorice is famous in the West as a candy, but most licorice candy is made from anise flavorings rather than from real licorice. This herb, which was placed in the superior class of herbs in the oldest book of Chinese medicine, is used more than any other herb in Chinese formulas. It is probably the most versatile herb in either Eastern or Western pharmacopoeias, and can benefit respiratory illnesses, digestive problems, menstrual disorders, inflammatory conditions, auto-immune diseases, and chronic liver disease. In Chinese medicine it is said to affect all the meridians and organ systems, and this is its value in a tonic formula — it can guide the *chi* into all the systems. it also moderates the side effects of strong herbs.

Research has shown that licorice by itself can treat a wide variety of diseases.

- It strengthens the digestion, and has cleared ulcers in 80% of patients in clinical trials.
- It is an expectorant for the lungs, and research shows that it is as effective as codeine as a cough suppressant.
- It has a mild estrogenic effect, and is used in many Western gynecological formulas.
- Glycyrrhizin, the principal active constituent of licorice, used by conventional physicians in Japan to treat chronic hepatitis. Licorice in Chinese clinical trials cleared up 70% of cases of chronic hepatitis after two to three months of treatment.
- In AIDS patients, licorice can restore normal liver function.
- It has anti-allergy effects similar to cortisone, although not as strong. When taken with cortisone, it increases its effect and duration.
- It can be of benefit in bronchial asthma.

Licorice root can cause side effects when taken in large doses and for long periods. It stimulates the adrenal glands and adds to the effect of steroid hormones, and the effect it to cause high blood pressure, edema, headache, and potassium loss. These effects were first observed in people who ate large amounts of concentrated licorice extracts in candy. Later they were observed in the long term clinical use of licorice for the treatment of ulcers and hepatitis. They do not appear with normal use in tonic formulas.

Honey-fried licorice has somewhat different properties than raw licorice. It is more heating, and has stronger *chi*-tonic properties. It is not available this way commercially, but you can make it yourself. Warm a moderate amount of honey in a skillet until it turns brownish color. Then add some water to moisten it and stir-fry the licorice in it until it has absorbed enough honey to turn a darker color. I once experienced the heating effect of this form in a dramatic way. I was eating small pieces of American ginseng and honey-fried licorice while working on a grueling writing project. After four or five days, I had extreme heat signs — racing pulse, flushed face, and insomnia. I first thought it was due to the American ginseng, but when I later took the ginseng without the licorice, no such signs appeared. I am prone to deficiency heat, and should have known better. During this same period I met a friend at a dance, and gave her a jar of honey-fried licorice as a present. She is also prone to deficiency heat, and was hot from dancing. She ate a piece of the licorice, and within five minutes felt so hot that she had to sit down.

Licorice is readily available in Chinese stores, health food stores, herb shops, or through the mail. I prefer the Chinese licorice because it comes in small angular slices that are easy to use, although Western forms are as effective. You can chew the Chinese slices like candy, which I do for a dry cough, and they are easy to honey-fry.

Licorice is a member of the famous Four Gentlemen tonic formula, which also includes codonopsis, atractylodes, and poria. It is a valuable addition to any tonic formula. Try a tea of

ginseng and licorice in equal parts. A wonderful and very inexpensive tonic is equal parts of codonopsis and licorice.

Ligustrum, Privet

Botanical name: *Ligustrum lucidum*

Chinese name: *nu zhen zi*

Primary use: yin tonic

Organs affected: Liver, Kidney

Temperature: neutral

Contraindications: deficient yang; diarrhea with cold signs

Dose: 5-15 grams

This herb is not used alone, but is included in formulas for deficient yin when Kidney deficiency is predominant. Symptoms might include premature grey hair, dizziness, blurry vision, low back pain, weak legs and knees, and tinnitus. Lycium berries are superior as a tonic for general deficiency of yin or yang.

Ligustrum has gained fame in Western research as part of a formula with astragalus. Astragalus-ligustrum combinations have been used successfully to treat cancer and AIDS. See the discussion under astragalus.

Ligustrum is rarely available in health food stores, but can be found in Chinese stores or by mail through East Earth Tradewinds.

Lycium berries

Botanical name: *Lycium chinensis*

Chinese name: *gao chi zhi*

Primary use: blood and yin tonic

Organs affected: Liver, Kidney

Temperature: neutral

Contraindications: abdominal bloating, inflammatory conditions

Dose: 6-15 grams

These fruits, which resemble small red currants, are common in Chinese herb formulas. Besides nourishing the blood an yin, they are useful for Kidney deficiency, with such symptoms as lower back pain, weak knees, sexual weakness, dizziness and blurred vision. They are also used in Chinese hospitals for high blood pressure.

They are available in Chinese stores or through East Earth Tradewinds. Some possible combinations:

lycium and ginseng

lycium and codonopsis

lycium and rehmannia

lycium and schizandra

They may also be nibbled as snacks or used in cooking. I like to put a handful on top of a pot of just-cooked basmati rice. Cover and let them steam for a while. Then stir them in. This makes a delicious and colorful and health-building rice dish.

Morindae

Botanical name: Morinda officinalis

Chinese name: *ba ji tian*

Primary action: yang tonic

Organs affected: Liver, Kidney

Temperature: warm

Contraindications: deficiency heat

Dose: 5-15 grams

Although this herb appeared in the oldest book of Chinese medicine, it is not used alone. It is included in yang and blood tonic formulas when cold signs are present and Kidney symptoms predominate. it strengthens the muscles and bones. You'll find it in Chinese stores or by mail order through East Earth Tradewinds. It combines well with eucommia, dong quai, rehmannia, or lycium.

Peony

Botanical name: *Paeonia lactiflora*

Chinese name: *bai shao*

Primary action: blood and yin tonic

Organs affected: Liver, Spleen

Temperature: cold

Contraindicated: diarrhea with cold signs

Dose: 6-15 grams

Peony root is an important women's tonic in Chinese medicine. It is closely related medicinally to asparagus root. Although having entirely different textures, they both have significant amounts of the same constituent, *asparagine.* This is a primary tonic herb for menstrual cramps and other menstrual disorders. It is often used in place of dong quai, which is warming, when heat signs are present. It has antispasmodic properties which help all kinds of cramps and spasms. It is a valuable addition to *chi* tonic formulas, which can cause tension, because it relieves the tension. It is also used to allay night sweats in patients who have deficient yin. Chinese research shows that it lowers blood pressure.

Peony one of the members of the Four Things Decoction, the most famous women's tonic in China, which also includes dong quai, rehmannia, and ligusticum.

It is available in bulk in Chinese stores and through the mail from East Earth Tradewinds or Frontier Herbs. Some possible combinations:

peony with licorice

peony with dong quai

peony with rehmannia

Poria

Botanical name: *Poria cocos*

Chinese name: *fu ling*

Primary action: *chi* tonic, especially Spleen *chi*, sedative

Organs affected: Spleen, Heart, Lung

Spleen tonic, sedative

Temperature: neutral

Contraindications: frequent urination with cold signs

Dose: 9-15 grams

This plant is a white round fungus that grows underground on the roots of conifer trees. It was known in turn-of-the century Western herbalism as "tuckahoe," named for the hoe that is necessary to dig it up from the tree roots. The main action of poria is on the Spleen. It drains accumulated moisture in the upper digestive tract and relieves abdominal bloating. It is included in many *chi* or blood tonic formulas which can have a tendency to promote abdominal bloating. It is a strong diuretic and a first-class sedative, proving relief for insomnia nd anxiety. chinese research shows that it will lower blood pressure and blood sugar.

Poria is available in bulk in Chinese stores or through the mail from East Earth Tradewinds or Frontier herbs. It is a member of the famous Four Gentlemen tonic formula, which also includes ginseng (or codonopsis), atractylodes, and licorice.

Prince Ginseng

Botanical name: *Pseudostellaria heterophylla*

Chinese names: *hai er shen, tai zi shen*

Primary actions; *chi* tonic

Secondary action: yin tonic

Organs affected: Spleen, Lung, Heart

Temperature: neutral

Contraindications: none noted

Dose: 6-15 grams

Although prince ginseng is not related to Asian ginseng botanically, it is very similar in it's action, although weaker. prince ginseng roots look like tiny ginseng roots. it is milder than codonopsis, but is a worthy substitute for ginseng for those for whom ginseng or codonopsis are too stimulating. Prince ginseng in combination with schizandra was found effective in Chinese clinical trials for nervous exhaustion.

Prince ginseng is available in Chinese stores or from East Earth Tradewinds by mail. It costs about $16 a pound, about a tenth the cost of ginseng. Use it like ginseng in a tea with jujube dates, or combine it with schizandra berries. Prince ginseng is sometimes found as a component in tonic formulas found in health food stores.

Rehmannia

Botanical name: *Rehmannia glutinosa*

Chinese names: *shi di huang, di huang*

Primary uses: blood and yin tonic

Organs affected: Liver, Kidney, Heart

Temperature: slightly warm

Contraindications: weak digestion, abdominal bloating, excess phlegm, pain from stuck *chi*

Dose: 9 grams to 1 ounce

Rehmannia appeared in the oldest book of Chinese medicine, and remains a famous women's tonic today. It is a primary herb in formulas to tonify blood and yin deficiency, with symptoms such as paleness, dizziness, palpitations, insomnia, and menstrual dysfunction. It is also the principal herb treating deficient yin when Kidney symptoms are predominant, such as night sweats, low back pain, infertility, sexual weakness, and slow healing of bones or flesh. It is especially important in treating wasting diseases, such as diabetes.

Rehmannia can lower blood pressure. In a Chinese clinical trial, sixty-two patients with high blood pressure and no contraindications for rehmannia took it for two weeks. Both blood pressure and serum cholesterol fell.

Rehmannia can be hard to digest, and overuse can lead to abdominal bloating and diarrhea. Initial temporary side effects such as mild diarrhea, abdominal pain, dizziness, or low energy will usually disappear with continued use.

Rehmannia comes as either raw root or in a prepared, steamed form. Both have the same tonic properties. The steamed roots are black and have warming properties, while the raw root is cooling, and is sometimes preferred in China during hot weather. Prepared roots are most common in this country, but raw roots can be obtained by mail-order from Frontier Herbs.

Rehmannia is one of the herbs in the Four Things Decoction, the most famous women's tonic in China. The other herbs are dong quai, peony, and ligusticum. Rehmannia combines well with dong quai or asparagus root as a simple tea.

One way to prepare rehmannia is to soak it in wine for three weeks. Add a little fennel seed or cardamom to promote digestion. Take doses of a wine glass a day. Wine itself is considered to promote circulation in Chinese medicine.

Rehmannia is a common ingredient in Chinese products. One popular one is Women's Precious Pills, available in Chinese stores or through East Earth Tradewinds. K'an herbals sells an excellent variation of this product, manufactured from high quality herbs, and including ginseng in the place of the codonopsis in the original formula. Another Chinese product featuring rehmannia is Chih Pai Di Huang Wan, which also contains cooling herbs for hot flashes in menopause.

Royal jelly

Chinese name: *feng wang jiang*

Principal use: *chi* and blood tonic

Organs affected: Liver and Spleen

Temperature: neutral

Contraindications: excess conditions

In a beehive, the worker bees produce a glandular secretion from honey known as *royal jelly.* This makes up the total diet of the queen bee of the hive. It must be a superb diet because the queen lives for five to six years, while the workers only live four to five months. Royal jelly, a *chi* and blood tonic, is not a traditional Chinese medicine, being only recently discovered. However, it is very popular in China, mixed with other tonics in the form of patent medicines.

These patents are a very common sight in North American health food stores. I already discussed *Ren Shen Feng Wang Jiang* — ginseng and royal jelly — under Asian ginseng. Other common products are *Ling Zhi Feng Wang Jiang* — ganoderma mushroom with royal jelly, codonopsis, and lycium berries — and *Feng Ru Jiang* — royal jelly with codonopsis and astragalus. *Bei Jing Feng Wang Jiang* contains royal jelly only. All four are general tonics, but especially suited for deficient *chi.*

Schizandra berries

botanical *name: Schizandra sinensis*

Chinese name: *wu wei zi*

Principal use: tonic astringent

Organs affected: Lung, Kidney

Temperature: warm

Contraindications: heat signs, pregnancy

Dose: 6-9 grams

Schizandra, which appeared in the oldest book of Chinese medicine, is most commonly used in Chinese medicine as an astringent for such symptoms as diarrhea or excessive sweating that often accompany deficiency syndromes. It has tonic properties of its own, reducing nervous exhaustion, building the endurance, strengthening the reflexes, and increasing work efficiency. It also has sedative properties useful for insomnia due to deficiency. It is included in Chinese formulas for low energy, insomnia, diarrhea, sexual weakness, involuntary sweating, tuberculosis, asthma, and diabetes.

In a Chinese clinical trial, alcohol extracts of schizandra were given to seventy-three patients suffering from neurasthenia (nervous exhaustion). Forty three patients were cured, and thirteen significantly improved.

If taken alone and in high doses, schizandra can cause restlessness and insomnia. It also contains bitter substances called tannins. These are probably partly responsible for its astringent properties. For tonic use, I soak the berries for a few hours to reduce the bitterness, drain the water, and then dry them again. The soaked berries can be further allowed to soak in wine for several weeks, for an excellent tonic for the Kidney.

Schizandra is available in bulk in Chinese stores, or through the mail from East Earth Tradewinds or Frontier Herbs. it is not usually used alone. Some possible combinations:

schizandra with codonopsis

schizandra with astragalus

schizandra with lycium berries and licorice

schizandra with rehmannia

Tienchi ginseng, Sanchi ginseng

Botanical name: *Panax pseudoginseng*

Chinese names: *tienchi, sanchi*

Primary uses: trauma medicine

Secondary use: *chi* tonic

Organs affected: Liver, Stomach, Large Intestine

Temperature: warm

Contraindications: pregnancy, caution in deficient blood

Dose: 1-3 grams of powder; 3-9 grams of root for tea.

A preparation of this close relative of ginseng was standard issue to North Vietnamese troops during the Vietnam War. Although soldiers in Asia have from time to time used Asian ginseng to increase endurance during combat, this herb was used for a very different purpose. It reduces bleeding. The soldiers used it as first aid for gunshot wounds until they could receive medical attention. It is also used in Chinese hospitals for serious bleeding in the gastrointestinal tract, the lungs, or from the nose.

I first became aware of tienchi when I tore some ligaments in my shoulder while playing basketball. Over the course of two days, an ugly bruise from internal bleeding spread from my shoulder all the way down to my elbow. My acupuncturist gave me some tienchi ginseng, in a powdered form, and the internal bleeding promptly stopped, the pain improved, and the bruise resolved quickly. Tienchi is also used for sprains, strains, and for painful menstruation and other kinds of external or internal bleeding when the blood is congealed into bruises.

Tienchi is used in China for heart attack patients and others with coronary artery disease. Clinical trials there show that it increases the blood flow through the coronary arteries and lowers cholesterol.

Tienchi contains some of the same constituents as its close relative ginseng, and is sometimes used as a general tonic as well. In a clinical trial, it was given along with chemotherapy for cancer, and improved the success of that treatment. Tienchi increases the efficiency of circulatory function in athletes. In trials with weight lifters and swimmers, it was found to lower maximum heart rates and hasten the return to a normal pulse after exercise. It might be a preferred tonic for athletes in contact sports, because it both increases efficiency and helps resolve bruises and swellings.

Tienchi is available in bulk powdered, sliced, or in whole roots from Spring wind. Whole roots are also available from East Earth Tradewinds and from some Chinese stores. The prepared

medicine I took for my torn shoulder is called Yunnan Paiyao. It comes as a powder in small vials, with a red pill on top of the bottle, or as capsules. The pill is only for cases of severe bleeding and traumatic shock, not for normal athletic trauma. For external bleeding the powder can be sprinkled directly in a wound, or taken in water. For strains, sprains, bruises, or gynecological bleeding, take it with some wine. Yunnan Paiyao is available in any Chinese store, or through East Earth Tradewinds or the Institute for Traditional Medicine. It is an excellent addition to a first aid kit.

Adjuvant herbs: movers and shakers

Several herbs that are not themselves tonics are often found in tonic formulas. They are added in order to improve the digestion and to promote circulation of the *chi* and blood generated by the tonic herbs. Most are warming in nature, and ar circulatory stimulants. Remember that poor digestion often accompanies deficiency syndromes, and that one of the major disorders of *chi* is stuck *chi* that does not flow properly. These *adjuvant* herbs help to solve both problems. Licorice and/or jujube dates, which I've covered in their own sections in this chapter, are added to many tonic formulas both as adjuvant digestion-promoting herbs, and as minor tonics in their own right. Some others are listed below:

Citrus peel *(chen pi)*

These are the dried peels of Chinese species of oranges or tangerines. Citrus peel is both warming and bitter. It aids in digestion and promotes circulation of *chi*. Citrus peel is readily available in Chinese stores, and orange peel, its equivalent, is available in Western herb stores.

Ginger root *(sheng chiang)*

Dried ginger root is a powerful warming digestive herb. It has strong anti-nausea properties, and has been found in clinical trials to be as effective for nausea as the conventional drug dramamine, which is often prescribed for motion sickness. Other trials have shown that it can reduce or eliminate the nausea that accompanies chemotherapy. Ginger may be included in tonic formulas when poor digestion and cold signs predominate. A classic *chi* and blood tonic formula from Chinese medicine uses both ginger and citrus peel:

he shou wu	2-3 parts	blood and yin tonic
Ginseng	2 parts	*chi* tonic
(or codonopsis, 4 parts)		
dong quai	1 part	blood tonic

citrus peel	1 part	adjuvant
dried ginger	1 part	adjuvant

Ligusticum *(chuan xiong)*

Ligusticum is an acrid herb that promotes circulation of both blood and *chi*. It is often combined with blood tonics to promote circulation. It is a part of the Four Things Decoction, the most famous blood tonic formula in Chinese medicine (See Dong quai) where it is included as an adjuvant to the three tonic herbs in the formula.

Bupleurum *(chai-hu)*

Bupleurum is considered a liver herb in Chinese medicine, but remember that the Chinese concept of Liver includes the regulation of the flow of blood, *chi,* and emotions. The syndrome of *stuck liver chi,* which is very common in Westerners, includes feelings of anger and frustration. Bupleurum, a cooling herb, is sometimes added to strong tonic formulas, such as those for athletes, in order to ensure that the generated *chi* moves harmoniously and to counteract metabolic heat generated by the tonic herbs.

Section V: How to use ginseng and the tonic herbs

Assuming that you have read this far, and that you think you have one of the deficiency syndromes I described in the last section, you are under unusual stress, or you are an athlete trying to build your performance and endurance, I'll now describe how to use ginseng and the tonic herbs. But first let me give an overview on treating deficiency.

Americans usually use drugs with the expectation that the drug will make them better. Taking aspirin for a headache, a high blood pressure medication for hypertension, or an antidepressant for depression might help your condition. This approach won't work with ginseng and other tonic herbs. Western drugs may address a particular symptoms, but they don't act to build up the whole system. In fact, most of them weaken the overall vitality while suppressing a symptom. This is exactly the benefit of tonic herbs: They can do for the overall system what no pharmaceutical drug can do.

The tonic herbs, unlike pharmaceutical drugs, are not fast-acting. They usually take two weeks to two months to produce their effects. But more important, deficiency states are an overall problem, brought about by conditions in the diet, sleep patterns, stimulant use, stress-management habits, exercise habits, mental attitudes, and other factors in the lifestyle. The solution to general deficiency is to change the patterns that are causing it, and no herb or formula can accomplish such a huge task by itself. Remember we saw in Section Two that the Chinese use ginseng and other tonic herbs in the context of a lifestyle that cultivates and supports the *chi*. You'll have to do the same in order to achieve the results you want. Rather than view tonic herbs like drugs which will do the work of solving your problems, view them as allies that will help you as you build a healthier lifestyle.

In this Section, I'll describe some of the conditions that ginseng might be helpful for. Then I'll go into details of how to use ginseng and some tonic herbs, including dose, duration, preparation, and time of year. I'll suggest some simple formulas you can make or purchase for yourself. Finally, I'll devote a chapter to how athletes might use ginseng and the tonic herbs.

14 Using ginseng and the tonic herbs

> *"Tonics should not be used indiscriminately like vitamins just because `everyone can use a little tonification.' Side effects will often develop when tonics are prescribed for individuals who are not suffering from deficiency."*
>
> Dan Bensky, O.M.D, D.O., Co-author of *Chinese Herbal Medicine Materia Medica*

In this chapter I'll give practical suggestions for taking ginseng. But first let's look at some precautions.

Are you sick?

If you have an illness, especially a chronic one, it is not wise to treat yourself with ginseng or other tonic herbs. Chronic illnesses are complex in both their causes and their presentation. The Chinese never treat such illnesses with ginseng alone, although they might include it in a formula tailored to your specific condition. I suggest that you get a complete medical checkup. In the case I presented in Chapter Seven, a man with chronic low energy and depression self-prescribed ginseng inappropriately when he was suffering from a vitamin deficiency. Ginseng isn't vitamins, although it will boost your energy (and you might take vitamins along with it). You can easily mask the symptoms of a more serious underlying illness or nutrient deficiency with ginseng. The condition may then continue to get worse even though your energy feels better from the ginseng.

If you want to avoid conventional medical treatment and use tonic herbs instead, you might consult an acupuncturist or other practitioner of Chinese medicine. I've provided referral numbers in the Appendix. Ginseng is never appropriate if you are experiencing an acute illness such as a cold, flu, allergies, or an aggravation of arthritis. Please review the contraindications for taking ginseng in Chapter Seven.

Are you "stressed?"

Ginseng, eleuthero root, and other tonic herbs help the system to combat stressful situations. But stress means different things to different people. Fatigue, anxiety, insomnia, depression, tension, headache, and irritability all fall under the category of stress in the public view. From the point of view of Chinese medicine, however, these symptoms might fall into two groups. Tension, headaches, irritability or depression may be due to a condition of excess, or to *chi* that is stuck and not flowing properly. Ginseng and other tonics will probably make the condition worse. Fatigue, anxiety, and insomnia, on the other hand, are common symptoms of deficiency, and ginseng or other tonic herbs might help. Depression could fall into either category. Use the tables in Chapter Four to asses your condition, rather than your usual definition of stress.

Digestion

We saw in Chapter Two and Five how important good digestion is to maintaining the overall vitality of the *chi* and blood. It is a common practice in Chinese medicine to first address digestive problems before giving tonic herbs, or to include digestive stimulant herbs in tonic formulas. In my years of practice using Western herbs, I have often seen seriously ill patients regain their vitality by taking a simple digestive herb formulas, without the necessity of using tonics at all. The standard American diet is very hard on the digestive system, and many Americans have become so used to having indigestion that they think it is normal. Below are some common signs or a poorly functioning digestive system:

- Flatulence or belching
- Nausea
- Pain anywhere in the digestive tract
- Undigested food in the stool
- Offensive breath
- Constipation (less than one bowel movement per day)
- Lethargy or depression after meals
- Food cravings other than normal hunger
- Lack of satisfaction after meals
- Lack of hunger for breakfast

If you have any of these conditions, I suggest you take the following formula of Western herbs for three to six weeks, and see if your overall health and energy doesn't improve. Take equal parts of chamomile, peppermint, fennel seed, licorice root, and burdock root. Put a handful of each in a pot and add two quarts of water. Simmer over low heat, with a lid on the pot, for one half hour. Strain and store for future use, in a thermos if you have one. Let this be your beverage, and drink at least three cups a day. A handy way to make this, if you have a drip coffee maker, is to put the herbs in the pot (not the strainer) and add water in the back of the coffee maker. Turn it on. The hot water then flows onto the herbs, and the hot plate keeps the herbs at a good simmering temperature without boiling them. You can keep the tea hot on the maker throughout the day, or strain and put it into a thermos to take to work. You can also put new water onto the used herbs one time, as there will still be plenty of potency left in the once-brewed herbs. It's important to make enough of this in advance that you don't have hassle with brewing the tea each time you want a cup. Otherwise you probably won't keep up the practice long enough to obtain the benefits you want.

Deficiency, absolute and relative

The Chinese say not to take ginseng unless you are deficient. I covered deficiency states in detail in Chapter Four. This approach is changing in Korea and Japan however, and people in normal health in those countries are increasingly taking daily ginseng doses to combat the

unremitting stress of modern society. You might say that, like athletes, many of us are healthy but are deficient relative to the demands put on us by jobs, families, and the environment. I think if you are normally healthy, you can take minimum doses ginseng provided you do not show signs of excess or heat (See Chapter Four) and as long as you know how to watch for the signs of adverse effects that might appear (Chapter Seven). If you do start to develop adverse effects, stop completely for a few weeks, then try again at half the dose.

Below are some times you might find ginseng or eleuthero root helpful. Ginseng is superior to eleuthero root as an overall tonic, but eleuthero is much less expensive, and has been shown in scientific research to be effective for the conditions listed. Start taking them at least three weeks in advance if possible.

- When you foresee a very stressful period, such as a job change, moving to a new city or climate, or increased family responsibilities.
- When the seasons change. Physicians know that colds and flu tend to occur most often when the weather changes. If the weather is turning suddenly cold or windy, consider taking astragalus along with the ginseng. Or make a tonic soup. I provided a recipe in Chapter Thirteen under codonopsis. Tonic soups mixes are a regular commodity in Chinese stores, and the Chinese frequently use them when the season change.
- During periods when you are prone to catch cold. Note that eleuthero root is widely used to prevent colds in Russia.
- When traveling or moving to a higher altitude. Ginseng or eleuthero both increase the aerobic capacity. Ginseng is superior to eleuthero for this purpose, because it also helps build the blood.
- When driving on a long journey. Instead of pumping coffee to stay alert, start taking ginseng in advance. If you haven't started before the trip, ginseng in doses of over three grams has an effect similar to that of caffeine, but does not deplete the system.
- To combat jet lag.
- If you are under a temporary demanding work schedule, such as a deadline for a project.
- If you will have to stay up all night for some reason. Take the ginseng before your all-nighter, and for a few days afterwards the next day to help recover.
- When you're temporarily tired and worn out. If this is a chronic condition, have a medical checkup.
- If you are over forty and begins to feel the effects of aging.

Dose and duration

Use a minimum dose of ginseng and other herbs for a long time rather than a high dose for a short time. I provided dose ranges for each of the herbs in Chapter Thirteen. The upper ranges are for use by practitioners with training in Chinese medicine. Wait three weeks before deciding if the ginseng is helping you. You might make a list of your physical and psychological symptoms when you start. Then make another list after three weeks and compare them. Other tonic formulas may show effects in three days to a week, but give them about two weeks to do their work. Some will cause minor side effects in the first few days that will disappear soon. Continue taking the formula for up to a month if you do not develop long term side effects.

Some single herbs, including cordyceps, Prince ginseng, eleuthero root, tienchi ginseng, Fo Ti, asparagus, and dendrobium might be taken long term provided they do not evoke adverse effects.

Even if you don't experience side effects, take a break from the ginseng for a week or two every few months. Also take breaks during very hot weather, because ginseng can heat up the system. The Chinese most often take ginseng as a regular tonic during the colder winter months, and during season changes as fall turns to winter and winter turns to Spring. In very hot summer weather, consider taking American ginseng, which is cooling and also helps relieve fatigue. For other tonic herb formulas, take a week-long break each four to six weeks.

Some other tips for taking ginseng and tonic herbs:

- Take them on an empty stomach.
- Prepare a formula that includes digestive aids. Combine licorice, jujube dates, citrus peel, or ginger with ginseng or other herbs in the formula.
- Use ginseng and other tonics to restore normal function rather than to drive your system to unnatural heights.

In the next Chapter, I'll tell you ways to prepare ginseng and tonic herb formulas.

15 How to Take Ginseng and Tonic Herbs

You can take ginseng and other herbs in six main forms: raw or slightly cooked, or as a tea, wine, powder, or extract.

Ginseng roots

Whole ginseng roots are readily available in Chinese stores or through the mail. I'll list mail-order sources in the next section. An advantage to buying ginseng roots whole is that at least you know you have ginseng. We'll see in Chapter Seventeen that many products in stores contain either no ginseng at all, or amounts too small to do you any good. Ginseng comes in many grades, and some are much more potent than others. If you are dealing with a reputable dealer, the medicinal quality will be reflected by the price. Better ginseng costs more, and sometimes a lot more. "Let the buyer beware" is the rule if you buy ginseng roots in stores, however. Western store owners often do not know how to buy quality roots, and some Chinese dealers will try to pass off an inexpensive root to the naive buyer as a higher quality one. I'll describe the grades of roots in Chapter Eighteen and provide you with information on reputable dealers in Chapter Nineteen.

Eating ginseng

Eating ginseng raw or lightly steamed has the advantage that you know you are getting all the constituents. Whole roots are hard to cut. If you steam them for a few minutes, cutting is easier. Cut them in slices about the thickness of a nickel. Cut up the whole root, or otherwise it will dry out and you'll have to steam it again. The dose for the average person is one or two of these thin slices a day. I pour honey over the sliced roots and keep them in the refrigerator in a closed container, and then take them as I need them. You can also buy the root in a pre-sliced form. Some Korean products come this way, and you can also purchase root slices from Spring Wind. The slices are less expensive than the whole root.

Don't even think about eating a whole large root! We saw in Chapter Six that one ounce (thirty gram) doses of ginseng are used in hospitals to revive patients in life threatening shock or to temporarily revive the terminally ill. Such a dose would surely be overstimulating to a healthy person. The weights of individual roots that I have seen range from about five grams to an ounce. My buying experience is limited however, and you should weigh whatever roots you have, and aim for a one-to-two gram dose. If you don't have a gram scale, use a postage or diet scale that measures ounces. See how many roots it takes to reach one ounce. There are about thirty grams in an ounce, so divide thirty by the number of roots it takes to reach an ounce to find the number of grams in each root. If it takes five roots to reach one ounce, for example, they weigh about six grams each.

Powdered ginseng

Another way to eat ginseng, and the one I prefer, is to grind up a root in a coffee or seed grinder to make a powder. You can then add a gram or two of the powder to some warm water or a small glass of wine, stir it well, and drink. Ginseng in this form is easier to digest than the root slices. You can also put the powder in gelatin capsules, which are available in most health food stores. They are also available from East Earth Tradewinds or Frontier Herbs. Both companies sell capsule fillers which allow you to fill fifty or more capsules at once. You can also mix the ginseng powder with other powdered herbs to make a formula. Ginseng powders are also available in stores or through the mail. I recommend that you powder your own to ensure the highest quality.

Teas

Making a tea of the roots has the advantage that you can easily mix other herbs with it. It is very common in China to add three to five jujube dates to a ginseng root tea. Other herbs, such as licorice root, astragalus, fo ti, dong quai, or schizandra berries can also be added to make a simple tonic formula.

Ginseng is much too expensive to prepare like a regular tea. It should be cooked in a covered double boiler. The Chinese use a small porcelain container called a ginseng cooker. It holds enough water for about two cups of tea. It has an inner lid that covers the top to keep valuable ginseng constituents from evaporating, and a second domed lid that fits over that, creating an insulating air space between the first and the second lid. These cookers are quite inexpensive in any Chinese store, or they can be ordered through the mail from East Earth Tradewinds. You can also use a pint canning jar with a lid for the same purpose. The point of the cooker or jar is to keep the ginseng tea from boiling, which can cause the loss of some of its constituents.

Use about six grams of the cooker or jar in a pot of boiling water and cook the tea for about two hours, adding water to the pot as it boils away if necessary. If you don't want to worry about watching the water level, use a crock pot on low setting instead of a pot on the stove. Cook the ginseng about an hour longer in the crock pot than you would on the stove.

Remove the tea, and drink half of it as a daily dose. Don't throw away the ginseng root and other herbs yet. The first boiling extracts the constituents from the outer part of the root, but does not reach the interior. To prepare for the second boiling, cut the root up into small slices, exposing the inner core of the root. Then repeat the cooking process two more times, for a total of three boilings. Thus you can get six doses of the tea from a single root. If you start to feel overstimulated by this dose, or start to develop any of the adverse effects of ginseng, take a break for a week, and repeat taking a fourth or a third of the cooker or jar as a daily dose.

Other tonic teas

The above method is best for ginseng because it is so expensive. For other tonic herbs, it is customary to simmer them directly in a pot rather than using a double boiler. The softer and leafy herbs require only twenty minutes to a half an hour. For roots and harder substances, and for formulas, simmer them on a low flame until about half the water has evaporated. They are then ready for use. As with ginseng, you can repeat the process three times, breaking up any hard root for the second boiling. If your formula includes ginseng and many other herbs, prepare the ginseng in a double-boiler, and the other herbs in this manner, then mix the two liquids.

Ginseng wines

A common way to take ginseng and some other tonic herbs in China is to soak them in wine, and then drink the wine. The traditional liquor is rice wine, but any wine or strong liquor will do. Wine itself is considered medicinal in China, in doses of an ounce. Wines "moves" the blood, promoting circulation, and thus makes a good complement to tonic herbs.

To make a ginseng-wine preparation, chop or thinly slice about three ounces of ginseng root and let them soak in the liquor for five or six weeks. Let the mixture soak in a dark and cool place, and shake it up every day or two. When it's ready, remember that this is a medicine, and not a regular alcoholic beverage. Overindulgence can easily cause overstimulation.

Other tonic herbs that are suitable for making such wines are Deer antler, eleuthero root, fo ti, schizandra berries, and rehmannia. Add a little fennel seed or cardamom with the rehmannia to promote digestion and circulation. You can also mix these herbs with ginseng in the wine.

Prepared products

Ginseng is available in a wide variety of forms in stores — powders, capsules, granules, teas, liquid extracts and more. The products vary widely in potency, ranging from worthless to very strong. It is often hard to tell from the label exactly what strength of ginseng is inside. Ginseng products that come from Korea, widely available in health food stores, are of good quality. I mentioned some excellent American products under Ginseng in Chapter thirteen. For all prepared products, follow the instructions on the label.

Other tonic formulas

I described how to prepare tonic formulas above under Powers, Teas, and Wines. Hundreds of tonic formulas are now available in the American marketplace. I've described some of them in Chapter Thirteen. Refer to Chapter Nineteen for a list of companies that make high quality tonic formulas.

16 Athletes and the tonic herbs

I was a distance runner and soccer player when I was younger, and experienced the ups and down of training, racing, and injuries for many years. On several occasions, I overtrained and experienced "runner's burnout." On one occasion I collapsed completely with heat exhaustion after racing a hilly course on an unseasonably hot Spring day. I experienced many sprains, a few breaks, and some severely torn ligaments. I was forced to stop competing at around age forty because of soccer injuries. I wish during my nearly thirty years of athletic competition I had known what I now know about ginseng and the tonic herbs. They could have enhanced my performance, enhanced recovery after competition, and helped me recover from injuries.

While it is a general rule that tonic herbs are only properly used for people in a state of deficiency, serious athletes have their own special brand of deficiency states. They are generally deficient *relative to the level of their activity.* They create states of deficiency and exhaustion through heavy training and all-out competition. My normal state crossing the finish line in ten kilometer races was short of breath, weak in the legs, feeling faint, with spots before my eyes, mind foggy, completely exhausted, and sweating profusely — symptoms of deficiency in *chi*, yin, yang and blood! I know now that ginseng and tonic herbs can help to increase the performance level before that state is reached, and can help hasten the recovery from it after a competition. The tonics can build energy, endurance, blood, muscle, and aerobic capacity. (They help me now as I limp about the racquetball court!) Here are a few suggestions for athletes.

Ginseng and aerobic capacity

Athletic activity depends greatly on the *aerobic capacity* of the athlete — the ability to utilize oxygen efficiently. This depends on respiratory activity, but also on the chemical state of the tissues that utilize the oxygen, and on physiological changes such as increasing the capacity of the heart muscle and the action and efficiency of tiny blood vessels that circulate oxygenated blood to the cells. Trials in both humans and animals have shown that Asian ginseng greatly increases the aerobic capacity. Other tonic herbs, including tienchi ginseng and eleuthero root have similar action.

Animal research on ginseng, tienchi, and eleuthero root showed that animals treated with the herbs and then subjected to very low atmospheric pressure (low oxygen content) survive longer than animals not treated. Likewise, a group of Chinese workers transferred to an elevation of 14,000 feet in Tibet suffered less from oxygen-deficit after taking these herbs than untreated workers. Animals subjected to vigorous exercise can perform up to 100% longer when treated with ginseng. They also utilize less of their stored glycogen, the ready-source of energy stored in the liver. Marathon runners who "hit the wall" and run out of energy toward the end of their race do so because they have exhausted their glycogen supplies. Glycogen-loading — eating high carbohydrate meals before a competition to build up glycogen — is a common practice in endurance athletes. Ginseng could increase performance by reducing the requirements for glycogen.

All three herbs have also been tested in athletes, and show increased aerobic capacity. In a Swiss trial with Asian ginseng, athletes were first tested for maximum heart rate and recovery time in an eight-minute took an extract of the plant for nine weeks. Their average heart rate increased from seventy to more than 150. Their heart rates fell below one-hundred within five minutes, and returned to normal in about twenty minutes. They then took ginseng for nine weeks. After that time, the same exercise increased the heart rate to only 140. More dramatically, the rates then fell below one-hundred within three minutes, and returned to normal within five minutes.

The lactate levels of the athletes was tested during the same trials. Lactate is a the byproduct of aerobic activity that causes muscle pain after exercise. After ginseng treatment, peak lactate levels fell by 40%, and returned to normal faster that before treatment.

Different levels of ginseng were tested in these athletes, and no advantage was found to taking unusually high doses of ginseng. The beneficial effects of the ginseng persisted for up to three weeks after the nine-week course. Another Swiss study showed that benefits to aerobic capacity, although present in all age groups tests, are most pronounced in the 40-60 age group, supporting the traditional Chinese wisdom that ginseng es especially beneficial for those over forty.

In China similar benefits were found for tienchi ginseng in weight lifters and swimmers. After a day of heavy training, weight lifters pulse rates often do not return to normal even by the next morning, but will do so after taking tienchi. Swimmers' maximum heart rates after training were reduced from to 125. Their recovery time was also dramatically reduced. Without tienchi, their pulse rates fell to about 120 after 2-3 minutes.

After taking tienchi for seven weeks, their pulses returned to their normal resting rates in the same time. When compared to swimmers not taking the tienchi, the differences in aerobic capacity increased steadily throughout the seven weeks.

Dosage

If you want to use ginseng alone, use low doses for long periods rather than high doses for short periods when preparing for competition. The medicinal dose of ginseng is 1-9 grams; I suggest athletes take one or two grams for several months at a time. The reason is that athletes, although they experience states of deficiency during training and competition, are generally close to the edge of being in excess. Normal medicinal doses of ginseng can throw such a system over the line and produce symptoms such as muscle tension, insomnia, headache, and heat signs — not what the athlete is looking for. The lower doses are less likely to do this, but will gradually build the endurance and reflexes. Eleuthero root and tienchi ginseng are both valuable tonics for athletes, and are less likely to produce symptoms of excess than Asian ginseng. A low-range dose for eleuthero is five grams, about a sixth of an ounce. Eleuthero is readily available in bulk in health food stores or from the bulk herb suppliers listed in Chapter Nineteen. The dose for eleuthero tincture a fourth to a half-ounce a day, can be prohibitively expensive. More concentrated, and thus more affordable, eleuthero extracts are available from GAIA herbs, HerbPharm, or McZand Herbals. Tienchi ginseng is harder to find, but is available in bulk from

East Earth Tradewinds or Spring Wind. Russian athletes sometimes combine all three herbs. American ginseng is also a valuable tonic for summer sports, because it cools excess heat while helping reduce fatigue. It is quite expensive — even more than Asian ginseng. The best bulk prices are from White Crane and Spring Wind. The dose is three grams. Excellent concentrated extracts are produced by GAIA Herbs and Herb Pharm.

Use a formula

In practice in China, athletes do not take ginseng alone, but rather in formulas that combine *chi,* blood, and other tonics. Chinese women distance runners in the last Olympic games performed so well — breaking every record in women's long distance running — that they were suspected of using steroids or other drugs to boost their performance. Their coach denied this, and their urine tests for drugs came out negative. The coach said that all they took was some traditional tonic herbal formulas.

The following formula was devised for athletes competing in the 1984 Olympic Trials and Summer Olympics in Los Angeles, California. Under the name Active Herbal, it is available from the McZand company.

Eleuthero (Siberian ginseng)

American ginseng

Astragalus

Ginkgo

Fo Ti

Licorice

The eleuthero root increases aerobic capacity, endurance, and reaction time. American ginseng was probably included because it was summertime. American ginseng reduces heat, and also strengthens the lungs. Astragalus strengthens the lungs and builds both *chi* and blood. Ginkgo leaf is not a traditional Chinese herb, but it increases peripheral circulation, including circulation to the brain. Fo Ti is a powerful blood tonic, and strengthens the Kidney, aiding in endurance, and the Liver, helping the smooth circulation of *chi* and blood. Licorice strengthens the Spleen, which is responsible for muscle strength, and also helps in the circulation of the benefits of the formula into all the meridians.

If you are a serious athlete, I suggest you consult and acupuncturist or other Chinese practitioner for a personalized formula. It is a small investment to get a tonic formula tailored to your own physique, training level, and the needs of your particular sport. Champion Chinese and Russian athletes don't take single herbs to enhance their performance, or pat formulas off the shelf. I suggest getting one formula to prepare for competition, one for around the time or on the day of the competition itself, and then another for recovery.

The Spleen and athletics

We saw in Chapter Six that the Chinese Spleen organ is responsible for transforming food into *chi*, and sending this to the Lung, where it is mixed with *chi* from the air and produces blood. The Spleen also nourishes the muscles, and Spleen tonics are very important for building athletic performance. Ginseng is a Spleen tonic, and this is responsible for some of its benefits for athletes. The following formula, devised by herbalist Ron Teegarden and available from East Earth Tradewinds, focuses on tonification of the Spleen and building overall energy and muscle strength.

Athletes Tonic

Asian ginseng	3 parts	*chi* and Spleen tonic
Astragalus	3 parts	*chi* and Lung tonic
Atractylodes	3 parts	Spleen tonic
Bupleurum	2 parts	prevents stagnation of *chi*
Citrus peel	2 parts	Spleen tonic, promotes circulation of *chi*
Ginger	2 parts	Spleen tonic
Jujube dates	2 parts	Spleen tonic, *chi* tonic
Licorice	2 parts	benefits lungs and digestion, promotes flow of *chi* in all the meridians

Training

Of the three phases in the cycle of athletics — training, competition, and recovery — training takes up the most time. It is the most important, because performance during competition depends mainly on training. Reflexes and mental attitude may be more important during competition, but success depends on repeatedly conditioning the reflexes and building a strong circulatory system, muscle mass, and connective tissue during training. Thus this is the most important time to be taking ginseng and other tonic herbs.

Of great concern to athletes, whether in contact or endurance sports, is building up muscle mass. a marathon runner, beginning training, spends months running long distances at slow speeds and doing hill-work in order to build muscle volume. It is equally important for the weight lifter, football player, distance runner, or sprinter. This is the reason why athletes take anabolic steroids, which build muscle mass and increase the aggressive energy. Of course these drugs are banned in formal competition. They linger in the system for a long time, and may be evident in urine tests even months after stopping their use. Chinese tonic herbs can also help build muscle mass, but do so more harmoniously, do not present the health risks of steroids, and are legal in competition. According to Chinese medicine, steroids deplete the internal organs by transferring their *chi* to the muscles. Chinese tonics strengthen the internal organs themselves, and benefit the muscles indirectly. The Chinese woman distance runners I mentioned above

raised eyebrows at the Olympics because of their well developed musculature and their tolerances of unusually rigorous training exercises.

To understand how tonic herbs can do this, let's look again at the Chinese Kidney. Part of the Kidney function corresponds to that of the adrenal glands. These glands are important for endurance, and they also release the stress hormones, natural steroids that occur within the body. The Kidney is also important for growth. Kidney tonics are given to children who fail to grow properly. They can also help an athlete "grow" muscles. Kidney tonics also strengthen the bones and connective tissue, the lower back, and the knees. They raise the metabolism, and increase the metabolism of sugars. Finally, the Kidney assists the lungs in breathing, and strong healthy Kidney function is necessary for good "wind." The following formula, called Antler/Athletic from Jade Chinese Herbals, is a Rolls Royce of athletic training formulas. Jade has a series of formulas specifically for athletes, and I recommend that you get their catalogue. I give details on how to contact them in Chapter Nineteen. The majority of herbs included in this formula are warming yang tonics that benefit both the Kidney and the Liver. The Liver controls the smooth flow of *chi* and blood, and ensures that energy and nutrition derives from the formula circulates harmoniously.

Asian ginseng

Increases *chi*, tonifies the Spleen (which governs muscle strength), and Lung, builds the blood, and enhances endurance, aerobic capacity, conditioned learning, and mental clarity.

Epididimii

Tonifies the kidney in a balanced way, and also benefits the Liver.

Eucommia

Strengthens Kidney and Liver function.

Drynaria

Tonifies the Kidney and the Heart, invigorates blood circulation, strengthens the tendons, and suppresses pain.

Morindae

Tonifies the Kidney. Strengthens muscles and bones.

Polygonum (Fo Ti)

Strengthens the Kidney and Liver, builds the blood.

Poria

Strengthens the Spleen, thus enhancing muscle strength.

Deer antler

Tonifies both *chi* and blood. Strengthens Kidney and Liver. Contains natural testosterone-like sterols. Strengthens bones and promotes growth.

Antelope horn

Strong cooling properties balance the other warming herbs in the formula. Antelope horn also increases aerobic capacity.

The formula contains tonics for *chi* and blood, herbs to develop both the yang and the yin of the kidney, herbs for the liver to promote the smooth flow of blood and *chi*, and Spleen tonics to increase the strength of the muscles.

A similar formula, but much simpler, formulated by herbalist Ron Teegarden and available from East Earth Tradewinds is Vital Essence Formula. It contains high quality ginseng, deer antler, schizandra berries, and lycium berries.

Performance

Performance depends mainly on proper training, reflexes, mental clarity, and attitude. Ginseng, tienchi, and eleuthero root all improve the reflexes and mental clarity, but won't do much good if you start taking them the day before the contest. Two to three months of treatment with them will increase these qualities to a high level. Two formulas from Jade Chinese Herbals are specifically designed for such quick effects. Black Belt is a combination of thirty-five herbs, and comes in a form like fruit leather. The other formula, called energy contains blood, *chi*, yin, and yang tonics with ephedra. Ephedra is a powerful stimulant, not appropriate for regular or long term use. It can be very drying and overstimulating, and is banned in some athletic contests. This formula is devised to counterbalance the negative effects of ephedra.

Recovery

It is a general rule in distance running that after a race an athlete should rest — train lightly at less than race pace — for one day for every mile that was raced. Thus runners wait about a week before training hard after a ten kilometer race (6.6 miles), and about a month after a marathon (about 28 miles). Comparable recovery periods are necessary for most competitive sports that require exercise to exhaustion. You can easily hasten this recovery period using tonic herbs. One herb that can be used alone for this is cordyceps, which I covered in detail in Chapter Thirteen. It is a Kidney tonic that is balanced in its energy — not warming or cooling — and can be taken for long periods. A recovery formula should include a balance of *chi*, yang, blood, and yin tonics. Another formula from Jade, Endurance, is well-balanced. it has some herbs in

common with the Antler/Athletic formula described above, but has blood and yin tonics added, and fewer yang tonics.

Asian ginseng	*chi* and Yin tonic, builds blood, strengthens Spleen and Lung
Astragalus	*chi*, blood, and Lung tonic
Atractylodes	Spleen tonic
Deer Antler	*chi*, blood, and yang tonic, strengthens Kidney and Dong Quai blood tonics, moves blood, moistens the organs, Liver
Eucommia	yang tonic for Kidney and Liver
Licorice	benefits lungs and digestion, promotes flow of *chi* in all the meridians
Lycium berries	blood and yin tonic for Liver and Kidney
Polygonum (Fo Ti)	blood tonic for Liver and Kidney
Salvia	yin tonic for Heart and Kidney, moves blood
Schizandra	tonic for Kidney and Lung

This formula could be used as well for training. I mention it here because of its balance and its superiority over the other formulas mentioned for recovery from an exhausting competition. It should be taken for several weeks.

Contact sports

The Swiss studies mentioned above shows that ginseng, when taken for several months, increases reaction time. Other studies show that it benefits conditioned learning. This is can be especially effective for individuals in contact sports and the martial arts. Tienchi ginseng may be especially appropriate in such events, because it aids in healing trauma, including sprains and bruises. See the discussion in Chapter Thirteen for more detail. The formulas under the subhead Performance above may also be useful on the day of the event.

Season, climate, altitude

Season is important to consider when taking ginseng and some other tonic herbs. In China, it is not unusual for people who take ginseng regularly to stop taking it during hot summer weather. This may be important for some athletes to consider as well, because of ginseng's heating properties. it might be better to switch to tienchi or eleuthero as general tonics during that season. American ginseng is mostly untested for its ability to increase endurance, but in Chinese medicine it is not considered a significant *chi* tonic. It will reduce heat very well — enough so that it is used to treat feverish diseases. Thus American ginseng can be a good addition when training or performing when overheating might be a problem. This may apply as well when traveling to perform in a hot climate.

High altitude is another condition that can be the downfall of an athlete. Athletes who train at higher altitudes have greater aerobic capacity than those who train lower down. Within the U.S., teams training in Denver, which is more than a mile high, may have an advantage when playing at home over teams that train at sea level. Training at high altitude has been a great benefit to some African distance runners, who descend to lower altitudes to compete in world events. When moving or traveling to higher altitudes, an individual instantly develops the equivalent of a blood deficiency. This is responsible for the dizziness and the need for afternoon naps that is so common to new arrivals. In three to six weeks at a high altitude, an individual's red blood cell count will increase about 20% in order to handle the thinner air. Asian ginseng, tienchi, and eleuthero root will all build the aerobic capacity, and beginning to take them a month or two before an anticipated event at high altitude will improve performance. Combining the three, and taking them in double doses in the ten days before arrival may also be helpful. Any formula also including blood tonics, such as Endurance above, may be of even greater benefit.

Section VI:

Products — how to buy ginseng and the tonic herbs

I have a friend who in the 1970s used to market beauty products. I saw one day that he was developing a "ginseng and aloe" facial cream. I asked him why he would put ginseng in a facial product, where it could not possibly have any beneficial effect. "Well," he responded with a shrug, "people are buying ginseng these days." As it turned out, he was putting in only a minute amount — a few cents worth — just enough to "honestly" include ginseng as an ingredient. This attitude is still common in the herbal marketplace today, and the rule for buying a ginseng product is: "Let the buyer beware."

Fortunately for the American consumer, the two decades since my friend was marketing his facial cream have seen a dramatic rise of professional acupuncture, Chinese medicine, and Western herbalism in North America, and with it the need of practitioners for reliable ginseng-containing tonic herb products. Companies dedicated to serving this professional market ethically have arisen, and many of their high-quality products are also available to consumers.

In this section, I will first describe some of the questionable areas, misleading marketing, and outright fraud surrounding the sale of ginseng in the U.S. today. I'll tell you how to buy whole ginseng roots intelligently, and will describe the kinds of products that are available. And finally, I'll tell you about some companies that ethically and expertly formulate tonic herbal products, and let you know how to contact them if the products are not available in stores near you.

17 Ginseng scams

Ginseng's fame is so great, and the ignorance of the American public so profound that some marketers cannot resist the temptation to produce outright fraudulent products. In the late 1970s, several studies of ginseng products in U.S. set of a bombshell in the health food industry. More than fifty of the most common ginseng products were analyzed for their contents. About a fourth of them contained no ginseng at all, and another thirty-five percent contained so little ginseng as to be clinically worthless.

The situation has probably improved since the 1970s, but problems of fraud still remain. The November 1995 *Consumer Reports* analyzed ten ginseng products for their ginsenoside content. We saw in Chapter Nine that these substances are important active constituents in ginseng. Their presence in a product indicates that ginseng is present also, although higher levels do not necessarily indicate a better product, because other constituents also contribute to ginseng's activity. A normal range of ginsenosides should be between 2% and 7%. Table 17.1 ranks the products in the Consumer Reports study by percent of ginsenosides. The percentages

have been added by the author, and did not appear in the original article. Three of the products appear to have little or no ginseng in them at all, and certainly wouldn't be medicinally effective. The other products appear to contain ginseng, but their dosages are confusing. Some appear to have five times more ginseng than others in the group. Think again before buying one, however. These products with a higher apparent ginseng dose actually have lower percentages of ginsenosides, and may have started with less actual ginseng than the ones with a higher percentage of ginsenosides.

Table 17.1 Analysis of ten commercial ginseng products

Brand	Ginseng	Ginsenosides	% Ginsenosides
Walgreen's Gin-zing	100 mg	7.6	7.60
Herbal Choice	100	6.5	6.50
American ginseng	250 mg	12.8	5.12
Ginsana	100	3.0	3.0
KRG	518	11.5	2.2
Solgar	520	10.6	2.00
Nature's Resource	560	10.7	1.91
GNC Natural Brand	648	3.6	0.56
Naturally	648	2.3	0.40
Rite Aid	250	0.4	0.02

Dosage sleight-of-hand

If we look at the products in another way, it is easier to rank them. The average minimum daily dose of ginsenosides should be about 50 milligrams a day, to get the equivalent of a one gram tonic dose of ginseng. Table 17.2 shows the number of tablets of each of the products in Table 17.1 you would have to take to get this dose. it would be even more difficult to get a two or three gram dose. The American Ginseng brand, which appears to have only half the amount of ginseng as the next three brands on the list, actually delivers more ginsenosides.

Most of these products are not simply ginseng powder. They are prepared from ginseng extracts. It is routine for companies to contract with laboratories to make their products. The company can specify how much starting material to use, what percentage of ginsenosides they want, and how much they want the final tablet or capsule to weigh. One herbal manufacturer I know who produces such products for other companies, and is a ginseng expert in his own right, is personally skeptical of the value of ginsenosides as predictors of medicinal activity. Yet he says he often makes standardized ginsenoside products to order, to the specifications of the company. The shrewd marketer who wants to make his product appear to contain more ginseng can simply order a heavier tablet, using the same starting amount of ginseng as his competitors, or even less.

Table 17.2	Milligrams of ginsenosides	Tablets or Capsules
per tablet or capsule to get equivalent of a one gram dose of ginseng		
American ginseng	12.8	4
KRG	11.5	5
Solgar	10.6	5
Nature's Resource	10.7	5
Walgreen's Gin-zing	7.6	7
Herbal Choice	6.5	8
GNC Natural Brand	3.6	14
Ginsana	3.0	17
Naturally	2.3	22
Rite Aid	250	125

Scientists working with the American Botanical Council in Austin, TX, are currently examining more than 100 ginseng products on the market for ginsenoside content. The research is supervised by Dr. Dennis Awang, head of the department in Canada's Consumer Protection Branch that evaluates herbs. The results are expected to be ready for publication in late 1996. See the Resources section in the Appendix for how to contact the ABC if you would like to see the results. The ABC also publishes the *HerbalGram* magazine, and has the best selection of mail-order books on herbs available.

Ginsenoside questions

Many products available today are labeled "standardized for ginsenosides." Ginsenosides are like the fingerprints of ginseng — they prove that ginseng was at the scene of manufacture, but they don't tell how much was there, or, more important, what grade of ginseng was used to make the product. We saw in Chapter Nine that ginsenosides are not the only active constituents in ginseng, and that they are most concentrated in the root hairs, skin, and leaves of the ginseng plant. In Asia, where experts know the medicinal use of ginseng very well, these parts are trimmed off the plants and sold as inferior medicines. Asian scientific experts, fully aware of the research into ginsenosides, reject ginsenoside content as a predictor of medicinal activity. Instead they choose ginseng by its grade and by the qualities I described in Chapter Nine. I'll explain ginseng grades in the next chapter. Two different grades of ginseng — say cultivated and semi-wild woods grown — may have identical ginsenoside content. But the semi-wild ginseng is much more potent. If you try some of each root, the difference is evident very soon. The companies that produce ginseng products for sale to the general public use the least expensive ginseng they can find — the lowest grade. These standardized product contain ginseng, but, as we saw above, most contain only a very low dose.

- Here's a summary of the misleading practices in American consumer products:

- Only trace amounts of ginseng in the product
- Too little ginseng to provide any medicinal benefit
- Too low a dose to provide benefit
- Manipulated weights of tablets to make them appear to contain more ginseng than they do.
- Misleading labeling on ginsenoside content

The best way to tell if quality ginseng was used is by the price. Ginseng is the last product you want to bargain-hunt for. There are no ginseng bargains. Better products will cost more.

Root scams

You can also run into major or minor fraud when buying roots in a shop. The most common scam is "the upgrade" — selling a low grade root as if it were a more expensive grade. If you don't know how to identify different grades of ginseng, it is impossible to avoid this, unless you know the reputation of your supplier.

A famous scam in the ginseng trade is to take a wild American ginseng root, which looks much like wild Chinese ginseng. The perpetrator trims the root hairs from an inexpensive Chinese root and weaves or pastes them onto the American root. It then looks like a very expensive Chinese root. True wild Chinese ginseng is extremely rare, and costs about $15,000 an ounce — that's $240,000 a pound! The fraudulent product also resembles semi-wild roots. these are not so valuable, but are still so expensive that they are sold by the gram instead of by the ounce.

Eleuthero root ("Siberian ginseng")

Siberian ginseng may be subject to more fraud than even Asian ginseng. We saw in Chapter Thirteen that some confusion exists about identification of eleuthero root because several different species of plants in Asia traditionally have had the same Chinese name. One of them, *Periplocum sepium,* can produce toxic reactions. Some lots of "Siberian Ginseng" that have reached the U.S. have been found to be periplocum instead. Varro Tyler, Ph.D, reports in his book *The Honest Herbal* that the problem of misidentified eleuthero root is rampant. In one analysis of three lots of so-called eleuthero root, only one was found to contain any eleuthero at all. That one was spiked with 5% caffeine! This problem exists at the level of the herb importer, and even well-intentioned companies may unwitting buy and produce misidentified products.

Low dosing is another problem with eleuthero root tinctures. The Russian preparation that was used in the voluminous research was a tincture taken in doses ranging from two-to-twenty milliliters a day. That's between a fourth of an ounce and two-and-a-half ounces per day. Most tinctures come in one-ounce bottles priced at $7 to $10 each. The cost of taking such products in an effective dose long term would be prohibitive.

Furthermore, the Russian product is made with one part eleuthero root in equal part of 30% alcohol (60% water). Most American tinctures are made with one part of eleuthero root to between two and five parts of 60% or more alcohol. They are thus much weaker than the Russian product. You would have to take even more than the minimum two milliliter dose.

Some American companies make very strong extracts of eleuthero that overcome this problem. Look on the label for a ratio of 1:1 plant to solvent or greater. The HerbPharm company makes a product according to the Russian specifications, and then concentrates it so it is effectively twice as strong. With this product, you can use *half* the recommended dose to get the same results. HerbPharm also makes an alcohol-free extract by first preparing the formula as usual, then evaporating the alcohol and adding back glycerine and water.

Cosmetics and soft drinks

Ginseng is now available in a wide variety of hair preparations, skin creams, and other beauty aids like the one my friend was devising in the 1970s. Ginseng has no value whatsoever in such products, and they usually only contain minute amounts anyway — just enough so the manufacturer can put the name of the label to attract the gullible consumer. The same goes for "ginseng" soft drinks.

Misnamed "ginsengs"

We saw in Chapter Thirteen that eleuthero root is sometimes misnamed "Siberian ginseng." The misnomer was invented by American marketing interests who wanted to piggyback this relatively inexpensive herb on the reputation of true Asian ginseng *(Panax ginseng)*. In the week as I was finishing this book, I found a product in a supermarket labeled "Ginseng." The ingredient-listing showed that it contained only eleuthero root. Several other tonic herbs are marketed in the U.S. today as "ginsengs," the term again being invented by marketing interests in order to improve the reputation of obscure herbs by association with the more familiar and highly-valued Asian ginseng. Most such herbs have value as tonics and adaptogens, but generally do not compare to the potency or versatility of Chinese ginseng.

True ginsengs

Asian ginseng *(Panax ginseng),* American ginseng *(Panax quinquefolium),* tienchi ginseng *(Panax pseudoginseng),* and Japanese ginseng *(Panax japonicus)* are the only true ginsengs, being members of the same botanical genus, and having similar, even if not identical properties. Japanese ginseng, considered by the Chinese to have weaker properties than Chinese ginseng, is generally not available to the U.S. market. These ginsengs not only look much like Chinese ginseng, they will even cross pollinate with it. All these plants share some of the same ginsenosides and other constituents.

Second to eleuthero root, "Korean ginseng" is probably the most famous of the misnamed ginsengs, but Korean ginseng is true Asian ginseng, while eleuthero is not. Korean ginseng is actually *Panax ginseng,* only marketed by a Korean government agency. This misnomer is not an

attempt to pass off another herb, but rather to develop the ginseng trade for Korean growers to compete with those in China. Korean ginseng is thus a brand name, not a plant name. Around 1100 A.D., the Koreans did develop a new technique for preserving ginseng by steaming it and drying it in the sun. This produces a red-colored root — called *red* ginseng — that has stronger warming properties than unprocessed ginseng — called *white* ginseng. So "Korean *red* ginseng," a form widely available in products in the U.S., does indeed have slightly more stimulating properties than most ginseng from China. But the Koreans also market white ginseng, and the Chinese also produce steamed and sun-dried red ginseng. American growers in Michigan and Wisconsin also produce a red cured American ginseng. I don't mention this to cast doubt on the quality of Korean ginseng products, which is high, but to dispel the misconception that "Korean ginseng" is plant distinct from Chinese ginseng.

Common name: Korean ginseng, Korean red ginseng

Latin name: *Panax ginseng,* same as Asian ginseng.

Uses: same as in China

History: Knowledge of its use as a medicine introduced from China around the first century A.D. Most of the ginseng crop grown in Korea today originated from Chinese seed imported to that country after the Korean War.

"Siberian ginseng"

I covered the naming-problem of eleuthero root, and detailed its use in Chapter Thirteen. Please refer to that section for details.

"Brazilian ginseng."

Suma *(Pfaffia paniculata),* is regarded as a panacea in the Brazilian society, much the way ginseng is in China. It has adaptogenic effects, and would probably be classified as a *chi* tonic in the Chinese system. It has some of the benefits of ginseng, including immune-stimulating, anti-cancer, hormone-regulating, and blood-sugar-regulating effects. The taste of suma is different from that of ginseng — it is more acrid than sweet — and it does not appear to have the warming properties of ginseng. Japanese researchers documented the tonic and adaptogenic properties in this plant, and it became available in stores in the U.S. in the late 1980s.

"Indian ginseng"

Ashwaganda *(Withiania somnifera),* is held in high esteem in South Asia similar to that of ginseng in China or Suma in Brazil. Ashwaganda is the most famous tonic herb in Ayurvedic medicine, the traditional medicine of India. It is used in Ayurveda to treat fatigue, general weakness, insomnia, the debility of old age, impotence, and infertility. It is more bitter than ginseng, and more warming, and would be classified as a yang tonic in the Chinese system. Its presumed active constituents are entirely different than the ginsenosides and other constituents in

the ginsengs. Ashwaganda has become more available in the U.S. over the last decade as Ayurvedic medicine has grown in fame in this society.

American red ginseng, American red desert ginseng, Wild American red ginseng, Hymenosepalus ginseng

Some American ginseng roots grown in Michigan and Wisconsin by steam-curing cultivated *Panax quinquefolium* the way Asian roots are cured in China and Korea. True wild American ginseng roots are never cured in this way, being of much higher value in their natural state. The problem with these is that the effects of curing on American ginseng are unknown. Steam-curing increases the warming properties of Asian ginseng. This practice on American roots is questionable because American ginseng's therapeutic value comes from its cooling and moistening properties. Steaming would presumably reduce these properties.

Another kind of "red ginseng" is an outright fraud. According to Michael Moore, Director of the Southwest School of Botanical Medicine in Albuquerque, New Mexico, and an expert on plants of the Southwest desert, some companies in the Southwest market a plant commonly known as caniagre *(Rumex hymenosepalus)* as a "American red desert ginseng," "Wild american red ginseng," or "Hymenosepalus ginseng." Caniagre has a natural reddish-brown color resembling that of cured ginseng. Caniagre has entirely different botanical and medicinal properties than ginseng, and possesses no adaptogenic effects.

Alaskan ginseng

I've heard on the herbal grapevine that this new "ginseng" is about to appear on the market. The plant is actually Devil's Club *(Oplopanax horridum)*. Like ginseng and eleuthero root, it is a member of the Aralia family. It was traditionally used by Native Americans to lower blood sugar in diabetes, something which ginseng will also do. Devil's Club has not been studied much by scientists. It will lower blood sugar, and probably has some adaptogenic effects, but a lot of study will be necessary before this plant can be marketed as an adaptogen. The Russians studied at least six of ginseng's cousins in the Aralia family, and found that only eleuthero root had adaptogenic properties.

18 Products

Tonic herb products in the U.S. vary widely in both quality and price. In this Chapter I'll explain the various grades of Asian and American ginseng, and tell how ginseng and other herbs are made into the products you might see in a store.

Ginseng root grades

Whole Asian and American ginseng roots come in a variety grades carrying a wide range in prices. Here are the major grades of Asian ginseng roots:

Wild Tung Pei ginseng

Ginseng has been a popular and high-priced commodity in China for thousands of years. During that time, China has also suffered massive deforestation, depriving ginseng of its habitat. Thus wild ginseng is now extremely rare in China. Perhaps only four or five pounds of it are discovered each year. A wild root can be up to 200 years old — older than most trees! Wild ginseng costs $500-$600 a gram. That's about $15,000 an ounce, and more than $200,000 a pound. Finding such a root in China is the equivalent of winning the lottery. This grade is not for sale in the U.S. as a root, but both Dragon Eggs and Jade Chinese Herbals make products that contain a tiny amount of it. Wild ginseng is reputed in Asia for its spiritual effects. A ginseng expert I know in the U.S. who practices meditation and chi gong, a Chinese practices that involves meditation on the *chi*, says that even a four or five drops of an extract of wild roots produces a noticeable spiritual high that lasts for days. The unusual property of wild roots may come for their unusually long life. Most cultivated roots are harvested and sold when they are only four to six years old — infants compared to the natural life span of ginseng. Wild roots are also occasionally found in Korea. These are also not available for sale in the U.S.

Yi sun

Yi sun ginseng roots are called "semi-wild." They are grown from high grade stock planted in a natural forest environment. The seedlings are allowed to grow for eight to twelve years. The resulting roots resemble wild ginseng. This is the most expensive grade available in the U.S. East Earth Tradewinds sells Yi sun roots by the gram. Prices are variable as the market changes.

Shiu chu

Shiu chu ginseng is widely available in the U.S. and is reasonably affordable. It is available from East Earth Tradewinds for $120 to $160 pound, which is the equivalent of about $3 to $7 a root, depending on size. The larger the root, the more valuable. Shiu chu ginseng is cultivated from selected superior ginseng stock. They are steamed and then cured in date sugar and other Chinese herbs, giving it a characteristic red color. If you are buying roots for regular use, I suggest that you get the highest grade — the largest size — of Shiu chu that you can find.

Kirin, Ji Lin

These cultivated ginsengs are named after the provinces of China in which they are grown. Kirin and Ji Lin Provinces are the two most important ginseng-growing regions in China. Their cost is about 75% that of Shiu chu ginseng. This is the lowest grade of ginseng, and the one found in most prepared ginseng products. [3]Grades by the numbers

If you buy ginseng in catalogues or stores, you will often see a number with it, such as Shiu Chu 25, Shiu Chu 45, or Kirin #1 or #3. Ginseng is sold in China in lots of 1.3 pounds, called a *catty.* The number of roots it takes to fill the catty indicates the grade of the root. Since larger roots are more valuable, the lower number is a better grade. Thus Shiu Chu 25 are larger roots than Shiu Chu 45 because it takes only 25 roots to fill a catty instead of 45. The other grading system, #1, #2, #3, etc, works the opposite way. The #1 is a higher quality than the #2 or #3. Roots may also be of different sizes within each grade, graded as roots-per-catty or roots-per-pound. the fewer the roots-per-catty/pound, the better the quality and the higher the price.

American ginseng

> *"Ginseng is becoming very scarce, and unless a method of cultivation becomes practical, bids fair to be exterminated."*
>
> Harvey Wickes Felter, 1898

In the century since Dr. Felter made the statement above, methods of cultivating ginseng have indeed become practical, and wild American ginseng remains on the verge of extinction. This would not be the case had the Native American method of harvesting the wild roots been adopted. They would wait until the plant bore fruit, and then plant the seeds in the hole they dug the root from, to ensure that the natural order would not be disturbed. A new method of growing ginseng — planting seedlings in the natural forest habitat — is a step closer to the Native method, and has introduced a new quality of American ginseng to the market.

Wild roots

American wild roots, although an endangered species, are not as rare as the Asian wild variety, and are not nearly as expensive. These are best quality of American ginseng. Like Asian ginseng, plants can live to be several hundred years old. Whether their medicinal superiority is enough to justify their higher price is questionable. The Chinese value wild-looking American roots for their appearance — because of its similarity to the expensive wild Asian ginseng — more than for their value as a medicine. This Chinese demand drives the price for wild American roots up unnaturally. Wild roots are not for sale in stores or through catalogues, but must be purchased through commercial ginseng brokers. Because of their endangered status, some ethical companies are now using woods-grown semi-wild ginseng instead.

Woods-grown

In the late 1980s, some growers began to plant seedlings in a natural forest habitat, much like the Yi Sun ginseng of the Chinese. The roots began to mature in the last two years, and are now available through brokers and in some American products. Some growers use pesticides and fungicides on their woods-grown crop, just as large-scale ginseng farmers do. Others raise a completely organic product. Because genuine wild roots are so rare, and because of ethical problems surrounding their possible extinction, these organic woods-grown roots are the ones I recommend if you want to use American ginseng. They are far superior in potency to cultivated roots.

Cultivated roots

Ginseng cultivation began in earnest in the U.S. about ten years after Dr. Felter made the statement predicting it. Most of the ginseng produced here is cultivated, with Michigan and Wisconsin being the biggest suppliers. It is the main cash crop in Marathon County, Wisconsin. Ginseng cultivation is expensive. It will only grow in the shade, so artificial structures must be erected to provide it. The cost is about $12,000 an acre. The plants must then grow for four to six years. In any year, the whole crop can be lost to fungus or other plant diseases, so chemicals are used extensively on the crops, adding more cost, and yielding a product laced with fungicides and insecticides such a malathion. If you buy these roots, be sure to scrub them the way you would chemical-laced vegetables. The whole process is labor intensive, and by harvest time, the roots have cost the farmer about $20 a pound. Ginseng can cost from six to fifteen times that much by the time it reaches the consumer. Most cultivated ginseng — about 95% of the annual corp — is shipped to China.

This is the form of ginseng most often available in stores or contained in commercial products. You can buy wild, woods-grown, or cultivated ginseng from White Crane. Frontier Herb cooperative sells both woods-grown and cultivated. East Earth Tradewinds and Spring Wind sell cultivated roots. Be sure to comparison-shop before making a purchase. HerbPharm sells an extract made from the organic woods-grown variety.

Red American ginseng

Another development in recent years is steam-treating cultivated ginseng to make a red American ginseng like Korean and Chinese red products. This is a questionable practice, because steam-treatment of Chinese ginseng increases its warming properties. This would negate or moderate the valuable cooling properties of American ginseng, its primary medical benefit.

Chinese prepared formulas

Chinese prepared formulas, called “patent formulas,” are available in any Chinese store. They are appearing increasingly in health food stores. Thousands of these products exist. More than 250 companies in Beijing alone produce them. Many are based on classical Chinese formulas. The Chinese public purchases them the way Americans purchase over-the-counter

remedies. Chinese medical practitioners usually prepare their own formulas from bulk herbs. They may also give patents for minor conditions. Practitioners may also know how to sort the wheat from the chaff and identify high-quality prepared formulas. The patent formulas are usually in the form of small black pills or liquids.

The quality of Chinese patents is highly variable. They are usually made from the lowest-grade of herbs — the higher quality herbs are sold to practitioners and the public in bulk. They are proprietary products, and no one but the producers — including the Chinese government — knows exactly what is in them or how they are made. The patents usually contain sugars and preservatives. Some have been found to contain potentially toxic heavy metals, which may be included in the formula intentionally or through contamination. Others have been found to contain strong Western drugs, such a steroids, that were not listed on the label. Contamination with heavy metals or the presence of drugs is probably a minor problem, but poor quality source material is very common. Some, like the american products I described in the last chapter, contain only minimal amounts of herbs. Tonic formulas, rather than formulas for acute conditions or pain relief, are the least likely to be contaminated. One brand of patents made in China to the specification of American companies — without sugars or additives — is the Plum Flower Brand, available in stores or from K'an Herbals.

You need to know what you're doing before self-prescribing these patents. Although they are balanced to prevent side effects, they can cause discomfort if you take the wrong formula for your condition. One book that describes these patents and their medicinal actions is *Outline Guide to Chinese Herbal Patent Medicines in Pill Form* by Margaret Naeser. It can be ordered from Boston Chinese Medicine at 617-720-4448.

American prepared formulas

With the rise of the profession of acupuncture and traditional Chinese medicine in the U.S. in the last twenty years, a new small industry has arisen to make high quality products for these practitioners. Many of their products are available to consumers in stores or through mail order. The distinguishing characteristic of their products is that they are made from good quality Chinese herbs. Like the Chinese patents, these are based on classical Chinese formulas, sometimes modified to make them more appropriate for the American public, whose health problems differ somewhat from those of the Chinese. Since the early 1970s, the acupuncture profession in the U.S. has developed some of its own home-grown experts in traditional Chinese medicine. One, Dr. Ted Kaptchuk, is on the faculty of a division of Harvard Medical School. Kaptchuk has been a leader is modifying chinese formulas for use by Americans.

Liquid extracts

Many of the above companies make concentrated liquid extract of formulas. An herbal formula will be prepared much the way you would make one of the tonic teas I described in Chapter Fifteen. Sometimes water, alcohol, or both are used to extract the constituents from the herbs. The resulting product is concentrated to make a potent liquid extract. A dropperful of such an extract might contain the same constituents you would take in one or two cups of a tea. Most liquid herbal products you see stores are tinctures — simple, unconcentrated extracts in water

and alcohol. These Chinese herbal products are not tinctures — they are much more potent. I have felt a stronger effect from twelve drop doses of one high-quality ginseng extract prepared in this way than I have ever felt from the tea of a low-grade cultivated root! An advantage of this form is that the liquid extracts are very digestible. All the fibrous hard-to-digest constituents of the plant have been removed.

Pills and Capsules

Some companies also make products that are simple mixes of powdered herbs. More often, though, the pills and capsules are made from the extracts I described above. The solvent is evaporated to leave a gummy residue which is then mixed with an inert binding material to make the pill or capsule. This form is very potent, and, like the liquid extract, is easy to assimilate. [3]Granules

Other companies sell Chinese herbal products in granule form. A tea is prepared in the usual way, although in a large vat instead of a pot on your stove. The water is then evaporated, and the residue is made into dissolvable granules. Some acupuncturists use these granules instead of bulk herbs because the granules are easy to mix, and because the patient will not have to go to the bother of brewing a messy tea. All you have to do is add the granules to a cup of hot water. These granules are not generally available to the public, being restricted to practitioner use.

Tinctures

Some American companies — mostly those unfamiliar with Chinese herbalism — make simple tinctures of Chinese herbs. A typical concentration is one part of the herb to five parts of solvent (1:5 on the label). The Chinese do not use herbs this way, and thus it is difficult to know what a proper dose would be. This method is used in the West for herbs which require low doses for medicinal activity. The Chinese, on the other hand, prefer larger doses of herbs, especially of the tonic herbs. To get a sufficient dose from such a simple tincture could be prohibitively expensive. Prefer the more concentrated extracts from companies that specialize in Chinese herbs.

19 Where to buy ginseng and the tonic herbs

Ginseng roots are hard to find unless you have access to an Asian store. In this chapter I'll tell you where to order them and other bulk tonic herbs by mail. I'll also describe some of the American companies that make high quality Chinese tonic formulas. Most of these companies make their products for the professional acupuncturist or herbalist markets, but also sell products through health food stores, or will sell them directly to consumers through the mail. This is by no means a complete list of such companies, so please don't think that because a particular company is not listed that its products are in any way inferior.

Ginseng roots and bulk herbs

Asian and American ginseng roots in a variety of grades are available from the following companies:

East Earth Tradewinds

P.O. Box 493151

Redding, CA 96049-3151

800-258-6878

Fax: 800-258-1384

East Earth Tradewinds sells all grades of ginseng root except true wild Asian ginseng. You can buy several grades of Kirin, several grades of Shiu Chu, and semi-wild Yi Sun ginseng. East Earth will sell the roots by the ounce, which is an advantage over some other suppliers who require purchases of a half-pound or a pound. They also sell American ginseng roots by the ounce. A full line of Chinese tonic herbs are available in 1/4 and 1/2 pound quantities. If you only want to get one catalog, this is the one for you. They also distribute formulas by a number of companies, including Dragon Eggs, Jade Chinese Herbals, Imperial Elixir, Zand Herbal Supplements, and some of formulas by herbalist Ron Teegarden that I've described in this book. You can also order Chinese patent formulas, herbal products for martial artists, books, and tea-making supplies including the ginseng cooker I described in Chapter Fifteen.

Spring Wind

2315 Fourth Street

Berkeley, CA 94710

510-849-1820

800-588-4883 (orders)

Fax: 510-859-4886

Spring Wind has the widest assortment of Chinese herbs and the best prices of the sources I list here. They usually sell only to medical practitioners, but will sell ginseng and other tonic herbs to consumers. You may have to order using the Chinese or Latin names of the herbs. Spring Wind sells several grades of ginseng root, and also sliced roots, which are much less expensive than whole roots. They also sell different sizes of cultivated American ginseng roots.

White Crane

426 First Street

Jersey City, NJ 07302

800-994-3721

Internet: crane@inch.com

White Crane sells all varieties and sizes of American ginseng roots. They will sell in lots as small as a quarter pound. American-grown fresh Chinese herbs and other fresh Western herbs are also a specialty.

Frontier Herb Cooperative

P.O. Box 299

Norway, IA 52318

800-717-4372

Frontier is primarily a distributor of Western bulk herbs, spices, and herb products, and is one of the largest in the country. They also sell Asian and American ginseng in several grades, and some of the tonic herbs in Chapter Thirteen. Their prices are high for Chinese herbs, compared to the sources above — about what you would find in a retail store.

Professional-level tonic formulas

Crane Enterprises

45 Samoset Ave

Plymouth, MA 02360

800-227-4118

Crane Enterprises sell a wide variety of prepared tonic formulas, including those made by K'an Herbals, Health Concerns, etc.

East Earth Herb, Inc.

P.O. Box 2802

Eugene, OR 97402

800-827-4372

Fax: 503-485-7347

East Earth Herbs is the producer and manufacturer of the Jade Chinese Herbals line, which I've described in several places in the book. They produce an top line of tonic formulas. East Earth also formulates and produces products for many other companies as well, and has a reputation for high ethics and excellent products. If I had to pick only one company to buy ginseng products from, this would be the one.

GAIA Herbs

800-831-7780

GAIA primarily sells high quality Western herbal tinctures. Their concentrated ginseng extracts and Chinese liquid formulas are of among the best available.

Health Concerns

8001 Capwell Drive

Oakland, CA 94621

510-639-0280 (herbal help line)

800-233-9355

Health Concerns makes its own line of herbal formulas, including tonics. The formulas are based on traditional Chinese blends, and modified by clinical experts from China and the U.S. Health Concerns also distributes products made by other companies, including Seven Forests, Turtle Mountain, Zand, K'an. Also available are books, audiotapes, and a newsletter.

HerbPharm

P.O. Box 116

Williams, OR 97544

800-348-4372

HerbPharm has a reputation as one of the most ethical of the Western herbal tincture companies. Their Asian ginseng, American ginseng, and eleuthero root concentrated extracts are among the best available.

Institute for Traditional Medicine

2017 S.E. Hawthorne

Portland, OR 97214

800-544-7504

Fax: 503-233-1017

The Institute for Traditional medicine sells a large number of prepared formulas and educational materials. They produce the Seven Forests line of formulas, one of the most innovative in tailoring traditional formulas specifically to the needs of Americans. A reference book from ITM, *A Bag of Pearls* describes the composition and medicinal uses of each formula, including the tonic formulas.

The ITM also sells products made by Health Concerns and a number of Chinese patent formulas.

K'an Herb Company

2425 Porter St, Suite 18

Soqel, CA 95073

800-543-5233

Fax: 408-438-9457

K'an produces a product lines called K'an Herbals, Chinese Modular Solutions, and K'an Herbal Traditional. They also sell products made by Health Concerns, and a number of Chinese patent medicines, including the quality Plum Flower brand. Books are also available.

McZand Herbal, Inc.

P.O. Box 5312

Santa Monica, CA 90409

310-822-0500

McZand produces the Zand Formulas line which is available in many health food stores. They also produce products for practitioners, including high quality extracts of single herbs and tonic formulas. The consumer line includes some excellent tonics, including the formula devised for the athletes at the 1984 Summer Olympics in Los Angeles. The professional line includes some excellent tonic products based on traditional Chinese formulas. McZand won't sell their professional line directly to consumers, but the tonic formulas may be ordered through East Earth or Health Concerns.

20 Putting it all together

In this Chapter, I'll review the indications for ginseng and the tonic herbs, and suggest some herbal therapies you might try if you have an excess condition, and cannot take the tonics. Chinese medicine has treatments for excess, but there's no reason to turn to China when Western herbalism offers so many simple and inexpensive therapies.

Table 20.1

Herbal Therapies and Lifestyle Changes for the Six Conditions

	Excess	Deficient
Hot		American ginseng Yin Tonics Blood tonics
	Tonics not appropriate	Other ginsengs and *chi* and yang tonics contraindicated
	Alterative herbs Burdock Dandelion root Stinging Nettles Yellow dock	Moistening,nour- ishing herbs Slippery Elm Marshmallow root
	Juice fasting	Absolutely no stimulants
	Vegetarian diet or reduce meat intake No junk food No stimulants	Fruits, soups, beverage herb teas Chrysanthemum tea
	Moderate aerobic exercise	Light exercise (walking in nature) Meditation and rest

Cold	Tonics not appropriate Warming digestive herbs Warm meals soups Smaller meals but more frequent Screen for allergenic foods No junk food No Dairy No ice cream Aerobic exercise according to capacity	Asian ginseng Red ginseng Siberian ginseng Chi tonics Yang tonics Blood tonics Cooling herbs contraindicated Digestive herbs if needed for poor digestion or malabsorption No stimulants Nourishing foods; screen for allergenic foods Light enjoyable exercise Meditation and rest
Interior	Tonics not appropriate	Tonics selected according to factors of heat or cold, as in column above.
Exterior	Tonics not appropriate	Tonics contraindicated without first resolving the acute condition (cold, flu, allergy attack)

The alterative herbs

In Tables 2.1 and 2.2, I showed how to distinguish between excess, deficient, hot, and cold conditions. Conditions of excess are common in Americans, and Western herbal therapy excels in treating them with a class of herbs known in Western traditions as alteratives (from the word "to alter"). They are also called "tonics" in Western herbalism. Although the name is the same, these herbs have nothing in common with the Chinese tonics. Western herbalism was

developed on a robust peasant and farmer genetic stock, generally well-fed, and prone to conditions of excess — the constitutional opposite of many Chinese. Alteratives will restore a system that is thrown out of balance through too much heat or accumulated food and toxins. Take alterative herbs for a long time — three to six weeks — rather than short-term like a cold remedy or an antacid.

The pathology of an excess condition is this: the individual may overeat, or eat foods that are too heavy and hard to digest. Farmers who may put in ten or twelve hours of heavy labor a day may be able to get away with this, but most of us can't. Lack of exercise makes the condition worse. The digestive system becomes overloaded and worn-out, and the liver becomes stagnant. The composition of the blood becomes deranged due to the sluggish action of the liver. The eliminative organs also become overloaded, and undigested food builds up in the digestive tract. Toxins accumulate throughout the system, and the individual becomes susceptible to a wide variety of diseases. Atherosclerosis and coronary heart disease are common manifestations of this pathology.

The sixteenth century physician Paracelsus described one result of these conditions as "tartaric diseases" after the tartaric sediment than collects at the bottom of a wine barrel. The "sediments" in an excess individual may manifest as gall stones, kidney stones, arthritic inflammation of the joints, or allergies if the sediments collects in the soft tissues. Paracelsus said there was one cause of such diseases: "Too much food." The person may feel sluggish, weak, and depressed, but this is not the weakness of deficiency. Turn-of-the-century books on medical herbalism described the strategy for treating such conditions: "Improve the nutrition and increase the wastes."

Improve the nutrition

The strategy for improving the nutrition is two-fold. If you have an excess condition, you will have to adjust your diet.

Two of the most famous Western naturopathic dietary treatments — vegetarianism and fasting — were developed for people with excess conditions or constitutions. You needn't become completely vegetarian or undertake extreme fasts to improve your condition. The vegetables are the most important part of the treatment. A three-day vegetable fast, eating only vegetables, once a month may be helpful. While I attended a naturopathic medical college, I heard of another variation. Eat five pounds of vegetables a day for a week. The doctor quipped that the patient could eat whatever else they wanted that they had room for after the vegetables. Five pounds of vegetables is the same weight as twenty quarter-pounder hamburgers, and a lot more bulky. Periodic fasting on fresh-made vegetable juices and vegetable broths may also help. Books on fasting are available in most health food stores. This all-but-forgotten healing technique is extremely valuable to restore an excess constitution to health.

As a minimum, cut down on meat intake, and increase the vegetable and whole-grain portion of your diet. Eliminate junk food and fast food as much as possible. Let half of each meal be fruits and vegetables. People with hot excess conditions can eat their vegetables either cooked or raw. Make a meal of a large salad, preferring more solid vegetables to iceberg lettuce, which

is an "empty" and unsatisfying food, having little nutritional value. If you have a cold excess condition, have the vegetables cooked, with some warming spices, such as curry, ginger, cardamom, chilies, and so on.

Herbal remedies will also improve the nutrition, and they fall into two general categories: bitter tonics, and warming digestive stimulants.

Bitter tonics

Herbs with a bitter flavor increase digestive secretions and stimulate the liver to secrete bile. They are ideal for people with hot, excess, constitutions, though they should not be used during an episode of pain in the digestive tract, such as heartburn.

Goldenseal

The most famous of these herbs is goldenseal (*Hydrastis canadensis*). Goldenseal is often used by the public in the U.S. today for colds and flu. About half the people misuse it — it is best for a cold with heat signs, with a runny nose — especially a yellow mucous discharge. goldenseal is not appropriate for a "dry" cold with chilly feelings. Herbalist physicians of the last century used goldenseal as one of their premier bitter tonics. They used it to restore digestion in run-down, excess constitutions. If you want to take goldenseal as a tonic, I suggest that you use lower doses of it — twenty drops of a tincture or a single capsule of powder, broken open and stirred into a cup of warm water. Take them ten minutes before meals, on an empty stomach. Goldenseal tea is not as effective, because some constituents are not soluble in water.

Oregon grape root

Oregon grape (*Berberis aquifolium*) is closely related to goldenseal, and shares some of the same bitter constituents. You can take it the same way. Oregon grape is much less expensive than goldenseal. You might also prefer it because goldenseal is becoming endangered through over-harvesting in its natural habitat.

Gentian

This is the most famous of the European bitter tonic. It is included in many of the digestive bitter drinks that are popular as a pre-meal appetizer in Europe. You can purchase digestive bitters like the European ones in most health food stores. A half-and-half mixture of powdered gentian and ginger is a common remedy in naturopathic medicine, where its used as a tonic for people with excess conditions.

Milder bitter herbs

The above herbs have a strong bitter taste, and a strong immediate action on the system. See table 20.2 for a list of milder bitters. These are better overall alteratives because they have more wide ranging effects in the system. All improve digestion, liver function, and nutrition, but burdock and dandelion also have mild diuretic effects, and help to decrease excess fluids. Yellow

dock has a mild laxative effect, and improves bowel function. Use doses of yellow dock similar to those for the stronger bitter tonics. Burdock and dandelion may be taken in larger doses, and make wonderful tea. They can be consumed like coffee, three cups a day. These are two of my top ten favorite herbs, among those that I prescribe most often. Take them for three to six weeks, then break for a week or two.

Table 20.2

Some alterative herbs for excess constitutions

Stronger tonics

Goldenseal (*Hydrastis canadensis*)

Oregon grape root *(Berberis aquifolium)*

Gentian (*Gentiana lutea*)

Barberry *(Berberis vulgari*s)

Milder tonics

Yellow dock (*Rumex crispus*)

Burdock root (*Arctium lappa)*

Dandelion root *(Taraxacum officinalis*)

Alterative diuretics

Juniper berries (*Juniperus officinalis*)

Stinging nettle (*Urtica dioica*)

Dandelion leaf

Improve the wastes

The above tonics all aid in the elimination of excess in a variety of ways. They stimulate the action of the liver to secrete bile, which is a natural laxative. The improved liver function will also help purify the blood — the liver is the physiological equivalent of the oil filter on your car.

Constipation

If you are constipated — a common symptoms of an excess constitution with deficient digestion — I recommend against taking laxatives. The high-vegetable diet above, warm water with a little lemon added, and alterative herbs will usually do the job by correcting the cause rather than by artificially stimulating the bowels. Many laxatives can also create laxative dependence. Of the herbs above, yellow dock has the most laxative activity.

Diuretic alteratives

Some alteratives promote the function of the kidneys, and promote elimination of excess fluids through that organ. Juniper berries are excellent for this purpose, and also have bitter tonic qualities for the digestive tract. They also contain warming volatile oils, and thus are suitable for conditions of cold and excess. The famous German nature cure healer and herbalist Father Sebastian Kneipp used to give juniper berries to patients reluctant to undergo his full regimen of fasting, dietary changes, and hydrotherapy. He would give them a large bag of juniper berries, and tell them to eat five the first day, six the second, seven the third, and so on, until they were taking thirty berries a day. he would then have them taper the dose by one berry a day until they were back to five a day. Kneipp said that after doing this, the patients invariably felt so much better that they would then submit to his entire method of cure. Juniper berries stimulate the digestion, improve liver function, and promote elimination of fluid accumulations. You can also take twenty drops of juniper berry tincture three times a day.

Stinging nettle is another of my top ten herbs. If is highly nutritive and also diuretic. Take it as a tea, two or three cups a day. Capsules are also available in health food stores. Dandelion greens have an action similar to dandelion root on the liver and digestive tract, but are also a strong diuretic. One animal trial found that dandelion leaf was comparable in potency to the pharmaceutical diuretic furosemide (Lasix). Take dandelion leaf as a tea, or pick the greens from your yard or a public park in the spring (watch out for pesticides), and cook them in stir fries or soups. The younger greens are no so bitter, but the older ones can be quite unpalatable. You can simmer them in a little water for five to ten minutes, and then pour the water off, to reduce the bitter taste.

Cold conditions

Cold excess conditions may be treated with the above dietary methods and the milder herbs, but you'll need to add warming spices and herbs. Cooked vegetables with warming spices are medicine for this condition. The most important dietary changes are to cut down on dairy foods (no ice cream!), junk food, fast food, and on overeating in general. Add fennel seed or ginger to your alterative tea, or mix the herb powders with 50% ginger root powder. Take a mild ginger root tea — get the whole roots in a grocery store — with lemon and a little honey as a daily beverage. The digestive tea I described in Chapter Fourteen is well-suited to either hot or cold conditions of excess with deficient digestion.

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