etables, especially carrots, quickly raise blood sugar levels. Micro-algae and bee pollen also are used successfully for this purpose. The easiest choice for a snack, of course, is the concentrated sweeteners and fruits, since they satisfy quickly—but they may cause even lower blood sugar later. Fruit and sweeteners vary greatly in their ability to stabilize blood sugar (see *Sweeteners,* Chapter 11). The previous chart summarizes the suggestions for the three meal schedules.

For All Meal Plans

A) The Morning Elixir: Soon after rising, quench thirst with water, herbal tea, vegetable broths, green drinks (wheat/barley grass or spirulina drinks), or vegetable or fruit juice. These drinks should be at least slightly warm.

B) Interval between rising and first meal: Wait one to two hours or more before first meal; eat only when hungry—this applies to all meals.

C) Very weak or sick people should eat according to condition and hunger. See *Excess and Deficiency,* Chapter 6.

Food Combinations

The Importance of Food Combining

Too much elaborate food encourages nearly everyone—even people who normally live moderately—to overindulge. The consequence is digestive fermentation, contaminated blood, and a confused mind. Common digestive disturbances from poor food combining include decreased nutrient assimilation, intestinal gas, and abdominal pain and swelling. If such eating practices continue over time, degenerative conditions can ensue.

Food combining and most other successful nutritional guidelines follow a central physiological principle: Proper and complete assimilation of food is a result of the action of digestive enzymes. Different types of food (even foods within the same group, such as two different grains) require their own unique enzymes.

When many different ingredients are eaten at the same meal, the body becomes confused and is not able to manufacture all of the necessary enzymes simultaneously. At this point digestion still takes place, but partially through bacterial action, which always causes fermentation and the associated problems mentioned earlier.

When the protein in any food is digested enzymatically, the result is that amino acids are made available to repair and maintain the body. Bacterial digestion also makes amino acids available, but creates additional poisonous by-products such as

ptomaines and leucomaines. Similarly, bacterial fermentation of starch results in toxic products—alcohols, acetic acid, lactic acid, and carbon dioxide. The healthful digestion of starch by enzymes yields only simple sugars. Digestive fermentation is not to be confused with more healthful, controlled fermentations such as those used in sourdough products, sauerkraut, miso, tempeh, etc.

Some people tolerate certain food combinations that others do not. During a time of illness or crisis, it may be imperative to adhere to stricter than usual rules of food combining. In any case, when a grain- and vegetable-based diet is followed without good results, it is usually due to improper food combining.

Three food-combining plans are offered here. Plan A is only for those with normal digestion and without serious health conditions; Plan B, the most effective program for digestive excellence, is needed most by persons with poor digestion and/or major health problems; Plan C, a one-pot meal, can include more or less restrictive combinations, depending on the person's digestive strength. It is well-suited to individuals deficient in *yin* fluids.

The food-combining principles of Plan B reflect the eating patterns of our earliest ancestors, when a food was eaten either alone or combined with only one or two other foods. Such primitive eating patterns were practiced for tens of thousands of years and are the foundation of our digestive capacities. For those in a weakened or stressed condition, it is most beneficial and natural to revert to such a simple dietary plan.

Eating simply when in good health is also a way to preserve vitality. A meal of few foods does not mean a paucity of nutrients, since each meal can contain foods different from those of the last meal.

Some of the healthiest people eat simply, as do many children, who are more closely in touch with their instincts. Instincts become stronger during sickness—thus the tendency for ailing people to know what they need (often the simplest fare). Most people will do best when, after exploring their tolerances, they choose suitable parts from each of the following plans.

The rules of Plan A recognize that many people need to eat foods in a certain order and combination for satisfactory digestion.

Plan A: Food Combining for Better Digestion

Fundamental Rule: Simpler meals digest better.

Rule 1. Place highest-protein foods at the beginning of the meal.

The highest-protein foods have priority because they require copious stomach acids, whereas the starches and other foods, by comparison, use very little. Generally, the foods with the highest protein are legumes, nuts, seeds, and animal products. When protein-rich foods are eaten after starches and other food, stomach acids will not be sufficient for their digestion.

Rule 2. The salty foods should be eaten before foods of other flavors.

A small amount of soup can be eaten first if it contains salty high-protein and enzyme-rich products like miso or soy sauce, which activate and encourage digestion. Otherwise, soup dilutes the initial digestive juices needed for protein breakdown and should be saved for the end of the meal. Salty foods go before other flavors since salt has a strongly descending (*yin*) aspect and gravitates to the bottom of the stomach, stimulating gastric juices for the digestion of all other food. When a salty product such as pickles or salt plum is eaten at the end of the meal in small quantity, it can help resolve the gastric chaos resulting from overeating or combining too many foods.

When the stomach is distressed, traditional Chinese medicine teaches that its normally descending energy tends to "ascend," with signs of belching, vomiting, or heartburn; salt can help to reverse this condition, although too much salt can worsen it. The best use of salt is in combination with food near the beginning of a meal; its application as an after-dinner digestive aid is a special use. Legumes are best eaten before grains, not only because of their higher protein content but because they are generally prepared with more salt to aid in their palatability and digestion.

Rule 3. Proteins, fats, and starches combine best with green and non-starchy vegetables.

Green vegetables are the food best eaten at the same time as proteins or starches; however, it is not customary for people with normal digestion to isolate proteins from starches and eat them first, combined only with green and non-starchy vegetables. While such isolation can still be helpful, the minimal intention of Plan A is that when protein, starches, and greens are in the same meal, protein food is emphasized at the beginning of the meal and eaten with generous amounts of green vegetables to aid its digestion. The relationship between greens and protein digestion is discussed in the chapter on protein and vitamin B_{12}.

The relationship of protein foods to starches should also be considered, because the interdigestibility of protein and starch is influenced by the proportion of each. A concentrated protein digests much more easily if it is consumed in relatively small amounts. For example, many people digest a bean and grain meal better if the ratio of beans to grains is at most one-to-two, although ratios as low as one-to-seven are often advisable. (Plan B, described later, is for those who must not combine protein and starch.)

In any meal, protein foods are difficult to digest completely. Excess protein, particularly that of animal origin, is the major dietary source of indigestion and sickness in the West and other areas of the world where it is consumed. The problem with protein in the form of animal products is that it nearly always contains substantial saturated fat. These and most other fats and oils greatly slow the digestion of protein. The situation is made even worse when animal products already rich in fat are fried in cooking oils. The key to using fats and oils (e.g. butter, cream,

cooking and salad oils) is to minimize their consumption, especially in the protein-rich meal.

Starches, like proteins, fats, and oils, combine well with green and low-starch vegetables, and less well with other starches, since each type of starch requires a slightly different digestive environment. Ideally, a single starch per meal is preferable, although most healthy people can tolerate two grains, or one grain and another starch in vegetable form. For example, the nutrition and digestibility of a meal which already contains rye bread and beets—two starches—would not necessarily be improved if the bread included another grain such as wheat, since the less-efficient digestion of both grains would tend to offset the added nutrients of the wheat. This is especially true in persons with subnormal digestion.

Rule 4. Fruit and sweetened foods should be eaten alone, or in small amounts at the end of a meal.

Because of their relatively simple carbohydrate structure, fruits and concentrated sweeteners pose a special problem when combined with other foods. When eaten in a meal, they digest first and tend to monopolize all the digestive functions; the other foods wait, and ferment. Fruits and sweeteners mix most poorly with starches and proteins; their combination with green vegetables is not necessarily objectionable. Lettuce and celery, for example, are commonly thought by many food-combining experts to aid the digestion of fruit and simple sugars. In a meal of proteins or starches, we recommend that the fruit or dessert be eaten at the end of the meal, preceded by a large green lettuce salad. This order is due to the expansive and ascending nature of the sweet flavor. In fact, the green salad would be a much better way to end a starch or protein meal.

Ideally fruit, either raw or cooked, and products made with sweeteners are eaten by themselves as refreshing snacks or energizing small meals. Consider an oatmeal-raisin-almond cookie made with amasake sweetener. This combination of starch, fruit, protein, and concentrated sweetener, as good as it may taste, offers a strong challenge to any digestive system, even if not eaten after a meal of several other ingredients.

Plan A: Recommended Order of Eating

I **Protein**
miso soup*
beans, nuts
cheese, eggs
fish, meat

II **Starch**
rice
bread
potato
winter squash

eaten with
Green and **Non-Starchy Vegetables** (cooked or raw)
kale
cabbage
broccoli
turnip greens
mushroom
radish

III **Salad**
raw vegetables
sprouts

IV **Dessert**
fruit
dishes sweetened with fruit, dried fruit, and/or concentrated sweeteners such as molasses and maple syrup

The above four phases of Plan A are not a recommendation that all four categories should appear in a balanced meal. In almost every case, the fewer the types of food in a meal, the better the digestion.

*Soup is eaten first if it is a salty enzyme-rich soup made with miso or soy sauce. A light vegetable soup is eaten at the end of a meal.

Notes: 1) Further examples of protein, starch, and green and non-starchy foods appear later in this chapter. 2) The recipe section contains a large variety of vegetarian dishes, ranging from the very simple to the relatively complex. The more complex recipes are intended for people who have good digestion, and especially for those in transition from a complex diet, who still desire strong flavors in foods. Even then, these recipes are for occasional use only.

Plan B: Food Combining for Best Digestion

Plan B—with some features of Plan A but more restrictive—is the ultimate plan for the person with sensitive or otherwise poor digestion. It is also the best plan for anyone in times of sickness.

Individuals in good health, of course, might wisely choose to follow Plan B to boost their vitality. It is also an effective plan when greater focus and clarity are desired. Some people find it a helpful practice to follow Plan B at least one day per week.

Plan B has two basic rules: 1) Eat protein and starchy foods in separate meals; each combines best with green and non-starchy vegetables; 2) fruits are eaten alone. However, several exceptions to these rules make Plan B quite flexible.

Plan B Food Combining: Exceptions

Special Combinations for High-Fat Proteins, Fats, and Oils

The protein foods highest in fats—the "high-fat proteins"—include cheese, milk, yogurt, kefir, nuts, and oil-bearing seeds. These also combine best with green and non-starchy vegetables although they have an additional feature: they combine fairly well with sour (acidic) fruits. Thus almonds and sour apples; whole sesame butter and lemon sauce; yogurt and strawberries; and cottage cheese and grapefruit are all acceptable combinations of high-fat proteins with acid fruits.

Even though acid retards the digestion of protein, it does this no more than the abundance of fat in a high-fat protein food. Moreover, acids actually help in the digestion of fats, and if combined with protein before it is eaten, also help break down protein chains. On the other hand, taking acids at the time of protein ingestion inhibits the secretion of stomach acids, which are needed for complete protein digestion. By marinating proteins such as meats and beans in vinegar or other acids, however, the acids combine with and dismantle protein chains before they enter the stomach, and very little acid, if any, is in a free state to inhibit gastric acid during digestion. This is particularly true of meats that are cooked after marination (described in the *Protein and Vitamin B_{12}* chapter).

In this chapter, we will call "fats" and "oils" those foods that derive nearly all of their caloric energy from their fatty acid content. These are to be distinguished from the high-fat proteins above because fats and oils contain comparatively little protein. Examples include lard, butter, olives, avocados, cream, sour cream, and oils (e.g., flax, sesame, olive, coconut, *ghee* [clarified butter]). Fats and oils, however, unlike proteins and high-fat proteins, do not greatly retard the digestion of starches. Thus bread with butter, rice and olives, potato with avocado, and cream or fresh flax oil on oatmeal make fairly good combinations. The digestion of fats and oils, similar to all protein foods, is greatly aided by consuming them with green vegetables. In starchy meals, therefore, they digest best when accompanied by abundant leafy greens.

Fats and oils also combine with acid fruits. One often sees this combination in lemon and oil salad dressings.

Regardless how well they are combined with other foods, any excess of fatty/oily food in the body wreaks havoc on the liver.

Drink Milk Alone

According to the Old Testament, milk is not to be consumed with meat. In nature, mammals take milk by itself; even when weaning, they will not take milk at the same time other foods are being eaten. Milk that is consumed along with another food tends to curdle around it, insulating it from digestion. Curdled (fermented) milk products such as cheese, yogurt, and buttermilk do not cause this problem, and like the other proteins, combine very well with green vegetables.

Fruit Exceptions

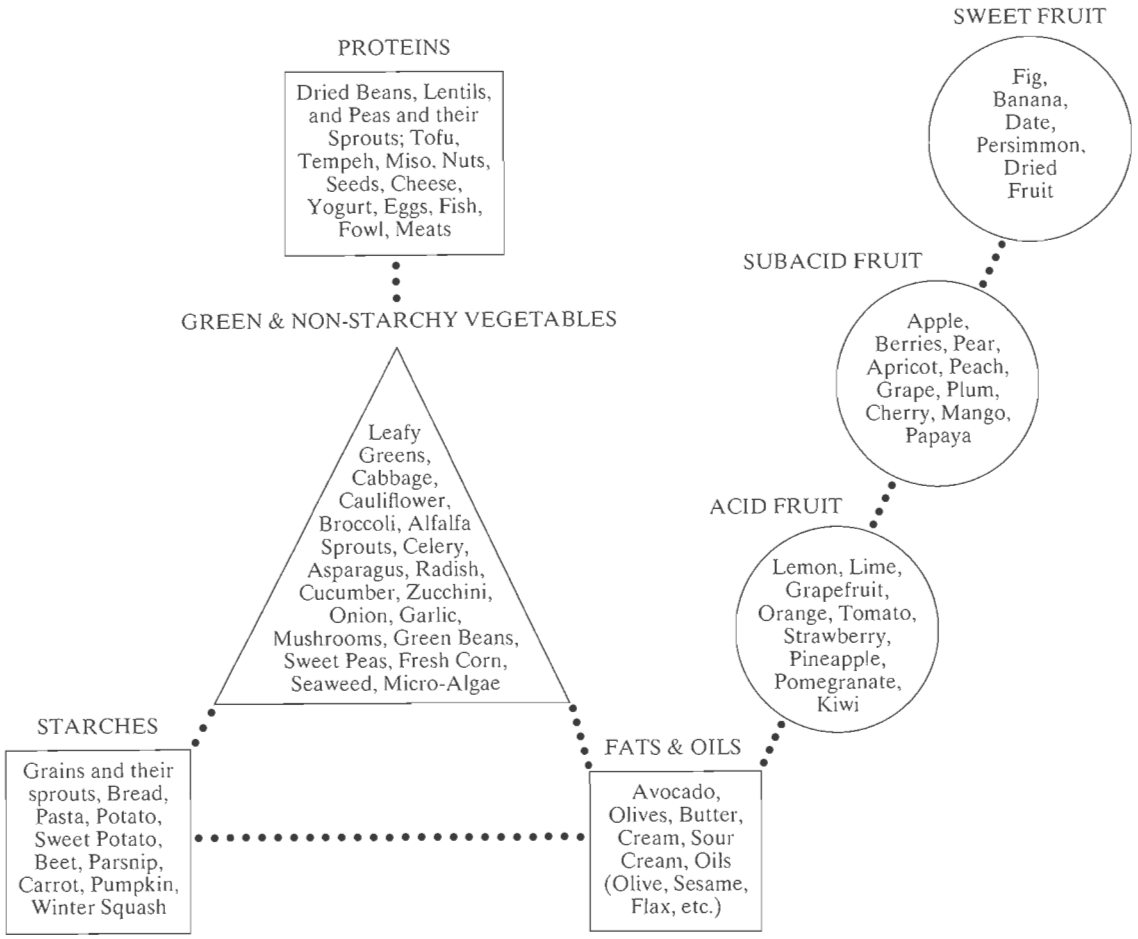
Melons are eaten alone since they digest very rapidly; any other food they are eaten with slows their digestion, causing fermentation.

Lemons, limes, and tomatoes are acid fruits that also combine with green and low-starch vegetables. This is very useful information for making salads, especially of the high-protein variety, since we already know that acid fruit combines with high-fat protein. For example, a high-protein salad can include greens and a high-fat protein (nuts, seeds, avocado, or yogurt), combined with lemon, lime, and/or tomato.

Celery and lettuce, as noted, are two vegetables that can be eaten with fruit in general and even enhance the digestion of fruit and simple sugars. From the perspective of traditional Chinese medicine, lettuce and celery have the ability to dry *damp* conditions, including the fermentation in the digestive tract which regularly occurs when sweet foods are eaten. (Lettuce and celery are discussed further in "Balancing Sweet Foods and Maintaining Calcium," page 227.)

Drinking fruit juice between meals can upset digestion unless two hours have passed since a starch meal or four hours after a meal containing concentrated proteins. Those who need the cleansing, cooling qualities of most fruit—individuals who are overheated, toxic, and show signs of *excess* from a dietary history of too much meat and other rich food—may do well with one meal of the day, usually the first, consisting entirely of fruit. This is an especially good idea for anyone if fruit and fruit juices are being combined poorly with foods such as grains and vegetables or are being eaten soon afterward; it is much better to have one completely fruit or fruit-juice meal. Please refer to "Fruit" in the recipe section for warming/cooling and other properties of common fruits.

Food-Combining for Maximum Digestibility (Plan B)



FOODS THAT CAN BE COMBINED AT A MEAL ARE *DIRECTLY* CONNECTED BY A DOTTED LINE.*

Restrictions and Special Combinations:

- At most take either one protein or one starch per meal.
- Take melons alone.
- Take milk alone.
- Lemon, lime, and tomato (which are acid fruits) combine well with green and non-starchy vegetables.
- Lettuce and celery (which are green vegetables) combine well with all fruits.
- Nuts, oil-rich seeds, cheese, yogurt, kefir, and other fermented dairy foods (which are high-fat proteins) combine well with acid fruits.

***Examples:** Either proteins or starches combine well with green and non-starchy vegetables, but not at the same meal (no dotted line between starches and proteins); likewise, sweet and acid fruits do not combine well with each other.

Plan B Examples

Protein Meals
- sesame-seed yogurt on steamed kale and alfalfa sprouts
- almond-lemon sauce on broccoli
- lentil-hijiki seaweed soup and sauerkraut
- hatcho (soy only) miso-seaweed mushroom soup
- sprouted mung bean-lettuce-parsley salad
- tofu, cabbage, fresh sweet pea stew
- tempeh-radish-spirulina sauce over watercress
- sliced orange sections in yogurt
- grated goat cheese on endive-tomato salad

Starch Meals
- buckwheat groats and cabbage-mushroom soup
- sweet potato with avocado butter and parsley garnish
- shredded beet, beet green, and radish sprout salad
- rice-nori seaweed rolls
- carrots, sweet corn, and green beans topped with fresh flax oil
- sprouted wheat bread
- quinoa cereal with brussels sprouts and cauliflower
- winter squash and turnip greens
- potato and sour cream
- avocado and sprout sandwich
- oatmeal-dulse cereal with butter

Leafy Green and Low-Starch Vegetables
This group combines most widely of all, and encourages the digestion of proteins and starches (see examples in protein and starch meals). Each member of this group also combines well with all other members, although mix three or four at most for better digestion. Meals of only leafy green and low-starch vegetables are usually either salads or cooked vegetable dishes, and examples are obvious and plentiful. Relatively high protein sources are available in this group: fresh sweet corn, fresh peas, and green beans; also seaweeds and micro-algae such as spirulina and chlorella. Eating only from this group is highly cleansing; the fruits are even more so.

Fruit Meals
- stewed dried apricots and raisins
- apple-pear juice
- cantaloupe
- tomato-lettuce salad
- diced apples and celery
- crushed pineapple with almonds
- huckleberries
- fresh figs
- bananas and peaches

In the following chart Plan B is summarized and is listed alongside Plan A for comparison.

Food Combining Plans A and B

Food Group	Examples	Plan A: Combining For Better Digestion	Plan B: Combining For Maximum Digestibility
Proteins	Legumes (beans, lentils, peas), bean sprouts, tofu, tempeh, miso, soy soy sauce; all meats, fish, eggs	Combine best with green and non-starchy vegetables. Protein foods are best eaten before starches and fats. At most two proteins per meal.	All proteins combine only with green and non-starchy vegetables; an exception is that high-fat proteins also combine with acid fruit. One protein food only per meal.
High-Fat Proteins	Nuts, oil-bearing seeds, dairy products		
Fats and Oils	Avocado, butter, cream, sour cream, oils (olive, sesame, flax, ghee, etc.)	Combine best with green and non-starchy vegetables. Combine fairly well with starches and acid fruit. Eat in small amounts.	Combine only with green and non-starchy vegetables, starches, and acid fruit. One fat or oil only per meal.
Starches	All grains and cereals including bread, pasta, and sprouted grains; potato, sweet potato, beet, carrot, parsnip, winter squash, pumpkin	Combine best with green and non-starchy vegetables, and are best eaten after protein foods. At most two starches per meal.	Combine only with green and non-starchy vegetables and fats and oils. One starchy food only at a meal.
Green and Non-Starchy Vegetables—The Hub of Food Combining			
Leafy Green Vegetables	Chard, kale, spinach, parsley, watercress, lettuce, cabbage, bok choy; turnip, mustard, collard and beet greens; sprouts of alfalfa, cabbage, radish, and mustard; seaweed and micro-algae (spirulina, wild blue-green, chlorella); wheat and barley grass	Combine with all other foods.	Combine with all other vegetables, proteins, starches, fats, oils, and three acid fruits—lemon, lime, and tomato.
Non-Starchy Vegetables	Cucumber, broccoli, cauliflower, celery, turnip, radish, onion, green bean, sweet corn, sweet pea, zucchini, leek, garlic, eggplant, bell pepper, mushroom, asparagus, summer squash, okra	Combine with all other foods.	Combine the same as leafy green vegetables above.

Food Combining Plans A and B (continued)

Food Group	Examples	Plan A: Combining For Better Digestion	Plan B: Combining For Maximum Digestibility
Fruit			
Sweet:	Banana, fresh fig, raisin, all dried fruit, date, persimmon	Preferably eaten alone, although can be eaten at end of meal, ideally preceded by a green salad.* Fruit combines with other fruit according to rules of Plan B.	Eat as a meal by itself. Exceptions: all fruits combine with lettuce and celery, and acid fruits combine with fats, oils, and high-fat protein. All fruit combines with all other fruit except sweet and acid fruits do not mix, and melons are best eaten alone. Combine only two or three fruits at once.
Subacid:	Apple, berries, apricot, peach, grape, plum, pear, cherry, mango, papaya, nectarine		
Acid:	Orange, lemon, lime, grapefruit, pineapple, currant, pomegranate, tomato, sour apple, strawberry, kiwi		
Melons:	Watermelon, cantaloupe, casaba, etc.		
Concentrated Sweeteners			
	Honey, maple syrup, rice syrup, barley malt, amasake (rice-koji ferment), dried unrefined cane juice, fruit syrups and juices, and the herbs stevia and licorice	Sweetened products such as herbal teas with honey and desserts are eaten alone for best digestion. If combined with a meal, they are taken at the end in small amounts, ideally preceded by a green salad.*	Eat alone (e.g., amasake drink)—not with any other foods except herbal teas or water.

*The greens recommended for this salad are lettuce and/or celery.

Plan C: The One-Pot Meal

Traditions in India and China use foods of multiple ingredients for healing when they are prepared correctly.

In Plan C, as in Plan A, one may combine a number of foods at a single meal. But instead of focusing on the order of foods eaten, it calls for cooking all ingredients for a meal in a single pot with ample water. Typical examples of one-pot meals are soups, stews, and congees (see "Congees" in recipe section). One-pot meals in East Asia may include ingredients such as grains, vegetables, legumes, seeds, herbs, and/or meat. The way this plan works to minimize digestive problems resulting from combining ingredients is explained by Robert Svoboda in *Prakruti, Your Ayurvedic Constitution* (Geocom, 1989): In a one-pot meal, ". . . the

various foods have settled their differences in the pot, fought out whatever needed to be fought out, and come to some conclusion, which you then consume." This plan differs from foods cooked with little or no water in that a slowly cooked watery medium allows the chemicals of all ingredients to interact more completely. In a sense, the foods are being pre-digested in the pot.

Plan C is good for those who are weak or chronically ill. If digestion is also poor, C meals should be simpler, but need not be as strict as Plan B because of the harmonizing effect that occurs when foods slowly cook together in ample water. The watery nature of these meals recommends them to those with deficient *yin* fluids syndrome as well as those who cannot chew their food thoroughly.

The Art of Presentation

An essential aspect of food-combining is its overall appearance—the way the food is mixed with other food in terms of texture, size, color, and arrangement. Food that is impatiently prepared without a sense of care and nourishment will look and taste that way, and will have a poor effect on the health of those who eat it.

Awareness of presentation transforms the meal, helping one to eat less yet gain greater nourishment; the meal will be more appreciated and therefore eaten more consciously, which translates physically into improved assimilation. Intuitions are heightened and better choices made regarding the order, combinations, and amounts of the foods to be eaten.

When accomplished as an art at the highest level, food presentation is elegant in its simplicity. There are no absolute rules in this art, and the following are specific suggestions to stimulate your creativity.

- Prepare food simply but with appeal to the eyes, and with enough variety to awaken the appetite and nourish the body.
- Present only a few dishes at a meal and serve something different at the next meal.
- Present each dish so that it stands by itself yet helps balance the meal.
- Create a contrast with color, shape, and texture, and include all five flavors in the right amounts (see *Therapeutic Use of the Five Flavors,* Chapter 23).
- Serve light foods with heavy ones, sweet foods with sour ones. Balance a soft dish with a crunchy one. Enliven a bland dish with a bright color.

It must be remembered that food combining and presentation are but two important dimensions of meal planning. Choosing foods which balance specific conditions and unique constitutions is also of vital importance. For example, people who are *deficient, cold,* or suffering from candida overgrowth may not do well with cooling fruits.