

# Chinese Foodstuffs 8 Today

The Chinese are united by an interest in and commitment to good cooking and good food. People discuss food for hours, and almost everyone from the richest to the poorest, from scholar to laborer, from northerner to southerner, is concerned with the best and can tell the observer how to find it.

The basis of the diet is boiled grain, which usually provides most of the calories. A few of the poor in marginal or soil-poor areas subsist on root crops and the like, but people in such situations regard themselves as exceptional and unfortunate and escape as fast as they can. Baked grain products such as bread are minor or absent except in some western montane areas. Whole grain, boiled soft and dry (as rice usually is) or made into thick porridge, is the usual fare, but boiled flour products—soup and noodles, for instance—are also often important. In the north, steamed flour products (man-t'ou, like loaves of bread, and various smaller dumplings) are important.

The basic diet includes several grains and tubers. There is rarely the utter dependence on rice found in Southeast Asia. Rice, wheat, millet, and other grains all cooccur—at least two in each region. The rest of the diet consists primarily of soybean products and vegetables, especially those of the mustard and cabbage family (Brassicaceae). Even cooking oil is derived primarily from these plants, or it was before the peanut entered from South America in late Ming times. Meat is rare (except among the rich) and eaten only in small quantities. Fish (locally) and eggs provide some animal protein, but the great protein sources everywhere are grain and soybeans.

Many of the beans and vegetables—and even meats and fish—are pickled or fermented, and these products are recognizably different from their many imitations and fellows in the rest of the world. Greens, for instance, are often half-dried before pickling; the product is less crisp but more fresh-tasting than most pickled greens (e.g., sauerkraut, kimchi), because bacteria can work less on the sun-cured product. The connoisseur of pickles can easily distinguish Chinese from others.

Foods are usually boiled, steamed, or stir-fried. Boiling is most important, not only because it is the usual method of preparing grain, but also because soup (from thin clear soup to thin stew) is universal, a key part of virtually every meal and even

of snacks. Soup noodles are the most popular snack throughout China, but by no means the only soupy snack—even sweets are often soupy. Cooking in covered slatted steamers over a water-filled vessel is perhaps the next most common method. The most famous Chinese method, however, is *ch'ao* (stir-frying). Ingredients are made or cut small and thin and stirred rapidly in very hot oil, searing them quickly. Often the ingredients are briefly blanched first. Sometimes they are stir-fried first, then water is added to the pan and the cooking is finished by boiling.

Chinese cooking strategies differ from others in interesting ways. Chinese fried rice, for instance, is boiled, cooled, then stir-fried. Pilaf (and its many descendants, such as Mexican *sopa seca*) is made the other way round; the rice is first stir-fried, then boiled. Boiled rice is a staple; fried-then-boiled rice is a luxury or special commodity. Monsoon Asia boils its rice; in the Near East and Mediterranean rice is usually fried first—a more special, elaborate way of cooking. Stir-frying demands care and good oil (not always cheap), thus tends to be the method used for fancier food. At a typical Chinese meal, the simplest and most basic items will be boiled, the next simplest steamed, and the richest, most special items more often stir-fried. Other processes—deep-fat frying and sautéing, eating foods raw, and stewing in thick gravy—are all quite rare.

Seasoning is light but almost always present and emphatic. It is usually a matter of a few strong flavors, among which the most universal are fermented soy products, ginger, and garlic and onions. There is little of the subtle compounding of many spice flavors that characterizes South and Southeast Asian food, but Chinese foods are more spiced than are foods farther north in Japan or farther west in Central Asia (Rozin 1973).

These points serve to identify Chinese food, but they are not those a Chinese would list. Interviewees—mostly Hong Kong Chinese and thus not a representative sample, but probably not atypical—usually started by saying with pardonable pride that Chinese food was better than anyone else's. Asked to be specific, they would almost invariably begin by saying that the food was fresher ("you Westerners eat only canned or frozen food"). They would also say that Indian food was too spicy, while other cuisines were not spicy enough: "Our food has more taste to it—Western and Japanese foods are tasteless." A concept of balance runs through these comments; Chinese food is said to steer the middle course between the food to the south, "where flavors are drowned in spice," and the overly bland food of the west and north, where flavors are cooked out of the food. This emphasis on balance at the center is typical of China, the "Middle Country."

The comments on freshness and on natural food flavors are the keys to the most central ideas about food in Chinese society, those that unite food, health, and ethics. The underlying principle is that clarity and purity should be evident in all things—men and women should be honorable and trustworthy, food should be pure and fresh. The former is necessary for a healthy and harmonious society, the latter for individual health. But food is not singled out; the same set of ideals governs many

other aspects of relationship with both human beings and the natural world. Food is part of a system of belief in which quality, freshness, purity, and high standards are matters of necessity, if one is to remain in any way truly human.

### Plant Foods

The food most associated in everyone's mind with China is, of course, rice. In South China as in much of East Asia, the phrase *chih fan* (to eat rice) also means simply "to eat," and the word *fan* (cooked rice, cooked grain) also means simply "food." A southerner who has not eaten rice all day will deny having eaten at all, although he or she may have consumed a large quantity of snacks. A meal without rice just isn't a meal. "Even a clever wife can't cook without rice," claims a common proverb, and although the people who quote it are quite aware that many people in the world do cook without rice, they find this fact quite irrelevant to their own state of satisfaction and their own definition of food. An ordinary meal is made up of cooked rice and *sung* (*fan*), a Cantonese word that may best be translated as "topping for rice" or "dishes to put on the rice." *Sung* includes everything else, all combined into dishes that are, indeed, put on the rice (and in a poor-to-ordinary home are little more than flavorings for it). When the *sung* is broken down into its component dishes, they are referred to separately as *ts'ai* (greens), even though they sometimes include meat. In part this is a matter of modesty—the host calls the dish plain vegetables just as he describes his house as a humble cottage. But greens are indeed the standard *sung*. In Mandarin, there is no equivalent word for *sung*: a meal is based on the complementarity of grain and *ts'ai*. Local ideology actually overstates the importance of rice; even in the far south, much of the diet consists of wheat products, maize, or root crops.

Rice is the most useful plant known to the human race. Staple food of almost half the world's people, it is also a source of fodder for animals and of a straw that is superior for thatch, sandal making, fuel, and other industrial uses. (In some areas different varieties of rice are grown partly because of the different qualities of their straws.) As a food, it is normally eaten boiled—despite the myth, propagated by many a menu in Chinese restaurants, that it is steamed. The standard way to cook rice is simply to boil it in about twice its weight in water (depending on the dryness and variety of the rice) until the water is absorbed and the rice is fluffy. This produces the usual substrate for other foods throughout monsoon Asia. By cooking the rice longer in somewhat more water, "soft rice" or, more graphically, "spoiled rice" (*lan fan*) is produced; this is "spoiled" as adult food by being too soft, but it is the standard baby food of China's rice-eating areas. Still more water and often still longer cooking produces the porridge (*chi*) known in English by a South Indian name, congee (*kanji*). Most dilute of all is the water drained off boiled rice. Since normally the water is all absorbed by the rice, special provision must be made to use excess water and drain it off. It is used as a cooling drink, both for thirst quenching and in folk medicine. Rice flour is used in noodles, cakes, and confections, as well as for makeup, paper sizing

and the like, but it is not a significant end product of rice milling; almost all rice is left whole grain.

The rice kernel has a center of almost pure starch and several seed coats, the inner ones white, the outer ones brownish; all these thin coats are between the true bran and the inner kernel. Milling takes off the coats. Traditional milling removed only the outermost, brownest, and loosest, without too much damage to the nutrient value of the grain. In the nineteenth century, machinery was developed to mill off the inner coats as well; thus was born the infamous polished rice. Some of the protein and vitamins in rice, and about half the thiamine (vitamin B<sub>1</sub>), are in the seed coats: unenriched polished rice thus lacks much natural nutrient value. Its rise led to an enormous increase in the incidence of beriberi (thiamine deficiency). Beriberi has been perhaps less of a problem in China than in areas farther south, but it has still been a terrible curse, recognized and described in the Han Dynasty. The problem is that Chinese (like most peoples) prefer their rice very starchy and very highly milled.

Rice comes in several varieties, loosely classed into *indica*, *japonica*, and glutinous rices. (Crop scientists are not very happy with this ad hoc classification.) *Indica* rices are the familiar long-grain rices and their relatives. *Japonica* rices have short, roundish grains, more protein, and usually relatively less starch, and they cook to a more sticky and chewy preparation because of the chemistry of the starch. Much of the carbohydrate in glutinous rices is in the form of amylose; these rices cook to a sticky, sweet, pasty consistency. Intermediates between *indica* and *japonica* rices have long been dominant in Taiwan. When the Japanese occupied Taiwan, they bred these already excellent strains (nutritious, fairly pest resistant, and high yielding) into higher-yielding, tougher ones, and the International Rice Research Institute in the Philippines founded upon them its series of "miracle rices," developed by crossing the Taiwanese intermediates out to various *indicas* and *japonicas*. Chinese usually prefer *indicas* to *japonicas*. Glutinous rice is used for confections and special festive dumplings but is a staple in China only among the Tai people of south Yunnan and nearby areas; they, and their southern cousins in Laos and northeast Thailand, are the only people in the world who use glutinous rice as their staple. Worldwide, *indicas* are preferred except in Japan and areas near it, where the shorter growing season of the *japonicas* has made them the only practicable rices and thus those to which everyone has become accustomed.

Starchy, overmilled grains are preferred because when one eats rice three times a day, every day, and gets most of one's calories from it, one wants it to have as little flavor and texture as possible. Variety in the diet is provided by the *sung*. The marked flavors of, say, Indian *basmati* rice or the unirrigated and protein-rich hill rices (grown in mountains where monsoon rainfall is adequate for watering) are not popular in most areas that depend wholly on rice. There are a few "fragrant" rices in China, however (Lou 1983), and Hong Kong grew an excellent type of flavorful rice within my memory.

Milling costs money, so white rice is more expensive than brown, or it was in ear-

lier days. Being dearer, it became prestigious. A more practical consideration is that polished rice is so unnutritious that even insects, except for a few weevils, cannot thrive in it; thus it stores better than brown. Today, since storage has become more expensive than milling, it is often cheaper than brown.

In China until recently, the ordinary rice ration—the extremely cheap rice made available in the rice-eating areas—was lightly milled, of pale grayish-tan color and pronounced grain flavor—almost a brown rice. It was more nutritious than white rice and to the Western taste very good indeed, but its consumers regarded it with sadness and anger. Outside China and in Taiwan, Chinese everywhere eat polished rice almost exclusively. Parboiling of the raw grain before milling—an old practice in south India—has never caught on in China because it gives the rice a pronounced flavor as well as a brownish color; yet it saves much of the rice's nutritional value. Parboiling is widely recommended, but nutritionally it seems similar to undermilled rice, and it costs more—why not simply advocate using China's ration-grade rice?

It is not true that people's tastes in rice are so conservative and irrational that they are beyond the realm of serious discourse. Polished rice was accepted immediately everywhere; so much for conservatism. Westerners will recognize a parallel with the evolution of bread, except that Chinese have yet to return to preferring the undermilled product when the starch staple has so little value that one eats it for taste, as a treat, rather than for "daily bread."

The importance of rice in the thinking and social life of South China is well known. It is usually the most highly regarded grain, often believed to be a perfect food or even the only important food (other foods being only to flavor it). Thus I was told by a Western-style but very Chinese doctor in Hong Kong: "Chinese babies don't need vitamins! They eat rice." (His small patient was eating rice and very little else and quickly died of malnutrition; the doctor's comment was an answer to my diffident suggestion that vitamins might be useful.) Varieties of rice are assigned different social roles; indica is the staple, while glutinous rice is used only for confections but is obligatory for certain ceremonies.

Yet only in a few very fertile alluvial plains of southeast China is rice the only staple, and only in the alluvial valleys of south and central China is it a staple at all. Most of China's people live here, but much of the land is too high, rough, cold, and/or dry to grow rice. Millions of Chinese in olden days never tasted it. It provides only 40 percent of China's starch staple food today (Wen and Pimentel 1986a), the effect of a recent shift toward wheat, potatoes, and maize. But even now rice is the primary grain for half to two-thirds of China's population.

In addition to its use as whole grain, rice is made into flour, noodles, cakes, and many ferments. Most vinegar has a rice base, though any grain will do. (Chinese vinegars range from red to yellow to white to black, strong to mild. The famous Chinchiang vinegar resembles Italian *balsamico*.) Rice is also used for sweets, cosmetics, absorbent powder, and so on. Boiled rice is left to ferment into *t'ien chiu niang* (sweet ferment), a slightly alcoholic food. Lees from brewing rice ale are used to fla-

vor food. In Fukien, rice is inoculated with fungus that develops a brilliant wine-red color and a slight sweetly pungent flavor. It is a distinctive marker of Fukienese cuisine. (For a discussion of rice, see Bray 1986.)

Wheat is grown primarily in north, central, and west China. Very little has been written on wheat varieties in China, and we are at a loss to chronicle the distribution of hard red, soft white, and other wheats. Durum is not often grown and the more primitive wheats (spelt, Polish wheat, and so on) are virtually absent except in Central Asian Sinkiang, but a highly complex, little understood pattern of varieties and forms occurs in China. The obvious fact that spring wheat is grown in the north and winter wheat in the south (as everywhere else in the world) tells us little about food value, though the spring wheats tend to be hard red wheats, which are more nutritious than the soft white ones. Nutritional analyses of varieties of Chinese wheat from all parts of the country should be undertaken before the old peasant varieties are completely replaced by modern high-yield hybrids.

Technologies for using wheat as a whole or cracked grain (e.g., bulgur) have never spread, in the ten or twelve thousand years that wheat has been cultivated, much beyond the home of wild wheat in the Near East. In most of the world, wheat is used as flour. In China, only the Iranian and Turkic peoples of Sinkiang use wheat primarily in the form of bread. These groups, the Uighur and their neighbors, are part of the Persian food world. They make true bread, sticking the dough in large folded sheets to the inside walls of a sunken oven. (The bread is usually leavened by local yeast or sourdough starter in neighboring parts of Afghanistan and probably in Sinkiang as well.) This process produces huge sheets—up to two feet square and an inch thick—of beautifully fluffy bread, known almost everywhere by the Persian word *nan*. Loaves are sometimes scattered with sesame seeds. The word *nan* has been borrowed, via Turkic *pan*, as a Chinese word, *p'an*, for a flat cake (Buell 1987).

The Chinese adopted this practice, but they or their Central Asian teachers miniaturized it; the small, thin roll is called *shao-ping* (roast cake). It is about six inches square, puffed up in the center but with very thin walls, and almost always scattered with sesame. This is a purely ancillary foodstuff, often used to hold meat, which is fitted into the hollow center; the whole is eaten like the pocket breads (e.g., *pita*) of the Near East, to which *shao-ping* is related. Some other baked breadstuffs occur in China, but they are even less significant. Wheat flour is more commonly made into steamed dumplings or noodles.

Steamed wheat flour dumplings are the standard food of much of North China and abound almost everywhere else in the country. At their simplest they are much like bread loaves, but soft and white, since they are steamed rather than baked. The *man-tou* of North China vary in size from a bun to a full loaf. A vast number of filled or unfilled *pao-tzu* are bun size or smaller. These, if filled, have a soft fluffy skin about one-fourth to one-half inch thick around a filling that may be meat, a sweet, or virtually anything else. Best known in South China are *ch'a shao pao*, the Cantonese

*ch'a siu pau*, (fork-roasted-pork dumplings), which include chopped-up bits of pork, roasted hanging from a fork in a special oven, in a sweetish spicy sauce. Wheat flour is also the commonest flour (rice is second) used for making the much thinner skins of smaller dumplings such as *chiao-tzu*, of a type found all over Central Asia that more recently spread west; the *ashak* of Afghanistan, *mo-mo* of Tibet, *pelmeni* of Russia, Jewish *kreplach*s, *samsusa* of Arabia and South Asia, and Italian *ravioli* are all versions. They are a West Asian invention. (Legend has it that Marco Polo introduced them from China to Italy where they became ravioli; this is absurd.)

The other great use of wheat flour in China is in noodles, *mien*. Noodles are usually hand-cut, but often they are made by forcing a flat sheet of dough through the holes in a colander-like device into boiling water (Franck 1925; Hommel 1937; Hosie 1910, 1922). Special noodles are made by holding the dough in both hands and swinging it around so that it stretches in the air. Another common noodle type, *fen-szu*, is made by similar "colander" methods from corn, buckwheat, and bean or pea flours. As with ravioli, noodles are usually said to be of Chinese origin, carried back to the Western world by Marco Polo. This is not true (see Root 1971:78), though the Chinese may have invented egg noodles.

Wheat gluten has long been separated from the starch and made into imitation meats for vegetarian cookery (Buddhist-inspired). Some of the imitations are close to the original; others stretch one's imagination. New uses of wheat flour have entered China in the last century. As in Japan, though not as extensively, oven-baked bread and similar goods have been increasing rapidly in consumption, especially in Hong Kong and other relatively highly Westernized Chinese communities. In Hong Kong bread was the first Western food to be widely accepted and has proved the most popular item of Western diet. Then came an ever-increasing range of baked goods, borrowed from British, Portuguese (via Macau), Russian (via the White Russian refugees from the USSR), and other European sources. These have been integrated into Cantonese life and cooking.

Wheat in old China was usually milled to a white flour, but before the advent of European bleaching, steel rollers, and related machinery (developed in the Western world in the nineteenth century), the flours could not have been the low-extraction, highly refined, nutritionally poor flours we know today. (Extraction refers to the percentage of the wheat berry used. Stoneground wholemeal uses almost 100 percent; modern white flour around 70 percent.) Whole wheat flour was also fairly common. By the time highly refined flours became significant in Chinese diet, many were coming from Australia and North America already enriched. Even so, modern food technology has not been good for the diet of those Chinese who must still depend mostly on starch.

The third most important grain in China is now maize, but until recently it was sorghum. Usually the sorghum in question was kaoliang. The word is Chinese for "tall millet" (*kao liang*) and has been borrowed into English. This sorghum grows to

ten feet or more and is valuable for its stalks, sources of sugar, firewood, and even building materials, as well as for its grain. Sorghum can vary from a few inches to twelve feet in height; since the stalks are minimally useful in the United States, extremely short-stalked varieties are grown, so that little fertilizer or water is "wasted" in growing stalk. The Chinese, on the other hand, want a great deal of stalk, especially in the treeless plains and loess hills of northwest China, where nothing else can supply fuel and wattlelike construction materials.

Contrary to some claims, sorghum is not a native of China or of Asia. It was domesticated in Africa and spread from there (probably via south Arabia) to India by 1500 B.C. and to China before (perhaps long before) 1000 A.D. Resistant to drought and heat but able to tolerate a very short growing season (some varieties), sorghum is grown in primarily the driest agricultural areas of China and in those with the shortest summer. In these it is often the staple food, but always a poverty food, disliked and if possible avoided. In wheat and mixed-grain areas—most of its range—it is used primarily in porridge. Many, however, pearl it and cook it like rice, which is said to be a tastier way of using it, though more difficult to make and less nutritious. (As with other grains, the pearled-off outer coat has a disproportionate share of the nutritional value.) This process is found primarily in Manchuria (Hosie 1910), where settlers came from the central China coast and Shantung. Kaoliang is also a major source of distilled liquor.

Sorghum is rapidly being replaced in much of China by maize. This replacement has long been developing in warmer, wetter areas—maize needs summer rain—and new, hybrid maizes have recently been spreading rapidly to drier areas with shorter growing seasons. Maize was introduced to China by the Portuguese via Macau and other points of contact in the early 1500s. It has continued to spread, especially since the unification and liberation of China in 1949 allowed rapid dissemination of hybrid strains and development of necessary agricultural improvements. Corn is used primarily in corn meal cakes, large and thick, steamed or baked; it is also used in corn meal mush. Ears of sweet corn or immature flour corn are commonly steamed, even in areas where corn is not used for anything else, such as the rice-growing southeast. Like sorghum, it also has a role in the production of alcohol.

Corn is used for noodles, although corn flour does not stick together well because of its low gluten content. It is also sometimes cracked and mixed with rice. Corn is the staple food of many of the warmer mountainous areas of China, such as the lower mountains of the west and south, and is becoming something close to a staple in much of the central north. The Chinese have not, however, adopted the diverse corn technology of the New World, including lime treatments and other devices that make the corn more nutritious. The lime combines with phytic acid that would otherwise combine with calcium and other minerals to make them less available (Katz, Hediger, and Valleroy 1974). In China the phytic acid and other problems associated with corn remain, and the corn products tend to be heavy, stodgy, and inferior to American Indian corn products in both nutritional and gustatory quality. The inferior nutritional value of China's corn products poses serious danger.

In areas too cold for any other crops, barley and buckwheat are the staples; they are frequently grown in rotation, barley as a winter or spring crop, buckwheat in summer. Barley, a Near Eastern crop, entered China in the early Neolithic and has been important in the crop roster since the dawn of Chinese agriculture. Various barleys of the class known as "Himalayan" or "six-rowed" were developed in Tibet or near it (perhaps in North India or Central Asia) and are important in many high mountain areas. Buckwheat seems to be a Central Asian native crop developed from a weed in barley or a plant growing near it and used as a second staple. The species *Fagopyrum esculentum* was first domesticated, then *F. tataricum* for the higher altitudes in the mountains of Tibet and nearby areas; it may have been a weed in fields of *esculentum*, later made into a crop to extend the cultivated area (Harlan 1975), although it is possible that both were domesticated together.

Buckwheat is now a staple (but not the only staple) in all the cold and/or mountainous parts of China. It is most important to non-Chinese peoples, although the Chinese do not neglect it, eaten as coarse cakes, thicker than American buckwheat pancakes. Buckwheat noodles are locally common, although less important than in Korea and Japan. Barley is more versatile. Roasted and ground to flour, it makes the famous tsamba that is the staple food of most of Tibet, mixed with tea and yak butter into a paste. Pearled barley is apparently of recent introduction; in South China it is called by a name formerly used for Job's tears (*yi mi*) and has replaced that grain as a medicinal broth. It is not used for any other purpose—nor are Job's tears now eaten at all, except occasionally by those knowledgeable in medicine.

Millet is a catchall term for any small-seeded grain, often even including sorghum. In the literature on China, the word millet without qualification most often means *Setaria italica*, foxtail millet, an excellent grain widespread in the north and occasional elsewhere. It is usually eaten as a delicious nutlike porridge, enjoyed as a snack even where millet is a rare food (e.g., in Taiwan, where mainlanders from the north are especially good customers of millet-congee stands). Panic millet (*Panicum miliaceum*; some recognize other *Panicum* spp.), possibly also native to China, has both grain and glutinous varieties, important sources of alcoholic drinks. Brewing is the main reason for maintaining the otherwise lowly panic millets.

The alcoholic drinks of China, *chiu*, are usually lumped under the term rice wine, but they are neither wine (i.e., undistilled, fermented fruit drinks) nor always made from rice. Grape wine is made in China in very small quantities, and recently some of fair quality has been exported. But true Chinese alcoholic drinks are made from grain. The undistilled drinks (i.e., ales or beers) are strong and not carbonated or hop-flavored; they taste something like sherry. The distilled liquors are technically vodkas, that is, liquors distilled from fermented starch. (Many in the Western world believe that vodka is made from potatoes, but in fact it is usually made from grain and is nothing more nor less than unaged whiskey.) The Chinese make *chiu*, distilled and undistilled, from a great many things, including sweet potatoes, rice, and so on. Occasionally they make fruit brandies. But the standard sources of *chiu* are kaoliang,

glutinous millets, and more recently corn. They are malted and then made into mash, which can be distilled to yield a product identical to the white lightning of Appalachian bootleggers, often strong enough to sterilize surgical instruments (Crook and Crook 1966). Sometimes it is distilled eight to twelve times to achieve this potency. The most favored kind is known as Maotai, after the city by that name in Kweichow in the mountainous south. Made from sorghum and wheat, it is eight times fermented and seven times distilled (Zheng 1987) and over 100 proof.

Many things are steeped in *chiu*, occasionally just to flavor the liquor (sometimes it is made with plums or other common fruits) but usually for medicinal reasons. Anything of medicinal value is apt to be used in this tincture-making; snake *chiu*, ginseng *chiu*, mutton *chiu*, and thousands of herbal preparations are common. Tinctures are held to have different values from water infusions. The technology of *chiu* making spread from China to neighboring areas; Korean millet vodkas and the sweet-potato vodka (*awamori*) of Okinawa and other areas sometimes outdo Chinese products in potency, and Japanese sake (usually a rice ale) has become a gourmet drink of great variety and subtlety.

In spite of all this *chiu*, the Chinese have perhaps the lowest alcoholism rate of any alcohol-using culture. Drinking is done with meals, and slowly; young persons must be very moderate; drunkenness at any age means loss of face. The classic poets loved to speak of themselves as *ts'ui*, translated as "drunk," but the word usually means, at most, rather tipsy (T. C. Lai, pers. comm.). However, many poets did have real drinking problems, and they are sometimes invoked today as sad examples to the young. China's tolerant culture, allowing much but counseling balance, is important in maintaining these attitudes (Maghbouleh 1979). As the old social rules break down in America, Chinese Americans drink more. Most Chinese, and most other East Asians and Native Americans, have an isozyme of alcohol dehydrogenase that makes them react strongly to alcohol; among other things, they flush bright red, so that a common idiom for "tipsy" is "red-faced" (National Institute on Alcohol Abuse and Alcoholism 1978). But this enzyme has nothing to do with low alcoholism rates; several other cultural groups with the same enzyme have exceedingly high rates.

A few other millets and minor grains are grown in China. Millets of the genera *Echinochloa*, *Digitaria*, and so on, important in various nearby areas, are apparently locally found but insignificant as human food.

The Chinese today class white and sweet potatoes as grains for statistical purposes. (They are counted not by full weight, but by weight divided by four, called *grain equivalent*, because grains have about four times as many calories per pound as sweet potatoes and five times as many as white.) Potatoes are nowhere the sole staple in China, but they are important locally. White potatoes—*ho lan shu* or *hsiao shu* (Dutch tuber or little tuber) or *ma ling shu* (horse hoof tuber)—were introduced primarily by French Catholic missionaries in the eighteenth and nineteenth centuries and are important in areas where the missionaries were most active and where the cli-

mate is best for white potatoes—specifically in the China–Tibet borderland and other moderate to high elevations of Szechuan and neighboring provinces. They are grown almost everywhere else as well and are increasing in importance, but they are not much more than one among many vegetables except in west China. They are eaten boiled, often with the skins, or stirred into mixed dishes. Sweet potatoes are known as *kan shu* (sweet tuber), *chin shu* (golden tuber); white ones are *pai shu* (white tuber) or *fan shu* (barbarian tuber). The sweet potato proved a tremendous boon to southern and eastern China's sandy coastlands, since it can grow in very sterile, poor-quality, sandy soil. Sweet potato stems and leaves are good pig feed and can even be eaten by humans as a famine food. The sweet potato provides vitamin A, rare in many Chinese diets, and may have saved many million pairs of eyes in the four hundred or so years since its introduction. Unfortunately, Chinese prefer whiter varieties with little of the vitamin. Sweet potatoes have never become popular in China; they are regarded as the worst of all foods almost everywhere they grow. They are eaten only in desperation; prosperous families feed their sweet potatoes to pigs. Thus a family's income in sweet-potato areas could be judged by the percentage of sweet potatoes in the diet. In spite of this, the sweet potato has been spreading and increasing, recently invading inland areas where it never grew a generation ago. It is usually eaten plain, boiled or steamed, or sliced and dried; the dried slices are steamed and mixed with grain if possible. A conscious effort to improve this dull regime was made in one commune after the peasants made it clear to their canteen that one of the major practical applications of Marxism-Leninism-Maoism was that the food should be good, not wretched (Crook and Crook 1966). This very Chinese attitude produced immediate results.

Other root crops have been displaced by these New World introductions, and to a much lesser extent in the extreme south (especially Hainan Island) by manioc (*Manihot utilisima*), still insignificant in the Chinese diet. The native root crops of China were yams (*Dioscorea* spp.), called *shu yü* or *shuan yü*. Beet-red ones exist as well as white. A number of species occur, used both for their starchy roots and their medicinal value, but they have declined in importance to virtual insignificance. They are still common in South China's warmer areas as minor vegetable crops. Taro (*Colocasia antiquorum*; *yü*), a marsh plant of the tropics and subtropics, has probably never been more than one among the many vegetable crops of China, as it is today in all warm, wet areas. South of China, yams and taro (with its relatives) are still staple crops of many areas, but they may never have been staples in China. Minor roots include Chinese arrowroot (*Sagittaria sagittifolia*; *fu*) and "Chinese artichokes" (*Stachys sieboldii*, the tuber of a mint). Sago (palm pith) is used as a starch in the south. Its name there, as in English, is borrowed from the Malay *sagu*. In Chinese it is *hsi ku* (Cantonese *sai kou*).

China's famous pulse crop is the soybean (*Glycine max*). The soybean is protected from pests by a number of chemicals that range from unpleasant to fairly poisonous

and is thus more or less inedible raw. Nor is it good food if roasted or otherwise cooked in high, dry heat, for the proteins and other compounds bind into indigestible complexes. The Chinese process the seeds in many ways. The simplest and least often used is simply to boil the seeds a very long time until soft or reduced to porridge. The next simplest is to grind the dry bean with water in a small mill with a center-hole feed; the resulting slurry of water and bean flour is boiled. This develops a skin, as when milk is boiled. The soybean skin is removed and dried; it is easy to store, high in protein, and used in vegetarian dishes and snacks. The remaining mix is usually coagulated with gypsum or similar chemicals so that the protein (with some starch and a lot of water) separates as a soft, solid curd—the famous bean curd, *tou fu* (Shurtleff and Aoyagi 1983). The bean curd is drained or pressed in a wood frame between cheesecloth (or similar) sheets. The unpressed fresh curd is custardlike and often eaten sweetened. It can be further pressed and dried or even heat-dried to produce various harder, drier products, generally known as *kan tou fu* (dry bean curd). Bean curd is sliced, chunked, or crumbled and cooked with other foods in soup or stir-fried and used over rice; it is rarely eaten any other way, although *kan tou* is sliced and eaten with a sauce as a snack. Bean curd is preserved by frying and drying (even freeze-drying). Cubes of fresh or dried bean curd are stuffed, often with minced fish paste. When soybeans are spoken of in contrast to other beans, the general term is usually *ta tou* (large bean). However, a range of varietal names, the best known based on color, are often used in this contrast. The commonest color for soybeans in China is probably yellow, thus they are sometimes called *huang tou* (yellow bean), but black, white, and other colors also occur. (However, "green beans" and "red beans" are of other species.)

The soybean's chief use is in fermented products. Supreme is soy sauce (*tou chiang* or *tou yü*), made by fermenting a mixture of boiled soybeans, wheat flour, salt brine and a complex inoculum involving *Aspergillus*, *Rhizopus*, and other fungi. Local soy sauces are distinctive, using their own strains of fungi. Soy sauce varies from a very thin, highly salty form through rich medium grades to a solid black paste with less water and salt. Lower-sodium soy sauces are now being made for those who suffer from high blood pressure when they eat too much salt—a genetic misfortune very common in East Asia. In traditional Chinese cooking, free salt was almost never used; saltiness came from the soy sauce and other fermented products. A number of other ferments are thick pastes that usually go under the name *tou chiang* (thus the more liquid soy sauce is normally referred to as *tou yü*, bean oil). Many are highly spiced.

One odd soybean item is made even odder by its Chinese name; *sha ch'a chiang*, literally "sand tea sauce." The name is more comprehensible if we read *sha ch'a* in Hokkien Chinese: *sa te*. It is, in fact, the *saté* sauce of Indonesia and Malaysia, borrowed by the Hokkien, who have been trading and exchanging recipes in those lands for over a thousand years. It has been thoroughly Sinicized, however. In Indonesia it is a mix of peanut butter, chile, shrimp paste, and spices (including lesser

galangal). In China, it is usually a flour-soybean paste with chile, Chinese spices, and fermented rice. The original fermented bean product was *tou shih*, boiled soybeans salted and fermented to a black color with *Rhizopus* and other fungi. This preparation, made into pastes and sauces, abounds in the Cantonese food region, giving a distinctive flavor to that cuisine. Soybean curd is also fermented; the white or yellow squares are packed in brine for sale. They constitute a Chinese equivalent of cheese and are apt to be overpowering, reminiscent of strong German hand cheese. They are graphically known as *ch'ou tou fu* (stinking bean curd). Only the very stoutest of heart eat them, and then only in small quantities. Soybean products, wheat gluten, and seaweed and other lower plants are basic to the vegetarian Buddhist temples. They supply critical protein, vitamin B<sub>12</sub> (found in fermenting yeasts), and trace elements.

The soybean is the primary bean of China and often counted as one of the Five Staples of classical terminology, but its importance is often overrated at the expense of the broad bean (*Vicia faba*), called *ch'an tou* (silkworm bean) because of the bean's vague resemblance to a silkworm. It was introduced to China from the Near East (as an old name, *hu tou* or "Iranian bean," indicates) relatively recently, perhaps under the Mongols if not later (Laufer 1919). In subsequent years it has taken precedence over the soybean in many mountainous, remote, or rainy parts of China; the soybean prefers warm plains with rich soil. The broad bean is commonest in the west, near its home, and thus is little known or quite unknown to most Chinese in the areas best known to the outside world. Accounts indicate that it is eaten green as well as boiled as a dry bean and made into bean curd; it is commonly available in dry-foods shops, but little used. The form usually seen is the classic broad or fava bean; the smaller horse bean also occurs. In Szechuan it is made into fermented paste, often with chile peppers (*lu tou chiang*, hot bean paste). Sometimes it is roasted as a snack.

Other common legumes came from the Near East, achieved wide importance, and were once known as *hu tou*, peas, or *wan tou*. They are the field pea (*Pisum arvensis*) and the common pea (*P. sativum*). These are also plants of the interior, more rarely seen in Hong Kong, Taiwan, and the urbanized regions of China than the broad bean (let alone the soybean), yet perhaps commoner than the broad bean. These are boiled, made into pea curd, and evidently made into noodles as well.

The mung bean is apparently of Indian or Southeast Asian origin. Usually a golden-green in color, it is known as *lu tou* (green bean) in Chinese (*Vigna mungo* var. *radiata*). When Linnaeus named these closely related beans, he applied the Indian vernacular name, *mung* or *mungo*, to the wrong bean—the black gram. But the two are now considered one species, so his mistake is corrected. The mung bean is boiled and made into curd; its starch is important in making the thin transparent noodles known as beanstarch or peastarch noodles (*fen-sui*), but its great fame is in the form of sprouts, for which it is the bean of choice. The soybean is the other bean

normally sprouted, its sprouts being considered coarser. The two are sometimes rather misleadingly distinguished in English as "pea sprouts" and "bean sprouts." Mung beans are grown everywhere in China except in cold or very dry areas.

The peanut (*Arachis hypogaea*) is correctly regarded as a bean rather than a nut by many Chinese. It is called *lo hua sheng*, which means "dropping flower gives birth," referring to the fact that the flower produces a pod that plants itself by growing into the soil. The phrase is confusingly shortened to *hua sheng* in ordinary speech. Peanuts, native to South America, were introduced by the Portuguese and other early European visitors in the sixteenth century. In China they provided a new and superb source of protein and oil that grew best in sandy, warm regions on lands previously almost worthless but made valuable by the peanut and other New World crops (such as the sweet potato). Peanut oil is now more important than any other vegetable oil in these parts of China, especially the central and south coasts (rapeseed oil remains China's most important oil, but is primarily restricted now to the north and interior). The peanut is eaten in every possible way—the plain nut is boiled, roasted, or (rarely) eaten raw; peanut presscakes are usually an animal feed but eaten by humans in hungry times. Ground or broken peanuts abound in pastries, candy, and sweets, and when a new sweet is borrowed from the West, a large dose of peanuts is often a step in making the borrowing into a true Chinese product. A mixture of ground peanuts and sugar is commonly used as a filling for sweets and may be made into sweet soup (as are mung and many other beans).

The red bean (*tou*) is usually the adzuki (*Vigna angularis*), but a small red kidney bean (a variety of the New World species *Phaseolus vulgaris*) goes by the same name, as do red forms of the south's rice bean (*Vigna calcarata*). Red beans, like mung beans, are used for sweetened bean porridge or *t'ang shui* (sugar water), the commonest dessert or sweet in many Chinese households and a standard sweet snack for children at street stalls. It is an important regulator of bodily humors in the traditional medical system; red bean sweet soup is heating. Mung bean is cooling, and mung bean sweet soup is one of the commonest methods of restoring equilibrium in people who feel they are overheated.

Several species of beans are grown primarily or entirely for use as fresh "green" beans. Best known and most widespread of these is the yard-long bean (*V. unguiculata* var. *sinensis*). Round and thin, it resembles string beans except in its striking length; it is rarely a yard long, but I measured one at 39 inches and another at 37½. It is normally cut in sections and stir-fried with other vegetables in mixed dishes. Other green beans, much less frequently used, include the sword bean (*Canavalia ensiformis*; *tao tou*), and the dolichos bean (*Dolichos lablab*; *pien tou* or "sided bean," because the pod is flat, not cylindrical). The dolichos bean is often mentioned in ancient Chinese literature but is now a minor food, green or dried.

The yam bean (*Pachyrhizus erosus*; *sha k'o*) is grown for its root rather than for its seeds or pods. This is the jicama of Mexico, probably a New World introduction of Spanish vintage. The root resembles a large, flattened turnip; it has a very slight,

rather sweetish flavor and is quite crisp. Slices are eaten raw as snacks, often with pungent chili sauce as in Mexico, all over Southeast Asia and South China; they are appreciated for their refreshing crispness.

The Chinese have no word or category corresponding to *vegetable*. (Of course, vegetable really means simply "plant." English has never had a word specifically for edible vegetables. Perhaps no language does; after all, the boundary between the edible and the inedible is a very vague one.) The closest word is *ts'ai*, which means "greens" (i.e., leaf-and-stem vegetables) but is generalized to include any dish. A wide range of other categories refer to edible, soft parts of plants. I have already mentioned words for root crops and beans. There are also words for fruits used as vegetables (the Chinese have the same problems as English-speakers in thinking of squash and tomatoes as fruits). *Kua* includes all the fruits of the family Cucurbitaceae—squashes, melons (sweet and nonsweet), and cucumbers as well as the superficially squashtype eggplant. But eggplants are sometimes included in the category *chieh*, fruits of the Solanaceae family (tomatoes, eggplants, and relatives). The latter classification has more traditional as well as botanical sanction, but *ai kua* ("dwarf gourd," because the bush is small) has displaced it in the marketplace in referring to eggplants. There are no terms between the level of kingdom and that of genus—no families or natural orders of edible things. Such simplicity is typical of folk classification systems.

The category *ts'ai* takes a certain precedence because it includes the vegetables that make up the bulk of the Chinese diet apart from starch staples. At the top of the list stand cabbages, which, with grains and soybeans, are the most characteristic Chinese foods and the most universally and abundantly used. Rich in vitamins, minerals, and fiber, low in calories, they make an enormous nutritional contribution for very little extra energy intake (their production of calories per acre, however, is quite high). They are considerably more nutritious than Western cabbages, comparable to broccoli. The main forms are *Brassica pekinensis* (primarily grown in the north) and *B. chinensis* (south), both called *po ts'ai* (which also refers to another southern winter crop) and distinguished where found by local names. Both may be forms of *Brassica rapa*. In Hong Kong, *chinensis* is the *paak ch'oi* proper (and is thus the cabbage known to Westerners as bok choy), while *pekinensis* is qualified by adjectives. Westerners call them Peking cabbage and Chinese cabbage, as the scientific names imply; Peking is also called celery cabbage, Michihli cabbage (one variety), and, confusingly, Chinese cabbage. In appearance and qualities they are quite different. Their taste is milder than that of Western cabbages; Peking has almost no taste at all, but a pleasantly crisp texture. (Its crisp, fibrous leaves are responsible for the quite descriptive name "celery cabbage.") The ruling vegetable of old North China, it is now losing its dominance as other produce becomes available. The third of the three great *ts'ai* is mustard greens (*Brassica parachinensis*), *ts'ai hsin* or "greens heart," because the heart of the plant—the stem, buds, and young leaves—is eaten. The mustard greens of the American South are a different species.

Other Brassicas are eaten in China, especially the many varieties of *B. juncea* (*chieh ts'ai*) and *B. alboglabra* (*chieh lan ts'ai*). *Chieh* means mustard. *Lan* means orchid, referring somewhat hyperbolically to the rather pretty white flowers of *alboglabra*. These are Chinese counterparts of kale and collards; *alboglabra* in particular is very similar to collards in taste and cooking qualities, though it is tenderer and pleasanter. Both are used primarily in soup. They are quite important especially in the hot season when little else grows in the south (again similar to collards). Western cabbage, *B. oleracea*, is well known and becoming increasingly popular as high-yielding strains become available, but it is not liked as well as the native cabbages. Cabbages are favored for pickling; the product is usually crisper than sauerkraut but not so crisp as kimchi. Every major region has its distinctive pickles, usually including garlic, chiles, and ginger.

Spinach (*Spinacia oleracea*), introduced about 700 A.D. from the Middle East, is popular in China. Western-style spinach with blunt-ended leaves is less popular than the Chinese variety, whose sharper-tipped leaves fan out like arrowhead barbs; it is more delicate, less fibrous, more flavorful, and picks up less sand. Spinach is primarily used in clear soups with strips of meat, bean curd, or other protein sources. More popular than spinach in the warm parts of China is the amaranth or red spinach (*Amaranthus gangeticus*, also known as *A. mangostanus* or *A. tricolor*), which has a reddish color and a more succulent taste and texture. It is known as *hsien ts'ai*. Purslane (*Portulaca oleracea*) is very different from amaranth. It is known as *ma chih hsien* (*ts'ai*) or *pa hsi hsien ts'ai* (horsetooth *hsien* or Persian *hsien*—though *pa hsi* may not really mean Persian in this case). It is a common garden vegetable, often grown primarily for its supposed medicinal value rather than for food. A native South Chinese relative of sweet potato, *Ipomoea aquatica*, is grown for its leaves and stems (it has no tubers) where water is too deep for rice but too shallow for lotus or in any odd wet corner where water is hard to control. It is known as *k'ung-hsin ts'ai* (empty-hearted greens) from its hollow stem, or as *weng ts'ai*. It is rather tasteless, but its crisp texture makes it the favorite vegetable of many Taiwanese. Like many aquatic plants of South China, it frequently carries water-borne intestinal parasites, including schistosomiasis (Herklots 1972:148), but stir-frying is hot enough to kill the flukes. In general, Chinese cooking calls for brief but intense heat, which kills ordinary parasites; soups are simmered, but for a longer time, producing the same result. Experience has taught an accommodation between the needs to save fuel and flavor and the need to avoid waterborne pathogens.

Lettuce (*Lactuca sativa*) is known as *sheng ts'ai* (raw vegetable) because it can be eaten raw. Leafy varieties similar to the Oak Leaf lettuce of the West are those usually seen; head lettuce is unpopular because of its wateriness and bitter taste, though a recently introduced Western pattern is to use it as garnish. Lettuce is usually eaten in soup—green salads are unknown in traditional China and generally unsafe in the Orient. Lettuce's book name is *wo chu*, but this name really applies only to the bizarre celtuce or asparagus lettuce, the native Chinese thick-stemmed lettuce. Its stalk, sliced and stir-fried or cooked in soup, is excellent.



Other originally Western vegetables grown and used in China are parsley (*ch'in ts'ai*) and celery (*hsi ch'in* or "western parsley," since it is a very recent introduction). This can be confusing, since *ch'in* originally referred to a native Chinese herb *Oenanthe stolonifera*, and *hsi ch'in* meant parsley. Neither is used much in Chinese cooking, though in American Chinese (and many other) restaurants celery's cheapness means it is often used to stretch more expensive ingredients in mixed dishes. Traditional Chinese gourmets do not like the result.

Watercress (*Rorippa nasturtium-aquaticum*) may also be an introduction from the West, judging by its Chinese name, *hsi yang ts'ai* (western ocean vegetable). It is used very commonly in soup but is not eaten raw. It is a great tonic, believed to be one of the best remedies for overheating (in terms of humoral medicine). The soups are often combined with such strength-producing items as certain fish and internal organs like duck gizzards. Liking shallow water, watercress competes directly with rice in many areas but is a higher-priced crop.

Other common soup vegetables include the matrimony vine or Chinese wolfthorn (*Lycium chinensis*; *kou ch'i ts'ai*) and the garland chrysanthemum (*Chrysanthemum coronarium*; *t'ung hao ts'ai*, in Japanese *shungiku*). Mallow (*Malva* spp.; *k'uei ts'ai*) was once the most important Chinese vegetable but fell from grace and has almost ceased to be used. Malabar nightshade or spinach (*Basella alba*, *lo k'uei* or "falling mallow") has recently entered from South Asia. Dried buds of daylily (*Heemerocallis* spp.—many cultivars are complex hybrids), with their superb, distinctive, musky flavor, are known as *chin chen ts'ai* (golden needle vegetable); they spread from the Chinese vegetable garden to the Occidental flower garden due to the efforts of plant hunters in the nineteenth century. Lotus leaves are used to wrap food, and occasionally eaten with it, under the name of *ho ts'ai* (lotus greens). A vast range of minor green vegetables exists as well, and any trip through a large market will turn up several more.

One leaf crop, alfalfa, is normally called *ts'ai*, but *mu hsi* (not the same word as in "mu hsi pork"). This Iranian-derived name has spread to clover. King (1911) noted that clover was sold as food in Shanghai and was a common food in parts of North China; tender young growing tips and the young sprouts of alfalfa and clover are used, as in American health-food diets.

The commonest and most important nonleaf vegetables are the root crops. Of the nonstarchy ones, by far the most important is the white radish (*Raphanus sativus*; *luo po*), which comes in a range of Chinese varieties. The Oriental white radishes range from large (6–8 inches long and 2–3 inches thick) to very large (2–3 feet long), are watery and crisp, and are turniplike in taste and quality, though without the cabbage undertone. (Thus they are often translated "turnip." Most mentions of turnips in Western literature on China actually refer to white radishes.) White radishes are sliced or diced and pickled as cabbages are, usually dried first; often garlic and sometimes fermented soybean products or chili pepper powder are added. The Koreans perfected this spiced pickling. Green radishes are called *ch'ing luo po*. (If they must be

distinguished from the white ones, the whites are called *po luo po*, but normally *luo po* by itself is understood to mean the white ones.) The green are not thought as tasty as the white varieties and are rarely used except as medicine—they cool down the body—and occasionally in soup. Western radishes—the small red ones—have been introduced into Westernized parts of China, where they are known by such neonyms as *luo po tzu* (little radishes). Some black-skinned radishes exist in China and are naturally enough known as *hei luo po* (black radishes). Other colors occur here and there, with predictably descriptive names.

The carrot is called *hung luo po* (red radish). It was introduced to China via Central Asia at around the time of the Yüan Dynasty (Laufer 1919); first it was called *hu luo po* (Iranian radish). Carrots, far more than green radishes, are used to cool the body, to improve the eyes (this virtue of the carrot was evidently determined in China long before carotene was known to science), to help the throat, and for other medicinal purposes. Carrots can be stored to provide a source of carotene even in winter, a vitamin-poor season in North China and often in the south as well. Carrots are normally used in soup, but they have been steadily increasing in stir-fried dishes, and they are commonly cut into ornamental garnishes.

A number of other roots are eaten occasionally, as well as tubers, bulbs, corms, and so on. Best known of such minor "root" crops is the corm of a bulrush, the water chestnut (*Eleocharis dulcis* or *Scirpus tuberosus*), *ma t'i* (horse hoof) in colloquial speech, more classically *pi ch'i*. This must be carefully distinguished from the water caltrop (*Trapa bicornis*; *ling chieh* or "water-caltrop horns"), actually a fruit. The latter is frequently called "water chestnut" in English and is indeed closely related to European water chestnuts (*T. natans*). The "horse-hoof" water chestnut is related to the bulrushes, sedges, and tules, whose corms have often supplied foods in other lands—they were used, for example, by the Indians of California. It is this kind that is so common in foods, with a delicate, sweetish taste and marvelously crisp texture. The water caltrop, a rather tasteless fruit, is roasted or boiled as a snack. It often harbors the snails that carry schistosomes and if undercooked can transmit these parasites to humans.

The shoots of many plants are eaten; seedlings with small leaves are called *ya*; leafless thick shoots such as bamboo shoots are *sun*. Commonest among the *ya* are bean sprouts; among the *sun* bamboo shoots. Bamboo shoots come from species of *Phyllostachys* (smaller) and *Sinocalamus* (larger). Other bamboos are locally pressed into service. The general term is *chu sun*, *chu* meaning bamboo. Bamboo shoots are traditionally best in winter and considered a great delicacy. Asparagus, a very recent introduction to China, is known as *lu sun* (rush shoots) or *chiao sun*. This name once applied to wild rice (*Zizania aquatica*), raised in China not for its seeds (considered a lowly famine food) but for its shoots. These are allowed to become infected with a *Gibberella* fungus that makes the stem grow thick, soft, and asparagus-like, and eaten as a delicacy.

Consideration of roots and shoots naturally leads to *Allium*, the onion genus,

whose bulbs and leaves are important everywhere, but nowhere more important than in China. In North China especially, enormous quantities of them are eaten, and they are a vital resource; onions and garlic sometimes provide almost the only source of vitamins in winter. The dominant allium in China is not garlic, however, but *ts'ung* (*Allium fistulosum*, the Welsh or bunching onion. It has nothing to do with Wales; "Welsh" is from the German *welsch* or "foreign," applied after it was introduced from the Orient). This is the "scallion" of Chinese cookbooks. (Scallion actually means any young onion.) Very mild in flavor and bite, it is used widely as a garnish or minor ingredient, but often—especially in the north—it is the main vegetable of a vegetable-meat dish, especially with mutton or an organ meat. Dumplings filled with a mixture of *ts'ung* and chopped meat abound in various forms and are among the best and most widely loved of Chinese snacks; again, this is especially true in the north, where alliums are successful and other vegetables (except the Peking cabbage) rare. Western onions (*A. cepa*) are evidently a recent addition, since their name is *yang ts'ung* (foreign onions). They are used dry, cut up and stir-fried in mixed dishes, and have become ever more popular.

Garlic (*A. sativum*) is also an introduction, but of much longer standing—probably several millennia. It has been part of Chinese culture throughout historic time and has its own name, *suan* (a head of garlic is called *suan t'ou*). It is used most commonly in stir-fried dishes and dumpling fillings. Elephant garlic, actually a variety of leek, is grown occasionally under the name *ta suan* (big garlic). Shallots (*A. cepa* var. *aggregatum*—not *A. ascalonicum* as in older literature) occur fairly commonly in parts of South China but are little integrated into Chinese cooking and seem to be grown primarily for Westerners, in interesting contrast to the extreme importance of these *bawang merah* (red onions) in Malaysia. In China there seems to be no agreed-on name for them. Leeks (*A. ampeloprasum* = *A. porrum*; *chiu ts'ung*) are rare. Much more common are the native Chinese chives (not the Western chive, but *A. tuberosum*), flat-leaved and garlic-flavored, hence called "garlic chives" in the West. Regarded as more or less a leafy form of leek, they are called *chiu ts'ai* and are very widely used, chopped up and used like *ts'ung* when a more delicate flavor is wanted. Last and perhaps most interesting is the *chiao* (*A. chinense*; *chiao t'ou*). Extremely popular primarily as a pickle similar to pickled onions, this plant is so truly Chinese that it has no Western name. It is often known in the West by its Japanese name, *rakkyo* (*kyo* is the Japanese pronunciation of *chiao*) or as "Chinese leek." It is almost always eaten as a pickled snack, but occasionally the pickled bulbs are used in cooking, especially in strong-flavored dishes such as sweet-and-sour pork. Usually it is eaten by children and pregnant women (Chinese tradition, like Western, attributes fondness for pickles to pregnant women). The greatest Cantonese artist, Su Jen-Shan (nineteenth century), was also famous for his addiction to the pickled bulbs.

Solanaceous fruits are in part a natural group in Chinese. Eggplant (*Solanum melongena*) has the most respectable antiquity, introduced from India at some ob-

scure time in the past. Its first Chinese name was *chieh*, an unanalyzable old name. It is little used. Tomatoes (*Lycopersicon esculentum*) were introduced from the West in the 1500s and promptly named *fan chieh* (barbarian eggplant), their similarity to eggplants noted from the start. At first tomatoes were grown only for Westerners near the coastal enclaves where they stayed, but its taste and ease of growth achieved popularity for the tomato eventually, and it continues to spread and become more widely accepted in cooking. At present, however, it is still primarily a part of urbanized Cantonese cuisine—the area that has been longest and most intimately in contact with foreigners. *K'e tsap* means "tomato sauce" in Cantonese; this is sometimes thought to be the origin of the English word *ketchup* or *catsup*, but such is not the case. "Catsup" is cognate with French *escabeche* and Spanish *escabeche*, meaning food in sauce, and was used long before the Cantonese had tomato sauce (David 1986). (The Indonesian word *ketjap* or "soy sauce" is equally unlikely as a source of the English term.)

Among the Solanaceae is the New World's gift to mankind, the chili pepper (*Cap-sicum frutescens* and *C. annuum*). Brought to the Orient by the Portuguese in the 1500s, these plants did not remain a minor and local part of the diet, as did tomatoes and eggplants, but swept through the Far East with epochal effect. Perhaps no culinary advance since the invention of distilling has had more effect than the propagation of chili peppers in the Old World. The main one is *C. annuum*. Not only did it incalculably benefit the cuisine of all those peoples civilized enough to accept it, it also is high in vitamins A and C, iron, calcium, and other minerals; is eminently storable and usable in pickles; can be grown anywhere under any conditions as long as the growing season is long and warm; and thus is now the world's most ubiquitous high-vitamin supplement to grains and other staples, providing what they lack in both taste and nutritional qualities. In China, the existence of the Chinese cabbages (nutritionally equivalent) and the concurrent spread of the sweet potato (high in vitamin A) made the chili less dramatically important than it is elsewhere, but it caught on fast, especially in remote and mountainous regions where other high-vitamin foods could not grow well. Thus its center of abundance today is in the warmer mountain regions of China—the southwestern part of the country—where among both Chinese and minority groups it is vital to life. It appears to have spread from Macau, and perhaps other Portuguese touchpoints, through the mountains of the south, until it found a true home in Hunan and probably Kweichow. From here it spread rapidly to Szechuan and thence to Yunnan. The near depopulation of Szechuan in the wars at the fall of Ming led to an inflow of Hunanese migrants, who brought their cuisine with them, and a similar flow later went from Szechuan to Yunnan, especially after the great Muslim rebellion that decimated the main cities in that province. Travelers in Yunnan afterward note that the cooks were almost all Szechuanese. Only in these western provinces did chilis achieve the importance they have enjoyed in Korea, Southeast Asia, and India. The chilis used are mostly of the hot annual varieties. The very hot perennial chilis (*C. frutescens*, the bird or tabasco chilis) are grown rarely. Sweet peppers—recent varieties of annual chilis, bred for

mildness and size—are very rare except in the immediate environs of Hong Kong and other highly Westernized places. Nowhere have they penetrated into ordinary cuisine. Chilis are called *la chiao* (hot pepper)—they are classified with the peppers, as in English, not with their true relatives, tomatoes and eggplants. Probably this is due to straight translation from Western languages.

The largest class of fruits used as vegetables, including many eaten purely as sweets, is that of *kua* (cucurbits or pepos). These are large fruits with a rind surrounding a central cavity full of flat seeds attached by pith—melons, squash, pumpkin, cucumbers, and so on. Plants with such fruits comprise the family Cucurbitaceae. The Chinese have many and love them deeply. They also include as *kua* a few plants with similar fruits that are not of the family Cucurbitaceae.

The most widely grown is a native Chinese species, *Bemincasa hispida*, the wax or hair gourd. It is eaten in two very different forms, derived from different varieties of the plant: the *tung kua* (winter melon) and the *mao kua* (hair gourd) or *chi kua* (jointed gourd). The former is grown to ripeness, at which time it superficially resembles a large watermelon, except for the waxy coating that covers and whitens it. Its watery, slightly spicy flesh is used in soup; often it is steamed in a metal pot with the soup inside the melon, which is often carved. This is the famous *tung kua chung* (winter melon pond). The hair gourd is eaten when small and unripe, similar to a pale, rather fuzzy zucchini squash. The differences correspond closely to those between pumpkin and summer squash (varieties of *Cucurbita pepo*)—particularly when one remembers that in South America the pumpkin is chiefly used as a partially edible stewpot very much like a *tung kua chung*.

In addition to the hair gourd there is a vast range of minor gourds. Important are the bitter melon (*Momordica charantia*), *fu kua* or “bitter gourd”; cucumber (*Cucumis sativus*), *huang kua* or “yellow gourd” (many Chinese varieties are yellow or brownish and are considered more Chinese than the green ones); and watermelon, *hsi kua* or “western gourd” (it spread from Africa via Central Asia), some varieties of which are grown only for their large seeds, which almost completely replace the meat. Melon seeds are a great Chinese delicacy, the commonest snack. True melons of many varieties are known mostly by name of origin; notable is the famous (*C. melo*) *Ha-mi kua* or “Hami melon” from Hami in Sinkiang. It is often said to be the best melon in the world (it is certainly the best I have eaten). The New World cucurbits have taken some hold in China but are not well liked. Chayote (*Sechium edule*), in spite of its Chinese name, *fo shou kua* (Buddha’s hand melon—its shape is reminiscent of Buddha’s Hand citron), is considered uninteresting. Winter squash (*Cucurbita* spp.—usually *C. moschata* in the markets) is considered coarse and plebeian, a poverty food. Its Western origin and early introduction are betrayed by its name, *fan kua*, “barbarian gourd.” (This name applies most usually to *moschata*. *C. Maxima* is sometimes called *nan kua*, “southern gourd?”). Unfortunately, the Chinese have not assimilated good ways of cooking these fruits.

*Kua* also includes the quince (*Cydonia oblonga* and *Chaenomeles* spp.). The papaya

(*Carica papaya*; *mu kua* or “tree melons”) was originally termed *fan mu kua* (barbarian tree melon) when first introduced from the Americas. At present there is no way of telling which fruit is referred to, except by context. Locality of origin is helpful, since the papaya only grows in more or less tropical areas too warm for the quince. (*Chaenomeles* quinces are native to China; *Cydonia* is rare but of long establishment there.) There is a vast confusion in Chinese on this distinction.

Last come the lower plants. Many seaweeds are eaten, among them *tzu ts'ai* (purple vegetable), a flat seaweed used in soup; *fu ts'ai* (hair vegetable), a hairlike black alga from Mongolian desert springs, used especially in Buddhist vegetarian cooking; *yang ts'ai* (ocean vegetable), the agar-agar seaweed; and others. Mushrooms are collectively known as *ku*; the common one seen is *Lentinus edodes*, called *tung ku* (winter mushroom)—the shiitake of Japan. Increasingly common is the padi-straw mushroom, *Volvariella volvacea*, called *ts'ao ku* (grass mushroom). The *tung ku* is usually used dried, the padi-straw fresh. The Western mushroom has become a common cash crop in Taiwan, where it is canned and exported; it is known as *mo ku*. Many other mushrooms are eaten, among them one known as *hsiang ku* (fragrant mushroom). Bracket fungi of trees are given the generic term *erh* (ears) and are used dried; they are popular and common in mixed dishes, where they bring out flavors subtly without adding much of their own, like truffles. Like mushrooms, they are too expensive for any but festal fare, in which they are almost obligatory. The common ones are *mu erh* (wood ears; *Auricularia* spp.) and *yün erh* (cloud ears; *Tremella* spp.). Various species of both exist. *Hsieh erh* (snow ears) are common in medicinal brews because of their alleged soothing and harmonizing characteristics as well as their nutritional value, but they are not used as food. Several other types occur. One bracket fungus not called an ear is *Ganoderma lucidum*, the *ling chih* (“magical power fungus” or, more loosely, “fungus of immortality”). Traditionally the food of Immortals and a divine plant giving longevity and wisdom, this plant is now used widely in Chinese medicine. It has many alleged values as a tonic, which have not been fully explored.

The Chinese call all fruits *kuo*, including those that are valued only for their kernels (i.e., nuts). The term *kuo* covers both the fruit as a whole and the fleshy part of it. Seeds are *tzu*, particularly if small; *tzu* also means “son,” but the extension to “seed” must have been very early—perhaps it always meant both. The kernel of the seed or nut is the *jen*, which also means “honesty”; here the extension may be that truth is the “kernel” of a person’s words or intent.

Since some fruits are valued for flesh and kernel both, it is best to discuss this class in correct Chinese style, as one. In general, the Chinese like fruit but eat rather little. Fruit is preferred sour, thus usually eaten green or salted and pickled, unless it is naturally a very sour fruit. The habit of eating green fruit—noted with (usually unpleasant) surprise by a great many travelers in China—no doubt arose from the need to harvest the fruit before birds, rats, or thieves did. “Never adjust your hat in a peach

orchard, or your shoes in a melon field" is an old Chinese proverb counseling the hearer to do nothing that might arouse suspicion. Fruit's low nutrient value and vulnerability to theft has kept it a very minor part of the Chinese scene. Fruit culture is expanding now, very rapidly in Hong Kong and Taiwan, where money is available for such well-liked luxuries, but fruit is still a minor item of the diet.

Most widely distributed of all Chinese fruits is probably the *mei* (*Prunus mume*; Japanese *ume* or *mume*). Usually translated "plum" in books about China, it is not a plum; the plum (*Prunus salicina*) is called *li* and is less widely eaten and much less widely painted and written about. The *mei* is actually closer to the apricot (*P. armeniaca*, *hsing*); indeed, it is a sort of Chinese counterpart thereof and is often called "Oriental flowering apricot." The fruit resembles a small sour apricot and is usually eaten pickled as a snack. The flowers, which bloom in January or February, are spectacularly beautiful, and their anarchistic tendency to glory in even the worst weather has made them a symbol of Taoism and of the independent recluse as well as making the tree traditional in gardens. The *mei* has an honored place in Chinese consciousness. There is an entire genre of *mei* paintings, literally millions of poems about *mei* trees in flower, reams of descriptions and allusions to the *mei*. It is a symbol of the Chinese world from its most exalted to its very lowest, from philosophic Taoism to venereal disease. (*Mei* trees ornamented entertainers' quarters and thus came to refer to the diseases one brings back therefrom. Or—another theory—the lesions look like *mei* flowers. *Mei* trees and flowers, like peaches, were probably a symbol of sex and sexual potency in ancient times.) Usually eaten salted and often dried, the *mei* is also made into a sauce. A number of terms cover the various salted forms, which may be flavored with licorice or other things.

The peach (*Prunus persica*, *t'ao*) originated in China. The overgrazed, deforested hills of North China are often covered with wild peach scrub; the tree appears to thrive on the conditions of erosion and misuse that make other tree growth impossible there. Peaches are eaten commonly (rather green) in northern and mountainous western lowland China, but in the south, where they do not grow (except flowering varieties and a few scattered fruiting trees), they are usually seen only as rare snacks in dried or pickled form. Even this minor use is a great increase over the recent past, when peach fruit was known primarily through pictures. The flowering varieties, however, are grown everywhere in China, especially for New Year decoration. In Hong Kong a vast flowering peach industry has grown up to supply this market, and fortunes turn on the weather two or three weeks before New Year. Chinese New Year, varying from January to late February, can come so early that the flowers are found only in the warmest areas (and can all be destroyed by a late freeze) or so late that the trees have already flowered out in warmer parts of the colony. At least this problem is somewhat self-adjusting in that the warm areas are well off in the cold years, the cold areas in the warm years. The prudent orchardier tries to plant his orchard on a slope, so that some trees are in warm pockets and some in cold. The value of the peach in China is more symbolic than nutritional. An ancient symbol of fertil-

ity, perhaps because of its resemblance to the external female genitalia (not exactly striking; perhaps the pink color of flowers and fruit was more important), the peach took on magical attributes. (On *mei* and peach in symbol, see Sowerby 1940.) The peach brings luck, abundance, and protection. Peach wood is made into amulets to drive off demons; a good display of peach flowers at New Year gives good fortune through the year; the Spirit of the Locality or Earth God carries—or has boys around him who carry—the Peaches of Immortality, which make the eater an Immortal. The most famous use of peaches in literature is, of course, in T'ao Yuan-ming's many-layered and complex essay, "The Peach-Flower Stream." One layer of T'ao's symbolism is sexual, and the sexual symbolism of the peach is still important in China (Groot 1892–1910; Schafer 1963).

A subtropical fruit shaped like a long, thin peach and bearing a single seed is known as "fairy peach" or "heavenly peach." The flesh is yellow-orange and tastes vaguely like a not-too-fresh sweet potato, and despite the hyperbolic name the fruit is not well regarded. It is clearly not related to the peach; it appears to be an American introduction of the genus *Pouteria*.

Other rosaceous fruits include Asian natives and many Chinese equivalents of more widely known fruits. The true apricot (*Prunus armeniaca*) is known as *hsing*; the apple (*Pyrus malus*) is *ping kuo*; both are introductions from West or Central Asia. Many native crab apples are grown for fruit, and some for their leaves, which make an excellent tea; the best known is *P. baccata*, the "tea crab." The cherry apple (*P. spectabilis* or *P. prunifolia*), *hai tang*, is also common, especially candied, and looks and tastes like a sweet crab apple. The Chinese pears are also independent of Western pears; they are of several species (*Pyrus sinensis*, *P. kawakamii*, and so on). Those with silica granules in the flesh are *sha li* (sand pears); crisp, white-fleshed ones are *hsueh li* (snow pears). All are crisp and round, like apples, rather than soft and pear-shaped like the Western world's *P. communis*. The Chinese cherry is also a different species from the Western (*Prunus pseudocerasus* as opposed to *P. avium* = *P. cerasus*). Some of the many species of flowering cherries also produce edible fruit. There are also the native hawthorns (*Crataegus* spp.), grown for candied fruit; the fruit is also gathered wild. Last and most distinctive of Chinese rosaceous fruits is the loquat, *Eriobotrya japonica*, known by a strange name that may be a loanword from some other language—*pi' p'a*. The lute is also called *pi' p'a*, from its shape, resembling loquat leaves. The loquat's fruit is orange, superbly flavorful, sweet yet sharp; good varieties are among the finest of all fruit and deserve to be better known and more widely grown (they are easy to grow in warm or subtropical climates). Their nearest European equivalent is the medlar, *Mespilus germanica*, which must be eaten rotten and is said to be at best an acquired taste (and at worst reminiscent of raw sewage). The loquat is known in French and some other European languages as the Japanese medlar.

Along with the rosaceous fruits, the main fruit of China's "core" area is the jujube or Chinese date (*Zizyphus jujuba* and *Z. sinensis*). A thorny bush or small tree of the

dry parts of North China, this buckthorn takes over railroad embankments, city yards, factory dumps, loess cliff breaks—anywhere too poor and dry for anything else to grow. A favorite yard tree, it bears fruits that look and taste so much like dates that the Western term “Chinese date” is matched by the Chinese term “foreign jujube” for the true date (*Phoenix dactylifera*), known in China as an import since the early Middle Ages. Jujubes are brown or black. Believed to be powerfully strengthening and health-giving, (they bear large amounts of vitamin C and iron), these fruits are fed to infants and used as nutritional aids. Red ones are believed particularly good for the blood (because of their color), black ones for the body in general. A delightful paste of walnuts and jujubes is often eaten for health—the brain-shaped walnut kernels strengthen the brain. (This claim is deleted from packages for sale in the United States, due to truth-in-advertising laws.)

An odd “fruit” known since ancient days is *Hovenia dulcis*, the raisintree. What is eaten is not the small fruit, but the stalk that holds the fruit cluster; swollen and sweet, it tastes like a particularly fine raisin.

A great range of minor fruits fills out the list. Several of these are, or once were, exotic. From China’s central and southern mountains come plants such as the “sheep peach” (*yang tao*, the kiwi fruit *Actinidia chinensis*) and the “foreign flowering apricot” (*yang mei*), a term used for both strawberries (*Fragaria* spp.) and ericaceous fruits from the waxmyrtle (*Myrica*) and arbutus. Strawberries are more often called *ts’ao mei* (herb mei). Other berries are rare in China. Further south, in the tropics, the Chinese encountered the coconut, litchis, longans, and bananas. There was also the *Canarium album* tree with its olivelike fruit (called Chinese olives when salt-preserved) and superb, almondlike seed kernel. Southeast Asian or tropical Chinese fruits like the starfruit or carambola (*Averrhoa carambola*) and the sour, poor-quality fruits of *Dracontomelon sinensis* were considered less attractive.

Far more important were the citrus fruits. The sweet orange (*Citrus sinensis*), mandarin orange and tangerine (*C. reticulata*), pomelo (*C. grandis*), wampee (*Clausena wampi*), and kumquat (*Fortunella* spp.) are the major natives; lemon and lime were introduced early from the West, the lemon becoming well known under the loan name *ling men* (from Persian *laymun*, directly or via Arabic or some other language). Hybrids of tangerine and orange were known and loved early and given the name of “sweeties” (*kam*—the character combines the graph “tree” and the word for “sweet”). The hybrid of pomelo and orange, however, did not occur; only in the eighteenth-century West Indies did these finally mix, producing the grapefruit. Of all the citrus, the most culturally important was the mandarin orange (the term generally covers both the tangerine species and the tang-or hybrids).

The citrus fruits retained a magical and religious aura, probably attached to them by non-Chinese peoples in what is now South China. Pomeloes, oranges, and mandarins continue to be the commonest fruits at sacrifices. The bizarre “Buddha’s hand” (a contorted form of the citron *C. medica*, borrowing from the Western world) is often seen in temples. Water in which pomelo skins or leaves have been

soaked is commonly used to drive away ghosts and evil spirits. Small mandarin-orange trees are found in houses at Chinese New Year. The popular name of *C. reticulata*—properly *chü*—is *chieh*, “lucky one.”

The European grape (*Vitis vinifera*) was introduced to China by Chang Chien, an envoy sent by the Han emperor Wu Ti to the Western world in the second century B.C. Grape wine followed eventually, introduced via the Turkic-speaking peoples of Sinliang. Popular in the Tang Dynasty, it lost out again later to Chinese grain *chü*. Pomegranates (*Punica granatum*; *shih liu*) came soon after, and eventually all the West and South Asian common fruits became known in China. Watermelons came from Africa and became as popular for their seed kernels as for their fruit; they are the favorite fruit of most of North China. Last of all, the New World fruits have become enormously popular in port cities, especially the tropical ones such as papaya and lemon guava (*Psidium guajava*, called *fan shi liu* or “foreign pomegranate,” and sometimes nicknamed “women’s dog meat” because women eat it to get warm in winter, as men eat dog meat, which is often disliked by women). The avocado has recently appeared and is called “butter fruit.” Cherimoyas and soursops, pineapples and sapotes now appear on fruit stalls and in southern orchards.

Nuts play a minor part in Chinese food. In addition to walnuts (the best are Persian, *Juglans regia*, known since the Middle Ages in China), chestnuts (the native *Castanea mollissima*), hazelnuts (*Corylus*), acorns, and so on, fruit kernels are widely used. Most important are the kernels of apricots (*Prunus armeniaca*). Special varieties with uninteresting fruit are grown solely for their large, sweet, nontoxic seeds, which are used as almonds are used in the West. A mixture of apricot-kernel powder and congee or milk is used to relieve the distress of colds and sore throats (I can testify to its effectiveness). True almonds are barely known and not normally used. The aforementioned kernels of the *Canarium* tree are popular in South Chinese cooking. Pine nuts—usually the seeds of *Pinus koraiensis*, but other pines will do—are very popular and believed to convey long life, especially if they are one’s staple food. (Pines live, evergreen, for centuries.) Other evergreens supply more exotic nuts: ginkgo nuts (*Ginkgo biloba*; usually called “white nuts” but sometimes “silver nuts,” of which the word *ginkgo* is a Japanese-English corruption) and nutmeg-yew kernels (*Torreya grandis*). Both of these are roasted. They are bitter and astringent and thus often eaten to relieve swollen and sore membranes in the throat.

Chinese food uses less herbal and spice flavoring than do the cuisines of most of Asia, but the spice list is not small. Most of the classic herbs and spices of the Near East and India have reached China: basil, fenugreek, and so on. They need no special mention here. China’s native spices deserve a few words. Perhaps the most characteristic, the most familiar from many dishes, is star anise (*Illicium* spp.). Its large star-shaped fruits have a powerful anise or licorice flavor, though it is not related to either of those two plants. Several species of brown pepper (*Zanthoxylum*) are used in different parts of China, especially in the west and southwest. Once again, the plant bears no resemblance to its English-language namesake. It is, in fact, a form of

prickly-ash or fagara, growing on a small thorny bush or sprawling vinelike little tree. The flavor of the small brown fruits is intense and distinctive, with vague citrus echoes. In large quantities, the fruits can produce a numbing effect on the mouth and tongue, apparently harmless.

China is also the native home of cassia (*Cinnamomum cassia*, Mandarin *kuei*). Both the bark of young twigs and the dried flowers are used, but the former is the usual spice. Usually *kuei* is translated "cinnamon," but cinnamon is a different though closely related product (*C. zeylanicum*, from South Asia). The two tend to be used interchangeably in modern Chinese cooking.

Clove, nutmeg, and other Southeast Asian spices have long been used. Various herbs—smartweed, cresses, mints, and the peppery water-lily *Brasenia* spp., for example—are used locally and rather sparingly. Few have any wide usage, and none competes with soybean ferments and garlic in importance as flavoring.

Coffee, chocolate, and opium reached China, of course. Coffee is *chia fei*, from Cantonese *kafei*, which—like almost all other words in the world for the berry of *Coffea* spp.—is derived from the old Ethiopian word immortalized in Kahve (or Kaffe) Province, southern Ethiopia, whence *C. arabica* comes. Opium came early but was not much used until the British aggressively merchandised it in the nineteenth century. The other indulgent of worldwide name, cola (from West Africa's *Cola nitida* and *C. acuminata*), has now reached China too. Much earlier was betel: the quid of *Piper betle* leaf eaten with lime and the nut of the areca palm (*Areca catechu*). This "betel" nut, whose stimulant alkaloids are released by the lime and the chemicals in the betel leaf, was already known as a southern product in the early fourth century A.D. Then as now, it was called by its Malay name, *pinang* (*binlang* in modern Mandarin, but presumably borrowed via one of the south-coast Chinese languages; it is still *pinang* in some dialects of Southern Min).

It is probably significant that the most widespread words in the world—borrowed into virtually every language—are the names of the four great caffeine plants: coffee, cacao, cola, and tea. (Cacao's drug is really theobromine, and tea has theophylline as well as caffeine, but these alkaloids all form one closely related chemical group, the methylxanthines.) Tea is the great Chinese contribution. From Mandarin *cha* comes the Persian/Iranian *chai*, borrowed directly into Mongol, Russian, and East European languages, as well as Japanese *ocha* and many other variants. From southern Min (Hokkien) *te* come all the West European words. *Tea* was originally pronounced closer to the Min form; "tay" gave way to "tee" in the eighteenth century, except in conservative dialects like those of Ireland.

Tea, however, was not known to ancient China. The word then meant any infusion of leaves. (The evolution of the word in English has been the exact reverse—from a term for a specific plant to a catchall.) Some other sources of early Chinese brews are remembered in our words "tea rose" and "tea crab apple"; chrysanthemum flowers and herbal medicines are commonly used in China as tea stock, and anything cooling (from cold sweet bean porridge to beer) is called "cooling tea" (*liang cha*) to

this day. It was not until the T'ang Dynasty that the name came to refer preeminently to the infusion of *Camellia sinensis*. This bush—an exquisitely beautiful one, similar to other white-flowered camellias—comes from the China-India-Burma border country; no one is exactly sure where, since unequivocally wild tea has never been found. In this area the hill people chew pickled tea leaves (a sort of tea sautee-kraut), called *miang* in Burmese and thought to be a very ancient preparation. Tea may have been established as an aboriginal brew in what is now South China. The classic story of its introduction to Chinese civilization is that the monk Bodhidharma, who introduced Zen to China, meditated before a wall and fell asleep; in fury he cut off his eyelids, which fell to the ground and grew into tea bushes. Shorn of the humorous fiction, this story tells us that tea came from India in about the fifth century A.D., accompanying Buddhists, who used it to keep awake during meditation; if this is not the whole story, it is at least believable. But tea's real popularity is due to a single book, *The Classic of Tea* by Lu Yü (1974). This work of the late T'ang (eighth century) launched the hyperaesthetic and ritualized devotion of tea that lasts to this day in East Asia, dimming in the Japanese tea ceremony, so well (and ironically) described in Yasunari Kawabata's novel, *Thousand Cranes*. Lu Yü was a purist, describing such things as spiced tea as no more than "the swill of gutters and ditches." (I wonder what he would have said of flavored teas and coffees.) Others were already drinking tea with flowers as well as spices; jasmine tea is the most popular drink in North China today. (The true jasmine, a Near Eastern or Indian plant, had been recorded as an exotic from the south by Chi Han in the fourth century.) Unlike the vast majority of T'ang exotics, tea survived the fall of T'ang and the more nativistic periods that followed, no doubt because it had both stimulant value and fine taste.

Tea is currently prepared in three ways: green, lightly fermented (oolong and the like), and black. Green tea is dried by a rather complex process, without fermentation. Black tea is fermented for a considerable time under controlled conditions. The Chinese call it "red tea" (*hung cha*), attending to the reddish color of the brew rather than the blackish color of the dry leaves. Green tea is green in all languages; the Chinese is *ching cha*.

The primary tea-raising areas of China are in and around Fujian Province (where the Min languages are spoken, hence the widespread borrowing of the word *te*), including the island of Taiwan, which is off Fujian and primarily Min-speaking. The finest teas are generally considered to be the Lung Ch'ing teas of Fujian and the oolongs of northern Taiwan, but there are multitudes of local patriots who swear by their home brews. Black tea is not liked or much used in China, and though excellent black teas do come from Yunnan and elsewhere, the best are still those of India, such as Darjeeling. (Yunnan also grows coffee, less distinguished than its tea.) In Tibet and neighboring areas, tea is drunk with milk or butter mixed in. The Tibetan national food is buttered tea mixed with tsamba (parched barley). In the T'ang Dynasty, Chinese drank tea with milk and butter, too.

Opium and tobacco are smokes, not foods, but the Chinese idiom is "to eat smoke," so they deserve a mention here. Opium came from the Near East at an early

date but was not popular or widely used until the British forced it on China in the 1800s; tobacco is a New World crop, introduced in the 1500s and spreading since. Opium addiction is virtually extinct on the mainland and rare in Taiwan, but it still flourishes in Hong Kong, where the stronger opium derivatives—morphine, cocaine, heroin, and so on—have mostly replaced the raw drug. The resinous flavor of opium smoke was until recently a common scent in certain parts of Hong Kong but now is rather rare. Tobacco is now overwhelmingly the drug of choice among Chinese. Almost all men and a large percentage of women are smokers; cigarettes are virtually the only form of tobacco used, though one occasionally still sees pipes, including beautiful old water pipes made from large joints of bamboo. China has made some attempts to combat smoking, but Hong Kong and Taiwan do little, and smoking is rampant among overseas Chinese as well. Lung cancer has predictably become a major cause of death and continues to increase, while other health consequences of smoking (from coughs to heart disease) also grow more common.

The Chinese have always been given to depressant drugs rather than to hallucinogens. Alcohol, tobacco, and opium dominate. Even the stimulant tea is drunk weak in most areas. In spite of widespread and ancient knowledge of a whole host of hallucinogenic plants—marijuana, aconite, henbane, various mushrooms including the fly agaric (at least in the northeast), and many more—the Chinese have never used these to any extent. The Taoist alchemists and immortality seekers of the medieval period swallowed quantities of these drugs, as of almost everything else imaginable, but they were a small and usually elite group. The folk counterpart was self-induced hypnotic trance. I and other anthropologists have witnessed many such trances, considered spirit possessions; drugs are unused or very sparingly used (people may smoke, drink, or even take a bit of opium at such events). In general, throughout East Asia from China south, avoidance of hallucinogens and reliance on self-induced trance is prevalent. Expense and the possibility of physical damage are probably at the root of this; the Taoist alchemy simply could not trickle down the class hierarchy, or survive the difficult days of the late medieval period, because it was so expensive in both financial and human terms. Confucian morality opposed it for these reasons, but ultimately it fell because it led to quick death rather than to longer life; and with its rejection went any tendencies toward violent drug-induced stimulation in Chinese culture. Chinese communities today reject marijuana and the like with horror, viewing them as both alien and dangerous. (This is rather ironic given the universal acceptance of tobacco.)

### Animal Foods

Throughout the world, more kinds of water animals are eaten than land animals. The Chinese avoid very few animals, and it follows that essentially anything aquatic is fair game. Jellyfish, sea cucumbers, sea slugs, limpets, barnacles, sea snakes, gulls, and every other marine and freshwater being big enough to gather is eaten some-

where. Avoidances exist, but are local. Fishermen I knew in Hong Kong believed petty creatures like barnacles were too small to bother with (except in famine) and avoided sawfish, sturgeons, whales and porpoises because these were “divine fish,” tabooed by the gods. But elsewhere in China all of these have been used.

The traditional Chinese favorites among aquatic foods make an odd group, including sea cucumber, shark fins, shrimp, crab, carp, groupers (rockfish), pomfret, oysters, and some other bivalves. The Chinese were originally an inland, riverine people whose main fish resources were bream and carp. Several species of the latter were domesticated early, caught and pond-reared in the Chou Dynasty and bred selectively in captivity well before its end. In addition to the common carp (*Cyprinus carpio*), domesticated in China but spread worldwide in the Middle Ages, there are the crucian carp (*Carassius auratus*—goldfish are selectively bred ornamental forms of this species), the grass carp or ide (*Ctenopharyngodon idellus*), the black, bighead, or noble carp (*Aristichthys nobilis*), and the silver carp (*Hypophthalmichthys molitrix*) (Ling 1977). The first two of these are the most truly domesticated; many ancient cultivated forms exist. Mullet (*Mugil cephalus*), eels (*Anguilla* spp.), and sometimes other fish are caught as wild fingerlings or fry and raised to maturity in ponds. These freshwater fish, with their firm, white flesh and delicate taste, set the standards of fish quality. They are not muddy-flavored when raised properly; the muddy flavor we associate with carp is caused by dirty feeding and by the ingestion of geosmin, produced by certain algae in stagnant water. Chinese ponds are kept fresh; feeding and fertilizing is done carefully; ponds are drained for harvest and dried off. Well-raised fish thus pick up little off-flavor.

Marine fish with similar qualities—white, delicate-flavored flesh that is firm but not chewy—are naturally preferred. Softer-fleshed marine fish are acceptable, especially for fish balls and other lowly uses, but the fish favored in Japan and most of the West—strong, rank, tough, oily fish like mackerel, salmon, tuna, and swordfish—are despised in China. I heard a tuna-canning plant described as a good way to rip off the Western world by selling trash fish that would otherwise be fertilizer. My explanation that Westerners liked tuna was met with incredulity.

Shrimp and crab are preferred to lobster (Chinese lobsters are of the “spiny” variety, i.e., various species of *Parulirus*), but all crustaceans are well regarded, even the lowly mantis shrimp, which can be quite good when boiled, and the mud-lobster. Among mollusks, bivalves rank higher than snails, the oyster and pen-shell considered very choice. Small clams (including scallops) and snails are not for gourmets, with the noted exception of the large whelks, which are delicious, and the abalone (*Haliotis* spp.). These huge snails are chunked and cooked in many ways and are among the most highly regarded of foods. China’s native abs are now depleted; they have been imported from California and Baja California since early in this century. Whelk and abalone are chewy and strong-flavored; I suppose the taste for them was borrowed from some nameless, long-lost coast-dwelling people. Sea cucumbers—technically *Holothuria* of many genera—are sold dried; stewed, they become ge-

latinous, chewy, and faintly fish-flavored. Their principal virtue is one common in Chinese cuisine and deeply loved: they absorb and heighten the flavors of other foods cooked with them and provide a chewy, soft, high-protein, easily digested morsel as a vehicle for these flavors. Shark fins are liked for the same reason (as are many of the mushrooms and lichens, edible birds' nests, beef sinews, and several other very high-priced items of cuisine that non-Chinese find bizarre). They have a more pronounced taste, clearly reminiscent of good marine fish, and are also sold dried for long boiling; a dish of shark fins is somewhere between a thick soup and a thin stew and is traditional—virtually obligatory among the affluent—at wedding feasts and other major life events.

Fish swim-bladders (fish maws) are somewhat behind these but also popular. Finally, perhaps the best among fish products are dried roes, sometimes lightly salted; they are at least as good as caviar, though dry and chewy rather than wet. They are sliced and fried or steamed. Some of the best come from the sea perch (*Lates*). Magical beliefs attach to certain fish products; the swim-bladder and some other parts of the giant grouper are supposed to give the eater some of this mammoth fish's power, while parasites from its gills are even more effective. Indeed, a complex medical lore spins around seafoods; some crabs are cooling, others heating. Some shrimps and other shellfish exacerbate venereal disease, leading to much low wit if a man refuses them at an all-male gathering.

Fresh seafood should be *fresh*. Fish is rarely eaten raw as in Japan, partly because of awareness of parasites; in T'ang China and more recently in the south, raw fish was popular. But fish is not overcooked, nor is it tolerated when long out of water. In the old days, and often today, restaurants would keep fish alive in tanks. Shore inns would have well-smacks: old boats with the bottoms replaced by wire mesh, in which fish and shellfish were kept in their native element. Many fishermen turned to running live-fish operations. Living on a houseboat surrounded by well-smacks, these people lived by buying live fish from boats and selling them to gourmets, who would run (not walk) with them to the nearest restaurant. Water pollution in the more affluent cities has ended this practice, to the eternal sorrow of gourmets, for the difference between a fish kept thus and a tank fish—let alone a dead fish—is really quite pronounced. (I spent some of the happiest months of my life living in a small houseboat on Castle Peak Bay, Hong Kong, tied to the well-smack fleet of Kwok Wai-tak and his family, some of the finest people I have ever known. I would buy seafood and run with it to the excellent restaurant of ex-fisherman Tam Muk Choi. I ate the best I ever have or ever will. The bay's waters are too dirty now, and fish are kept in tanks; it's not the same.)

Good seafood cooking is kept simple. Fish is typically steamed with the classic "fish flavors"—oil, garlic and/or green onions, and ginger, often with wine, soy sauce, dried tangerine peel, tree fungus, or a coriander leaf or two added somewhere in the process. ("Eggplant with fish flavors" on a menu means not an eggplant that tastes like a fish but eggplant flavored with these things.) In Hong Kong, shrimps are best liked when simply boiled; they are often eaten with a soy sauce and chile

pepper dip. Crabs are cooked as simply as possible and dipped in red vinegar. Of course fish cookery can be very complex, but such methods tend to be reserved for inferior fish.

In old China, lack of refrigeration and hot, humid climate guaranteed that fish salting would be important. Lightly salted fish spoils fairly easily, making it at best no treat and at worst downright dangerous. Not only food poisoning but cancer from nitrosamines created by bacterial breakdown of flesh are risks. Well-salted fish, however, can be a true gourmet delight. Fish with thin bodies and firm flesh are best; the salt penetrates them thoroughly and doesn't reduce them to mush. Pomfret and white croaker are typical species used. They are often "salt-hidden"—buried in salt for a thorough job, rather than merely being rubbed with salt. They are then sometimes chunked and packed in vegetable oil. Smaller fish are simply dried, as are small shrimp. The latter, known as "shrimp seeds" or "shrimp children," are a common flavoring; they are, for instance, often stir-fried with cabbage. Small shrimp are also made into shrimp paste. Packed alive in barrels with enough salt to eliminate microbial action, the shrimp digest themselves, producing a fine, purple, highly nutritious, predigested food product of rather strong but interesting flavor. Essentially the same thing is known as *belachan* in the Malay world. Similar products made from fish instead of shrimp are typical of cooking throughout Southeast Asia: *bagung* and *patis* in the Philippines, *nuoc mam* (fish water) in Vietnam, and so on. *Patis* and *nuoc mam* are liquids drained off from the autolytic brew: *bagung*, *belachan* and Chinese shrimp paste are solids. The Chinese evidently learned this art from Southeast Asian peoples and have not really taken to shrimp paste; it is made fairly widely in the deep south but not much used except by Chinese with some Southeast Asian experience. Westerners who are repelled by it should remember that anchovy paste (a descendant of Roman *garum*) is the same sort of thing and tastes a lot stronger. Such products are not rotten or fermented (contrary to frequent mistaken claims in the popular literature), simply predigested.

Near water, most animal protein came from that source, and the choicest foods of all East Asia are aquatic. The greatest potential for increasing world food production lies in farming the sea; only the Chinese and Japanese have seriously developed its potential. Their tastes condition their development strategy and guide it in much more promising ways than orthodox Western agriculture holds. Aquatic farming is naturally coupled with wet-rice agriculture. Here, even more than elsewhere in Chinese food ecology, we see the mutual feedback and mutually beneficial relationship between taste and ecology. The Chinese fondness for aquatic foods can be traced right back to the earliest literary documents, and even to the earliest art, since the designs painted on Pan-p'o pottery emphasize fish and the bones in the site confirm that river fish were a major food.

By 5000 B.C., the Neolithic villagers' main meat animals were pigs and chickens, as they are in China today. The villagers also grew and ate sheep and dogs, as do the Chinese now. It was not long before the cow, water buffalo, and duck were added



and the Chinese meat roster was essentially complete. The pig, sheep, and water buffalo were apparently independently domesticated in China at about the same time that they were domesticated in the Near East, or, in the water buffalo's case, India. The duck (mallard, *Anas platyrhynchos*) was probably domesticated in China and spread to the West, like the carp. The Chinese goose is a different species from the tame goose of Europe (*Anser cygnoides* vs. *Anser anser*), so there is no question of anything but independent domestication here; the water buffalo too was originally a different form from that tamed in India. For the dog, cow, and goat—the last appearing by about 3000 B.C.—China drew on the Near East. With the exception of a few very minor creatures (rabbit, pigeon, guinea fowl, and a few newcomers like the American turkey and muscovy duck), these constitute China's domesticated animals. Horses are known and widely used but not much eaten, due simply to lack of availability; they were a delicacy in ancient China, though the liver was avoided because it was thought to be poisonous. (The early texts speak of this so matter-of-factly that I suspect the horses really were concentrating toxins from some food in their livers.) Cats, rats, mice, and other oddments have been eaten in China, but only rarely, contrary to certain stereotypes current in the West. Every wild animal that can be found has been eaten somewhere by someone, and early Chinese lived on game to a great extent; as civilization advanced, game grew rarer, but it remains very popular today. Snakes, frogs (called "paddy chickens" when used as food), grasshoppers, and other small game are as popular as big game, often for reasons rooted in folk medicine.

I begin with "the gentleman that pays the rent": the Chinese might well borrow this Irish name for swine. The pig is overwhelmingly the chief meat source in China, outranking all other land animals combined. Daily meat for the rich, festival fare for the poor, source of oil and industrial products, and a constant feature of the scene, it is so common that the vast majority of the world's pigs are on Chinese farms. The traditional porker is lean, rather slow-growing, but exceedingly fertile, tough, resistant to disease, and of excellent quality as a meat and lard animal. Modern outcrossing has produced a faster-growing but otherwise inferior animal, and Chinese pork has deteriorated depressingly; some attempt to correct the situation is now underway. Traditionally, pigs did not get fat enough to be a major source of cooking oil, but in a few areas—especially Fukien and Yunnan provinces and some montane parts of the central south—they filled this role. As for cooking the pig, suffice it to say that another book as long as this one would be needed to provide even an introduction, and that every part of the pig is used (even the bristles, for toothpicks, skewers, and food-cleaning brushes) in every conceivable way. Its blood is coagulated and fried, especially in Fukien. Superb sausages and hams are made; the hams from Yunnan Plateau are among the finest in the world. Sausages are often fermented with *Lactobacillus*, like salami, and high-proof spirits are often part of the preservative.

Among mammal meats, mutton probably ranks a very long second. It is indifferently from sheep and young goats and is eaten primarily in the west, especially

among Muslims and minority peoples. Beef is rarely eaten, avoided by traditional Chinese because of an Indian-derived respect for the cow that entered with Buddhism. It tends now to take the form that the cow is too useful to be treated with such disrespect. Perhaps more cogent is the fact that Chinese beef—which traditionally comes from animals that die after long careers of pulling the plow—is no delicacy. Indeed, by comparison, shoe leather is definitely appealing. But the spinal cord is good when sliced and stir-fried with vegetables.

As is well known, East Asian peoples make little use of dairy products. Milk is considered food for babies that comes from human females. The Chinese and most minorities in China avoid all dairy foods. The great exception is the band of nomadic or nomad-influenced peoples occupying China's west. Not only the Mongols, nomadic Turkic groups (not so much the settled ones), and Tibetans, but also the western Chinese eat yogurt, cheese, kumys (which tastes like spiked thin buttermilk), and other fermented products.

Most Asian peoples (and the majority of the world's peoples) cease to produce the enzyme lactase at the age of six or a bit older. Thus they cannot digest lactose, and large amounts of fresh milk give them bad indigestion. But *Lactobacillus* spp. break down lactose, producing lactic acid, which helps to preserve the resulting yogurt. The yeasts that create kumys also break down lactose, but they work only on mare's milk; other milks have too little sugar and phosphorus to feed them. Rudimentary cheese-making occurs among nomadic groups. Butter is the principal cooking oil among these peoples, as well as the universal unguent; fermented to allow storage—and thus tasting slightly cheeselike—it is the favored food of Tibetan nomads. (With good care in their cool climate it does not spoil but ripens; why Westerners who eat cheese refer to this butter as rancid is unclear.)

Much effort has gone into explaining the East Asian abstinence from dairy products. The failure of Central Asian influence to spread dairy foods in China, even though Chinese in Yunnan and the Central Asian borders (many probably sinicized Mongols and Tibetans by ancestry) have taken to yogurt, is as strange as the failure of Indian influence in Southeast Asia. The conversion of that region to Hinduism and Buddhism in the Middle Ages went with an increase in the use of milk products, as did the rise in Indian influence in China in the T'ang Dynasty. But the use of milk products waned, and not wholly due to the decline of Indian religions, since Burma and Thailand are still thoroughly Buddhist and resist dairy products almost totally. Yogurt maintains an amazing, precarious foothold in Sumatra, among the Batak and Minangkabau peoples, isolated until fairly recently. There it is a rare delicacy—I believe one of many vestiges of the great period of Indianization in 600–1200 A.D.

Recently, the lack of lactase in adult East Asians has been adduced to explain this avoidance, but it does not stop the Indians and Central Asians from depending on dairy foods for most of their animal protein. The classic Chinese explanation is surely in part correct: prejudice against Central Asians and desire to avoid economic dependence on them. Since China is not good pastureland, the Chinese would have had to

import most of their dairy foods. They traditionally imported horses and thus were perpetually dependent on Central Asia for animal power. Doubtless another dependence would have been too costly and too humiliating. Yet this does not explain the equally pronounced rejection of dairy foods in Southeast Asia. One can only propose that given the environment, which is not only bad for raising cattle but also for keeping milk even when preserved as yogurt or cheese, milk processing was too difficult, expensive, and dangerous. Cattle and buffaloes are kept in great quantities but are used as work animals, able to feed only their own offspring. Around the world, hot, humid areas are poor for traditional strains of cattle, although in India strains and techniques were developed due to religion and in the teeth of opposition from the environment. Chinese and Southeast Asians more sensibly invested in beans and fish for their protein. (Soybeans now provide equivalents to all dairy products, including yogurt and cheese.) The rise in popularity today of canned milk and other milk products shows that the avoidance is due neither to intrinsic dislike nor to any deep-seated opposition or taboo. Indeed, some South Chinese dishes now incorporate evaporated milk in a "cream sauce" derived from European influence; it has been thoroughly Sinicized. Cheese, however, is usually too much for Chinese to swallow—I have heard it described, to translate roughly, as "the mucous discharge of some old cow's guts, allowed to putrefy." Even Chinese who have learned to eat this product usually confine their attentions to the mildest of "American cheese"-type products.

Among minor animals, the dog may be preeminent. A delicacy throughout China in ancient days, this so-called "fragrant meat" is now eaten only in the south; Islamic and perhaps Buddhist influence ended its popularity in the north, in spite of its high status in classical texts such as *Mencius* and the *Li Chi*. In the south it is eaten primarily for winter warmth, for it is fatty. Tender young puppies can be good, but dog meat is generally tough and rank, no delicacy by anyone's standards. Cats are very rarely eaten, but a dish called "dragon, tiger, and phoenix" is made from snake, cat, and chicken. I suppose it is one of the most hyperbolically named dishes in the world.<sup>4</sup> It, too, is eaten more for medicinal than for gustatory reasons.

Poultry are festival fare, traditional for all special occasions from sacrifices to the gods to visits by relatives, but not much eaten otherwise; they were expensive until recently. Much care is devoted to raising and feeding them properly. The best are those raised in the backyard of a home run by a good cook. Eating the table scraps of the world's finest cuisine all their lives, they become unbelievably good, especially the pigeons (*Columba livia*, a borrowing from the Middle East, perhaps in medieval times), which are equalled only by chickens fed exclusively on sesame seeds. Such chickens, killed at a tender age, are the proper raw material for the Hainan Island national dish of chicken rice. The chickens are boiled, the rice is boiled in the stock, some more of the stock becomes a soup, and the three-course meal is served with various sauces and garnishes. A good meal of chicken rice is better than any fare I have had in fancy Chinese restaurants; but the chickens must be fed right. Peking

duck, too, is so dependent for quality on its feeding that the recipe given in one authoritative cookbook in China begins with the duck egg and tells the prospective cook how to incubate, hatch, and raise the bird, so that not one second of its life is left to chance. The duck doesn't get to the kitchen for several dozen paces.

Poultry is almost as versatile as pork, though no one has yet figured out how to eat the feathers, and no one makes sausages or preserved meat out of chicken (it's too valuable fresh). Duck is preserved, however, especially in the flattened and dried *la ya*. Blood, tongues, and brains are choice. "Beggars' chicken" is a specialty of Shanghai. Chickens are stuffed and enclosed in a thick ball of mud, which is put in the fire (or oven) and baked. This dish originated among beggars who were reduced by desperation to "borrowing" a chicken or two; the mud ball supposedly served as camouflage. ("Chicken? What chicken? You're free to look all you want." Likewise, the "bandit's lamb" of Mediterranean countries is wrapped and buried in the ashes.) The mud ball also seals in the flavors so that the cooked meat is meltingly delicate. Leaves such as lotus, with their own good flavor to add, enfold the chicken before the mud is put over all.

Snake meat, believed to be tonic and heating, is eaten primarily as a medicine. The more poisonous the snake, the higher the medicinal value. Snake meat as normally cooked is virtually indistinguishable from the white meat of chicken. Like dogs, snakes are now avoided in the north, but, again, this is a recent and foreign idea. Snake is expensive and eaten primarily in winter. Frogs are popular; as in France, it is the legs that are relished, because they have the big pieces of meat. Grasshoppers, caterpillars, and other insects have been famine food for thousands of years, and fried grasshoppers are relished as a rustic snack in some areas (they are not very good but no worse than most American cocktail snacks). Any and all wild animals are eaten, at least during famines, but the only ones worthy of note are those with traditional medical values ascribed to them. Animals that are very tenacious of life, or very unusual-looking and -acting, are regarded as having special power; they are *pu* (supplementing). Notable *pu* foods are pangolins, raccoon dogs, soft-shelled turtles, tortoises, snakehead fish (some say), birds of prey, wild ducks, and similar wildfowl, and several larger game animals. (Tortoises, because of their phallic-looking heads, are of obscene significance in folklore. They are believed to mate with snakes, so a "tortoise egg" is a miscegenated bastard, and one of the worst insults in Chinese.) Some of these animals stand on their own merits—the soft-shelled turtle is superb when cooked right. On the other hand, the only recipe I can find for a pangolin—a scaly creature that lives on ants and termites—calls for long stewing with just about every strong-flavored item in the Chinese culinary arsenal. It seems suspiciously close to the classic occidental recipe for cooking a coot: "Put the coot in water with a brick. Boil till brick is tender. Throw the coot away and eat the brick." Only a step away is real magical practice and folk medicine. Owl soup for headache, "white crane" (egret) stew for longevity, dried sea horses, boiled nightjars for loss of some of one's soul, and other minor folk nostrums are found in the villages, and some have

entered the classical Chinese herbal tradition. Their contribution to the Chinese diet is, however, insignificant.

Calvin Schwabe, in his book *Unmentionable Cuisine* (1979), comments at length on the Chinese ability to make almost anything taste good and to use almost all animals as food. It certainly makes more sense to eat pests, or at least feed them to the pigs and chickens, than it does to dump poison on them and everything else. It is also eminently sensible to make full use of the earth's resources by drawing on all possible ecological systems. Relatively free from taboos and avoidances, the Chinese have achieved a unique balance with their world, a unique success at supporting maximum populations over maximum time. As Schwabe points out, a world committed not only to using only a few animals but featuring one of the most inefficient and wasteful of them (the cow) is not destined to endure.



## Some Basic Cooking Strategies

### *Batterie de Cuisine*

Chinese cooking is a cooking of scarcity. Whatever the emperors and warlords may have had, the vast majority of Chinese spent their lives short of fuel, cooking oil, utensils, and even water. Nothing comparable to the huge cookware stores that now bloom in elite occidental suburbs could exist in China. Chinese ingenuity has gone in another and ecologically sounder direction: designing the most versatile possible tools that can be used for every imaginable task.

The traditional Chinese home is based around the stove, which is so important that the Chinese phrase for breaking up a household translates as "dividing the stoves." Living in Chinese houses, I learned that one has free run of everything except other families' bedrooms and stoves. The owner—if occupying the premises—reserves the right to use the big stove; renters of rooms must provide their own portable ones.

The big stove is an impressive creation. It seems to have reached its final form just before the Han Dynasty; it is seen fully developed in models in Han tombs. Standing two or three feet high and covering an area up to six feet square or more, it is a brick or adobe construction. Usually rectangular, it can also be built freeform to adapt to a rock that the house has been built against. The stove centers on a stoke-hole that opens onto a fuel-burning chamber. Above this are holes that serve the function of burners. Pans can be fitted tightly on them, so that no heat escapes. The brick sides insulate the firebox. Thus even a tiny amount of very poor fuel will suffice to cook a lot of food.

The traditional portable stove is similar, but made of pottery. It is now usually made in an old galvanized bucket, suitably cut up for the purpose. Other portable stove models exist. Today, small kerosene stoves tend to replace older models, and of course in Hong Kong and other affluent urban areas the full panoply of electric and gas stoves, rice cookers, and so forth is standard.

The old brick stove was a god's residence. God of the inner sanctum, tutelary deity of the household, he was a more intimate counterpart of the door god who protected the house at the front door. The stove god or kitchen god was told all the family's life events; he was the first to learn of the births, deaths, marriages, and mi-