

Up-Date

ON HERBAL AND NUTRITIVE APPROACHES

TASTE AND ACTION OF CHINESE HERBS

Traditional and Modern Viewpoints

Since ancient times, Chinese herbalists have classified medicinal materials according to their tastes (wei). The taste was understood to have a relationship to the effect of the herb when ingested. This relationship was claimed to have great importance in guiding the combining of herbs within formulas. In most traditional Chinese herb books, taste was the first property of an herb to be mentioned, helping to orient the reader to the information that followed. There are five tastes—sweet, salty, sour, bitter, and acrid (sometimes called pungent or spicy)—consistent with the five element concept.

Additionally, some herbs are said to be bland in taste, meaning that there is hardly any taste sensation on the tongue when the herb is tested. This description, however, doesn't quite capture the Chinese meaning: that the taste is natural, unspoiled, or pure. The bland taste is sometimes considered a subdivision of the sweet taste. Whereas sweet herbs can contribute to accumulation of dampness if taken in too great a quantity, the bland tasting herbs tend to be diuretic, a property that counteracts dampness.

There is additionally the designation astringent, which is often considered a subcategory of the sour taste. Some materials—especially minerals and shells—can be astringent without an obvious sour sensation on the tongue, while most sour tasting herbs also have an astringent action. In some texts, astringent taste is added to the basic

group of five flavors plus bland herbs, thus yielding seven categories.

It is reasonable to raise the question whether or not the tastes really have a strong correlation with herbal effects now that there is so much more known about the actions of herbs as the result of long historical experience and modern research methods. The answer to this might influence modern herbalists in their decisions about which herbs are appropriate to combine within a formulation.

Unless noted otherwise, the traditional designation of taste for herbs mentioned in this article comes from *Oriental Materia Medica* (1). In several instances, other texts may provide different designations; this is most often the case when an herb is said to have two or more tastes.

1. SWEET TASTE

The sweet taste of herb materials—and foods—is traditionally associated with a tonic effect. The main sweet tasting constituents in nature are now known to be sugars (including the complex starches, pectins, and polysaccharides)



and proteins. There are some rare exceptions, such as the glycyrrhizin in licorice which is about 50 times as sweet as sugar but is not a type of sugar; still this relatively rare exception basically proves the rule that sweets are sugars, simple or complex. The sweet taste of licorice is just barely able to cover most of the bitter taste of the root that is attributed to other active constituents. Raw licorice is often used as a detoxicant and anti-inflammatory, as one would do with bitter herbs (see below). To fully utilize licorice as a tonic herb, it is first baked with a substantial amount of honey—adding considerable sugar and possibly neutralizing some of the bitter, cooling, and anti-inflammatory components.

The sweet taste is one of the few in nature that is inherently pleasing to all, young and old and regardless of culture. This situation is no doubt a biological survival mechanism by which humans are “directed” to consume nutritious substances as food: of the three basic macro-substances needed in nutrition, sugar and protein tend to be sweet, while the third, fat, appears to elicit appreciation for other flavors, especially sweetness. In nature, fat usually accompanies protein (as in nuts and meat), and thus the food with substantial fat is usually sweet. It is rare that sweet tasting natural substances are poisonous, which is why it is the only inherently pleasing taste (especially to young children who are exposed first to the sweet taste of mother's milk).

Although the full range of tastes are associated with a relatively limited non-toxic part of our natural environment, most of them are acquired tastes, things that are first approved by those who have survived eating them, and then, with some convincing, passed on to the next generation. Green vegetables, with their slight to strong bitter component, are normally avoided by children, and by quite a large portion of the adult population in America, despite persisting pressure to eat them because of their healthful value.

In a modern culture inundated by isolated sugars, it may be hard to imagine how sweet tasting things can be considered beneficial to health, but in the native culture of China there was little in the way of isolated sweets or even overly sweet native foods. Thus, the sweet tasting food substances in Chinese culture were usually starches (such as rice), which have a very mild sweet taste, and meats (mainly chicken and pork). Relying on a natural diet, one tends to be more sensitive to the sweetness of complex sugars (a perception which seems to vanish with the experience of refined sugars), and more appreciative of their healthful qualities. Most modern research regarding dietary simple sugars is aimed at showing their negative impact, because of the large amounts consumed. Complex carbohydrates are repeatedly demonstrated to be of benefit (at least up to a certain proportion of the diet), and that focus of dietary research comes, in part, from our modern reliance on refined simple sugars replacing complex carbohydrates as the sweet part of the diet. Actually, both types of sugars can be beneficial in the appropriate amounts. Too much of some complex carbohydrates can be detrimental (too much fiber, one type of carbohydrate, can limit absorption of mineral nutrients; too much starch can eventually affect metabolic balance, especially if it is substituting for adequate protein).

Very simple sugars, such as glucose, fructose, and sucrose, are not only nutrients, but they are calming to the body. That is one reason why they are so often sought out now in the form of "treats." In modest amounts, they not

only calm agitation, they also invigorate basic energy as a fundamental nutrient. Sugars also soothe irritated membranes and are thus used successfully in making cough syrups, throat lozenges, and the like. In China, simple sedative formulas are made from jujube, wheat, licorice, maltose, and other sweet herbs; honey-based cough syrups have been used since ancient times. The modern experience of children becoming uncontrollable when consuming sweets reflects a combination of disharmony in the child's body and levels of sweets that far exceed the amounts that provide a soothing effect.

Complex sugars are even better at soothing irritated membranes, and they also bind water in such a way that they can help treat mild diarrhea. Pueraria starch and the pectin-like materials of hoelen are examples. Certain complex sugars interact with cell membranes and promote immune functions: these are polysaccharides that have been of grow-



ing interest since their isolation and testing in the late 1960's. Astragalus has been a major source of such sugars.

As an illustration of the connection between traditional and modern approaches to taste and medicinal activity, at a 1981 international conference in Harbin, China, a researcher described how she had decided to test astragalus polysaccharides, one of several types of the herb's active constituents for immune-promoting. She said that in traditional Chinese medicine, the tonic quality of astragalus was associated with the sweet taste; she reasoned that the sweet taste would likely be made up of sugars, and so she isolated various sac-

charides, and tested them for a tonic action, namely, for increasing resistance to disease as measured by specific immunological tests. Her studies showed that the astragalus polysaccharides had a marked effect on several immune responses; this work was followed up in the U.S. and became the basis of recommending astragalus for treatment of cancer patients suffering from chemotherapy-induced leukopenia.

Plant parts that have a notable sweet taste are usually fruits and roots/rhizomes/tubers. The reason fruits are sweet is that this attracts fruit eaters among the animals who will then deposit the seeds at some distance from the plant on which the fruit grew, giving a sort of mobility to the plant that it would not otherwise have. The sweet fruit may also attract certain kinds of bacteria and fungi into the process of decay when the fruit falls, providing useful nutrients to the plant. Sweet roots and tubers are storing sugars for the plant to use in growing in the early spring. These roots usually become large and sweet in the late summer or autumn.

Given the natural roles of polysaccharides as a medium for energy metabolism, as a structural material, and as a means of storage under difficult conditions, it is not surprising that the sweet tasting materials are "tonic" in effect when ingested: energizing, building, and storing.

Protein is the chemical substrate for biological activity. It is the substance of enzymes, muscles, and neurotransmitters. A substantial amount of protein in the human diet is usually obtained from animal sources. Legumes and nuts are the main edible plant sources of protein, and this protein is found in highest concentration in the seed. In fact, seeds and other reproductive materials (e.g., pollen) have high amounts of protein; it is utilized to initiate the growth process. Some seeds are too tough to eat and others are poisonous (biological mechanisms to aid survival in some cases), so we usually rely on a limited range of them. The taste of the meats, legumes, and nuts are mildly

sweet; it is common practice to add salt to them in order to broaden the taste experience in meals.

Most of the foods that are consumed in substantial quantity (e.g., grains, beans, meats, many fruits) are classified by the Chinese as having a sweet taste (they may have other tastes as well) and a tonic nature. They are considered by Chinese diet specialists as tonic to the spleen system (though the different foods can also be subdivided according to benefits to each of the five zang), which is the organ system responsible for distributing the qi from food. That is, good food benefits the spleen and builds up the qi. Our modern understanding of sweet tasting herbs has close correspondence with the traditional classifications:

1. According to five element systematic correspondence, the sweet taste is associated with the spleen, which has functions that revolve around digestion and absorption of nutrients.

2. According to the taste/action dogma, the sweet taste is associated with tonification therapy, and also calming, reducing irritation (soothing), and generating fluid (this latter function is often associated with the ability to overcome thirst and is related to tonification of qi).

Of 71 tonic herbs listed as such in Oriental Materia Medica, 38% are roots, rhizomes, and tubers, 21% are animal materials, 13% are seeds, and 11% are fruits, and 17% are from all other types of materials combined, including two mushrooms and maltose (a simple natural sugar product). Since edible animals, fruits, and seeds are more commonly listed in diet therapy rather than in herb therapy, one can understand why this herb book mainly lists the roots, rhizomes, and tubers. Not all the items in the tonic sections mentioned here have a sweet taste: of the 58 items (82% of the total materials listed) with a sweet taste, 34% are roots, rhizomes, and tubers, 21% are animal materials, 12% are fruits, 11% are seeds and 22% are all other materials combined.

Some tonic herbs with sweet taste as the sole classification given (e.g., not sweet and bitter):



Herbs with sweet taste

Qi Tonics	Blood Tonics	Yang Tonics	Yin Tonics
Astragalus	Gelatin	Astragalus seed	Broussonetia
Dioscorea	Longan	Antler gelatin	Dendrobium
Codonopsis	Lycium	Cordyceps	Gallus (chicken gizzard)
Ginseng leaf	Rehmannia (cooked)	Cynomorium	Soja (black soybean)
Licorice	Walnut	Fish swimbladder	
Oryza (rice sprout)		Oryza (seed)	Lily
Polygonatum		Pipefish	Orobanch
Maltose		Stalactite (animal source)	Polygonatum (yuzh
Tremella			
Jujube			

2. SOUR TASTE

The sour taste is relatively rare among the herbs of the Chinese Materia Medica, but is fairly prominent in foods, specifically fruits. A variety of organic acids common to the fruits contribute the presence of sour flavor. These include citric, malic, and ascorbic acids.

It is also the fruits that mostly contribute a sour flavor among the herbs in the Oriental Materia Medica (examples of fruit and fruit rind herbs with sour taste are mume, schizandra, papaver, terminallia, rubus, rose, cornus, pomegranate, crataegus, chaenomeles, and phaeseolus. Wine (with tartaric acid) and vinegar (mainly comprised of acetic acid) are sometimes used to process herbs that are to be utilized as liver and blood tonics because of their influence on the herb properties that is similar to that of other sour materials.

Some herbs have a sour taste due to ingredients other than organic acids. Alum, halloysite, and oxycalcite are classified sour tasting minerals. Roots and stems, such as peony, achyranthes, sanguisorba, and cistanche, have a variety of complex active components that produce a sour taste.

There are two major connotations of the sour taste in Chinese medical theory:

1. In five element systematic correspondence, the sour taste is associated with the liver. It has a moistening and softening effect, usually reducing contraction of the ligaments and tendons. Persons who are overly flexible may find that the sour tasting herbs worsen that condition. Peony, cornus, achyranthes, and chaenomeles are among the main sour herbs used to affect the liver function and said to relax the tendons (a body component that is an affiliate of the liver).

2. According to the taste/action dogma, the sour taste has an astringent and fluid recollecting function (that is, helping to reabsorb fluids as they begin to escape). Chinese medicine considers the sour and astringent qualities as restraining the leakage of any fluid, including perspiration, sputum, semen,

vaginal fluids, and blood. Tannins, a class of complex molecules with notable astringent taste, are present in some of the herbs, but many have other types of active constituents. Schizandra, terminalia, cornus, and sanguisorba are commonly used as astringents.

Herbs with Sour Taste

Achyranthes: nourishes the liver, promotes blood circulation, and relieves contraction of the limbs

Alum: controls bleeding, diarrhea, and mucus discharge

Campsis: nourishes the liver and relieves wind and spasm

Chaenomeles: nourishes the liver to relax ligaments

Cistanche: controls spermatorrhea

Crataegus: nourishes the liver and relieves spasms

Cornus: retains the essence, restrains the urine

Eclipta: stops bleeding and restrains the yin

Halloysite: astringes intestines, controls diarrhea and bleeding, absorbs dampness topically

Mume: restrains the body fluids and generates new fluids

Papaver: astringes lung and intestines

Peony: nourishes the liver and relaxes contracture of limbs; collects sweat, restrains the yin

Phaeseolis (chixiaodou): alleviates diarrhea

Pomegranate: astringes intestines

Portulaca: alleviates diarrhea, bleeding, and leukorrhea

Red peony: promotes circulation of blood, relieves spasms.

Rhino horn: alleviates bleeding due to excess heat

Rose: astringes sperm, controls diarrhea, inhibits urinary secretion

Rubus: alleviates spermatorrhea, enuresis, and urinary frequency

Sanguisorba: alleviates diarrhea and intestinal bleeding

Schizandra: reduces perspiration, restrains the lung fluid, restrains essence

Terminalia: astringes lungs and intestines

Trichosanthes root: reduces fluid swellings

Among the items mentioned above are minerals which astringe fluid discharge and numerous fruits.

3. BITTER TASTE

The bitter taste is the most common one found among medicinal herb ingredients, especially among the plant materials. It has been suggested that the bitter taste is generally unpleasant because it warns of potentially toxic ingredients. These toxins are strong medicines, and it is because of this that they become common among the ingredients of herbal medicines. Alkaloids, which often affect the nervous system, are consistently bitter, and glycosides, which usually affect the circulatory system, are frequently bitter; so are flavonoids, which have broad beneficial health effects if taken in sufficient quantities.

There are two basic qualities associated with bitter taste:

1. According to the five element systematic correspondence, the bitter taste is associated with the heart system. The alkaloids and glycosides commonly found in bitter plants help explain this relationship, as the Chinese heart system corresponds mainly to the nervous system and circulatory system of Western medicine, the two systems most strongly impacted by these types of active constituents.

2. According to the taste/action dogma, bitter herbs have a cleansing action (removing heat and toxin). The cleansing action of bitters mainly refers to their antimicrobial and anti-inflammatory effects, which are found with alkaloids, glycosides, and flavonoids. The bitter herbs also dry dampness, and this refers mainly to reduction of mucous membrane secretions; we can recognize today that increased mucoid secretion is usually secondary to inflammation and infection.

There are so many bitter herbs, one could hardly begin to list them. However, it is in the category of “fire-purging” herbs that the bitter taste is most frequently found. Some of the intensely bitter herbs include:



Herbs with bitter taste:

Andrographis	Dictamnus
Phellodendron	Sankezhen
Belamcanda	Gardenia
Picrorrhiza	Scute
Coptis	Gentiana
Pulsatilla	Sophora

These herbs inhibit infections, reduce inflammation, and, in many cases, inhibit tumors.

4. ACRID TASTE

The acrid taste indicates a certain burning or numbing sensation of the tongue, which is elicited by a variety of ingredients, but most frequently by essential oils. Most of the essential oils are highly volatile, giving them a notable fragrance and a dispersing quality. Essential oils may cause the surface blood vessels to dilate, causing sweating and changes in the circulation in the skin and joints. They also tend to stimulate mucus secretion and movement in the lungs and sinuses (see: The use of aromatic agents for regulating qi, vitalizing blood, and relieving pain for additional information about applications and constituents).

There are five sections of the materia medica that contain a large percentage of acrid herbs, with one section dominated by acrid tasting herbs: the surface-relieving category. Although not all the herbs that relieve the surface contain essential oils as active constituents (ma-huang is an obvious exception, it has an alkaloid as the principal effective ingredient), the majority are rich in essential oils that stimulate circulation and, with adequate dosage and proper administration, induce perspiration.

Among the acrid herbs for relieving the surface with essential oils as dominant ingredients are:

Herbs with acrid taste:

Angelica	Cimicifuga
Ginger	Perilla
Asarum	Cinnamon
Kao-pen	Schizonepeta
Chiang-huo	Coriander

Magnolia flower	Siler
Chrysanthemum	Elsholtzia
Mentha	Vitex

The other associations of acrid taste in traditional Chinese medicine are:

1. According to five element systematic correspondence, the acrid taste is associated with the lungs. In relation to the surface-relieving herbs, the lungs are the viscera that control the surface circulation. Additionally, some acrid herbs relieve coughing (e.g., aster, tussilago, perilla seed, peucedanum, platycodon) by helping to assure the lungs downward movement of qi.

2. According to the taste/action dogma, the acrid taste is associated activating circulation of qi and dispersing accumulation of moisture. Acrid herbs with these effects include citrus, aquilaria, cyperus, lindera, saussurea, magnolia bark, and pogostemon.

From a Western perspective, we know that essential oils are penetrating and have circulation-altering actions.



5. SALTY TASTE

The salty taste has two predominant associations in traditional Chinese medicine:

1. According to five element systematic correspondence, the salty taste is associated with the kidneys. Examples of kidney essence (jing) tonics with salty taste are deer antler, gecko, placenta, sea horse, turtle shell, tortoise shell, and mantis; all from animal sources. Actinolium, a mineral, and cistanche, a root, are salty yang tonics. The frequently used sour fruits cornus and schizandra also have a salty taste: they are used to both nourish and astringe the essence.

2. According to the taste/action dogma, the salty taste is associated with dissolving masses, removing moisture and phlegm, and softening hardness. These actions fall under the general heading of resolving therapies. Examples of herbs with these actions are laminaria, sargassum, oyster shell, pumice, turtle shell, arca shell, and cuttle bone. These materials are from the sea, though not all the salty resolving agents come from this source: lithospermum, scrophularia, and isatis are land plants with a salty taste used for treating toxic swellings.

From a Western perspective, we have come to associate salt (sodium chloride) as being harmful to the kidneys and a cause of fluid retention. However, the primary activity of salty tasting herbs is usually not the result of adding substantial amounts of sodium salts to the body. According to the philosophy of the Nei Jing, herbs with a salty taste will benefit the kidney, while consumption of large amounts of salt will harm the kidneys.

The herbs for resolving swellings (in most cases, these are not the kidney tonics) usually have a cold nature, and are thus to be used cautiously in persons with cold syndromes, including yang-deficiency diarrhea. They are considered somewhat deleterious if taken over a long period of time by persons with weak stomach/spleen functions. The salty kidney tonic herbs are predominantly of warm nature (turtle and tortoise shell are exceptions) and they

should be used cautiously in persons with deficiency fire syndromes.

Herbs with Salty Taste

(only frequently used items are included)

Actinolite: tonifies yang

Agkistrodon: resolves toxic swellings

Antelope horn: relieves swelling of eyes and toxic swellings

Arca shell: softens masses, disperses static blood, clears phlegm accumulations

Cassia: relieves constipation, reduces swelling of eyes

Cistanche: tonifies yang and essence, relieves constipation

Clematis: relieves phlegm accumulation in abdomen, purges excess moisture

Cornus: astringes and nourishes essence

Cuttle bone: relieves swelling of genitals, relieves corneal opacity

Deer antler: tonifies yang and essence

Earthworm: removes excess moisture, clears urinary obstruction

Gecko: tonifies yang and essence

Gleditsia: resolves abscesses and toxic swellings

Haliotis: relieves corneal opacity

Isatis leaf: resolves toxic swellings

Laminaria: eliminates excess moisture, reduces thyroid swelling, relieves swelling of testis

Leech: resolves static blood, gynecologic tumors, and abdominal lumps

Lithospermum: resolves toxic swellings, relieves dry constipation

Lysimachia (desmodium): resolves kidney and gallstones

Margarite (pearl): relieves corneal opacity, resolves toxic swellings

Mirabilitum: softens masses, relieves dry constipation

Oyster shell: softens firm masses, dissolves phlegm

Placenta: nourishes essence

Pumice: softens firm masses, clears thick sputum, resolves lymphatic swelling

Rhino horn: resolves toxic swellings, treats cloudiness of eyes

Sappan: resolves static blood, relieves postpartum distention

Sargassum: softens firm masses, removes excess moisture, relieves swelling of thyroid, lymph, and testis

Schizandra: astringes essence

Scrophularia: resolves swollen lymph glands, relieves constipation

Sea horse: tonifies yang, clears static blood

Tortoise shell: nourishes yin

Turtle shell: nourishes yin, resolves firm lumps and abdominal tumors

It is unclear, from the modern viewpoint, how a salty taste fits in with the above listed herbal properties, except that large amounts of salts, as found in the seaweeds, could have an impact on clumping of cells and other phenomena that might yield swellings and could affect diuresis. Also, magnesium salts, as found in mirabilitum, are known to be laxative in effect, because the magnesium is poorly absorbed and helps retain water in the colon.

ASSIGNED TASTES

In the article “The characteristics and functions of traditional Chinese drugs,” presented in the Journal of Traditional Chinese Medicine (2), this is reported:

“The flavors [of herbs; here called drugs] don’t necessarily refer to the real tastes of the drugs. Sometimes, they are sorted out according to the drugs’ actions other than tastes. Therefore, the flavors of some drugs introduced in books on materia medica are often different from their true tastes.”

Anyone who has tasted ginseng roots recognizes the strong bitter flavor, and may feel hard pressed to note the sweet taste, apart from those fresh roots that have been preserved with sugar. The ginseng root contains a substantial amount of starch and sugar, and even a small amount of the immune-enhancing polysaccharides. The bitter taste derives from its content of saponin glycosides, the principle active constituents at usual dosages; the more glycosides a root has, the more potent the root is, in terms of tonification.

A saponin is a steroid-like molecule and a glycoside is a combination of a complex molecule, such as a steroid, with a sugar (which often has the effect of enhancing absorption). The sweet taste may have been attributed to ginseng for any number of reasons, including the possibility that when the taste was first assigned in an herbal text, the available roots were sweeter than the current ones. No matter the original designation, the reputation of ginseng as a spleen tonic and the description of ginseng as a sweet tasting herb (with mild, bitter quality), coincides with the



dogma that the sweet taste is tonic, and especially that it tonifies the spleen. Therefore, the emphasis on ginseng's sweet taste remains.

In similar manner, the essentially white ginseng roots are described as being yellow, consistent with the five element systematic correspondence of the yellow color and the spleen. Nonetheless, ginseng also is said to tonify the lungs, and the white color is the one associated with the lungs; ginseng is said to calm the spirit, and the bitter taste is associated with reducing the spirit-agitating heart fire.

By contrast with ginseng, astragalus and codonopsis are notably yellow in color and notably sweet in taste (like many herbs, they also have some bitter quality). These two herbs, like ginseng, are said to tonify the spleen and lung. Although ginseng is considered the "stronger" qi tonic, it is not sweeter than the others.

Thus, the degree of sweetness of an herb is not necessarily associated with the traditionally described degree of tonic effect. Nor is the degree of sweetness by tasting necessarily associated with the degree of sweetness described by herbalists: maltose is a sugary material that is listed in *Oriental Materia Medica* as having only mild sweetness (others list it as sweet), while tremella, a polysaccharide-rich mushroom, has barely detectable sweetness, but is described in *Oriental Materia Medica* as being sweet (not mildly so).

As to active constituents, simple sugars taste sweeter than complex ones, including complex polysaccharides, yet it is the latter that often have the broadest and strongest tonic action. Polysaccharides tend to be generated in plants that have the necessary enzymes for complex sugar metabolism, and thus they often have a variety of saccharides, including those producing an obvious sweet taste.

Ganoderma is another example of a tonic herb (it is classified as a tonic sedative in some books) that is said to have a sweet, mild flavor. Anyone who has tasted the ganoderma extracts notes that it is extremely bitter. This is because

of its content of triterpenes, which are molecules quite similar to the saponin glycosides of ginseng. In this herb, both the immune-promoting polysaccharides and the triterpenoids play key roles in providing a healing action. The triterpenoids are responsible for the sedative effect, as well as some other actions, including better oxygen utilization (hence improving energy), and the bitter components of ginseng do the same. The description of ganoderma as a sweet herb may follow, rather than precede, its description as a tonic agent.

Thus, while traditional herbalists were able to properly associate the sweet tasting component of herb materials with tonic effects that we can now confirm experimentally, there are considerable limitations to this simple system based on general observations of nature. Modern investigations and simple experience of herbal tastes independent of what is written in traditional texts raise questions about the emphasis on describing, for example, a sweet taste as a designation of tonic properties of several herbs.

The tastes assigned to herbs has sometimes changed over time, and, even today, herb specialists may debate about which designation is correct. In the *Zhenzhu Nang* (Bag of Pearls), written around 1200 A.D., siler (fangfeng) is described simply as being sweet (not sweet and acrid as it is today), and its effects are described as eliminating wind from the body, especially wind that is moving upwards (3). This description differs from that of a tonic herb. The

acrid quality of siler is emphasized in modern texts, which matches with the dispersing (wind-dispelling) properties that are still attributed to it.

According to Heiner Fruehauf, all the traditional texts, in designating the wei of an herb, are referring to the immaterial function rather than the material basis of the herbs. Therefore, when translating wei to taste, one finds many discrepancies because the word usually implies, to Westerners, only the effect of the substance on the tongue.

In sum, one can find modern confirmation of at least some of the traditional assignment of taste as a characteristic associated with herb action. One can also find many situations in which the traditional designations do not seem to make very much sense in light of common knowledge. At least partial resolution of some of the apparent discrepancies may lie in the interpretation of the Chinese term wei; but some of the designations have changed over time and remain the subject of debate among herbal authorities.

CHANGING VIEWS

The association of taste with effects on humans was described in detail for the first time (apparently) in the *Neijing Suwen*, around 100 A.D. Anyone who has studied this text in detail finds that there are some contradictory statements about the relationship between taste, usually that of foods, and the parts of the body affected and the nature of the affect. Variations in the description



of taste and effect continued for some time.

Here is a description from the Bencao Yanyi, written early in the 12th century (3):

“When heaven and earth had already been separated, the creation of all things was due solely to the five qi [this is like the six qi of hot, cold, wind, damp, etc.]. After the five qi had been determined, the five tastes arose. Following the genesis of the five tastes, the thousand transformations and ten thousand changes continued without end. Thus it is said that the qi bring forth things, and the tastes complete them. That which was created individually becomes a pair when complete; that which was created as a pair becomes an individual entity when complete. Cold hardens; thus the corresponding taste [salty] can be used to draw things together. Hot influences draw things together, thus the corresponding taste [bitter] hardens things. The influence of wind disperses; thus the corresponding taste [sour] can be used to gather. The influence of dryness gathers; thus the corresponding taste [acid] can be used to disperse. The zhong influences [central] originate in the soil. They are able to harmonize everything; thus the corresponding taste [sweet] can be used to soothe. If the qi is firm, strength results. For this reason, the qi [circulating in the body] can be nourished by bitter things. If the vessels are drawn together, they are in harmony. Thus, the vessels can be nourished with salty things. If the bones are gathered together, they are strong. Therefore, the bones can be nourished with sour things. If the muscles are dispersed, they are not cramped. Thus, the muscles can be nourished with acid things. If the flesh is soothed, it can not be blocked. Therefore, flesh can be nourished with sweet things. If a soothing effect is wanted, the sweet things should be used; if soothing is not wanted, the sweet things should not be used. No applications may be exaggerated; excessive amounts can also cause illness. Anyone in ancient times who wanted to nourish life and cure suffering first had to understand what has been said here. Only very rarely is suffering relieved

without such understanding.”

While some of the above statements correspond to today's traditional dogma, some of them do not. Though practitioners do not often think of salty things drawing together in the most general sense, calcined oyster shell and alum are examples of salty astringents used to tighten up membranes and stop dripping of fluid. Most practitioners probably don't think of qi being nourished by bitter things, vessels being nourished by salty things, or bones being nourished by sour things; these represent areas where the associations have changed.

Here is a description in the Tangye Bencao, written during the 13th century (3):

If the liver suffers from tensions, sweet herbs should quickly be taken in order to relieve these tensions. Licorice is advisable in this case. If one wishes to disperse obstructions, acid herbs should be taken quickly. Cnidium is advisable in this case. With acid herbs, one replenishes the liver, asarum is appropriate. With sour herbs, one drains the liver; peony is appropriate....Bitter herbs replenish the kidneys; rehmannia and phellodendron are appropriate.

These descriptions seem somewhat at odds with the dogma of today's traditional approach. Liver tensions are often treated with bitter herbs (such as bupleurum and chih-shih); asarum would be deemed inappropriate for a liver deficiency syndrome; the sour herb peony is described as nourishing the blood and astringing the yin, rather than draining; and bitter herbs are used to deplete kidney fire rather than replenish the kidney, though by reducing the deficiency fire, the yin can be naturally restored. Some of the apparent discrepancies and variations might be explained by applications of different aspects of the five elements system (which includes the nurturing and controlling relationships), but others simply represent differing views that arose during the long history of Chinese medicine.

USING TASTE DESIGNATIONS TODAY

What can not yet be answered is this: is it still an important concern for herbalists today to combine herbs according to their tastes? Was the emphasis on taste of an herb something that was required in earlier times when relatively little was known about the herbs, but no longer required when there is detailed information about the constituents and their pharmacological effects?

In the 1995 publication *Advanced Textbook of Traditional Chinese Medicine and Pharmacology* (4), this is said:

“Since the flavors of drugs have an intrinsic relationship with their efficacies, understanding the characteristics of the five tastes is of great importance in guiding the administration of drugs.”

Yet, despite this statement, the relationship is not raised again in the several volume text after the single page that includes a few examples of taste associated with therapeutic effect. One example from this page is that “Drugs such as perilla leaf and mentha for inducing perspiration and relieving exterior syndrome and citrus and saussurea for activating qi are all acid. Yet, in the follow-up text describing individual herbs, the section on surface-relieving includes the non-acrid cicada skin (salty and slightly sweet), morus leaf (bitter and sweet), and chrysanthemum flower (sweet and bitter); the section on activating qi includes the non-acrid melia (bitter). While the majority of herbs in these two materia medica sections have an acid taste (often combined with another taste), these exceptions do not elicit any commentary.

In the U.S., the taste of an herb is one of the required pieces of information for students to learn (often for about 300 different herbs), yet descriptions of taste and effect rarely crop up in the American literature, except as simple recitation of the current standard dogma. Herb tastes is a subject left out of the portion of the NCCA examination devoted to herbs that most American acupuncturists now take.

Undoubtedly, persons who strongly respect the traditional methods would argue that taste may have an inherent value that goes even beyond its association with effect (thus, for example, if a formula is designed to include sweet and bitter herbs, then it would not do to combine sweet and acrid herbs that, from the modern perspective, have the same physiological effect) and there is still be too little known about the herbs to disregard the taste as a distinguishing feature.

By contrast, persons who follow the modern scientific approach to herbalism may suggest that it is the actions of the main active constituents that determine the effect of a formula, and it does not matter what the actual taste is, since the taste can be influenced by so many different ingredients within the material, some of them not seemingly relevant to the effects. Thus, for example, the lignans of schizandra are deemed especially important components by modern researchers, but these contribute only a bitter taste to the “five flavored fruit.”

The sour flavor, conferred by organic acids as found in many other fruits, probably contributes relatively little medicinal action except, possibly, when high dosage decoctions (or dried decoctions) are relied upon.

Observing modern practitioners of traditional Chinese medicine designing treatments for patients reveals two patterns of behavior that suggest there is actually less emphasis on taste than when it was suggested, several centuries ago, as a critical factor in attaining success. First, many doctors use large prescriptions, containing a dozen or more herbs, and with such large prescriptions, one usually finds a complex mix of all five tastes regardless of the therapeutic action intended; it is not clear that an effort was made to coordinate the tastes in coming up with the final formulation. By contrast, taste of herbs in a formula is often raised in descriptions of small ancient prescriptions, such as Cinnamon Combination and Rehmannia Six Formula. Second, it is common to see a base formula developed for treatment of a disease

condition which is then modified by various added ingredients for specific symptoms, constitutional patterns, or signs. The additions clearly alter the taste of the formula, but it does not seem to be the case that the taste of the additions is a major consideration; rather, it is their defined actions based on either modern or ancient indications. While one can often explain the additions in relation to taste (for example, add the salty laminaria and sargassum to soften a mass), the role of taste does not seem to be dominant in selecting many of the additions.

Still, disregarding taste may be one of the steps, like so many others taken in modern times, that isolates the herb practitioner from an important interaction of humans with nature: experiencing and responding to a fundamental sensory perception and leaving behind the traditional methods of describing natural phenomena (such as herb actions). It is easy to be overwhelmed by the power of clinical experience and modern research. Without disregarding what has become available through the modern efforts, one may wish to keep aware of the traditional methods with regard to taste and formulation. At the least, one should examine the traditional ideas—in all their variations over time and among authors—until something more definitive can be established by the work that is currently underway to determine how herbs affect human health.

Article written by Subhuti Dharmananda

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Featured formula

CORD TABLETS

A unique combination to support the spine, spinal cord, marrow, and brain.

Cord Tablets was designed on the basis of traditional and modern formulas used in the treatment of a variety of degenerative conditions linked to the Chinese diagnostic category of kidney essence deficiency syndrome.

The ingredients are:

<i>Dragon bone</i>	<i>Deer antler</i>
<i>Tortoise shell</i>	<i>Eucommia</i>
<i>Dipsacus</i>	<i>Cuscuta</i>
<i>Rehmannia</i>	<i>Astragalus</i>
<i>Atractylodes</i>	

CORD TABLETS

This formulation focuses on the pairing of deer antler (velvet) and tortoise shell to nourish the essence. These ingredients are described as have these actions:

- * deer antler supplements kidney yang, opens the governing vessel, strengthens sinew and bone, boosts marrow, and nourishes blood
- * tortoise shell enriches yin and blood and supplements the liver and kidney to invigorate the root.
- * dragon bone secures and astringes the kidney essence, and directs the action of the formula to the spine.
- * eucommia, dipsacus, and cuscuta assist antler in nourishing the kidney yang and strengthening the root.
- * rehmannia, along with tortoise shell, harmonizes the yang tonics, aiding in nourishing yin, blood, and essence.
- * tortoise shell and dragon bone prevent yang from rising to cause agitation.
- * astragalus and atractylodes promote the spleen's

function of absorbing essences from food to nourish the kidney essence.

Disorders to be addressed by a formula such as this include:

- Osteoporosis
- Degenerative nerve disorders (ALS, MS, paraplegia)
- Degenerative spinal disc
- Degenerative joint disease (e.g., deforming rheumatoid arthritis and osteoarthritis)
- Loss of control over urination
- Impotence and loss of libido
- Reduced production of blood cells: white cells, red cells, platelets

Cord Tablets shares herbs and characteristics with the traditional formula You Gui Wan (Restore the Right Kidney Pill), which has deer antler, rehmannia, cuscuta, and eucommia in common. The Ming Dynasty formula You Gui Wan was described by Bensky and Gamble as “one of the best formulas for treating kidney yang deficiency with insufficiency of essence and blood.” This revised version maintains these benefits but also addresses a number of disorders that have become well-known in recent decades but were rarely described in the ancient texts.

Available as Seven Forests brand tablets, 700 mg)

INSTITUTE FOR TRADITIONAL MEDICINE AND PREVENTIVE HEALTH CARE - OREGON - USA



MENTAL FOCUS

Acorus Tablets

Everyone has the experience, from time to time, of having difficulty focussing the mind on a matter at hand. The value of mental focus is well-known to anyone who wishes to accomplish something difficult, whether it be solving a technical problem, attaining a feat of physical performance, or negotiating a difficult social situation. An entire field of human endeavour, visualisation (an aspect of meditation) has been developed to explore the ultimate potential of mental focus. Being able to heal deadly diseases or attain enlightenment are among claims made for the utility of focussing the mind.

While some individuals are born with an ability to focus their minds, and others may enhance their innate abilities with certain kinds of training, there are also physical and psychological factors that influence such abilities. It has been noted recently, for example, that 'post traumatic stress disorder' includes difficulty concentrating and that 'chronic fatigue immune dysfunction syndrome', possibly caused by a viral infection, produces this problem. Similarly, it is known that blood sugar disorders, including the one popularly called 'hypoglycemia', results in loss of mental focus. Thus, experience, diseases, and imbalances can all produce a difficulty in concentration.

Accordingly to Chinese medical theory, abnormalities in mental function, including difficulties or inability to perform common mental tasks, such as concentrating on an immediate concern, is related to a feature of the spirit to reside peacefully in the heart.

In particular, the spirit may be agitated or 'dispersed' by fright, shock, or other sudden traumatic emotional reaction. In such cases, one tries to settle and constrain the spirit using 'heavy sedating agents', which are mostly minerals or mineralized substances, such as cinnabar, dragon bone, dragon teeth, oyster shell and succinum.

Difficulty concentrating can also occur if the orifices connecting the physical heart and etheric mind are 'clouded' by mists of pathological phlegm. This phlegm may arise from inadequate indigestion of foods, inefficient distribution of moisture by the spleen and lungs, or pathological function of the gallbladder. The phlegm affecting the orifices is resolved by aromatic agents, including musk, ox gallstone, acorus, and borneol. Polygala, though not especially aromatic, is a phlegm-resolving herb that is used 'for obstruction of heart orifice by phlegm manifested as absentmindedness, (easy) frightening, epilepsy, insanity, and mania.' (Chinese English Manual of Common Used (Herbs) in Traditional Chinese Medicine).

Combinations of these herbs have been used for the most serious problems of

mental dysfunction, including loss of consciousness, mania, or schizophrenia. Similar formulations, usually without the more intense aromatics (musk, borneol) are used for cloudy thinking, insomnia, poor memory, and confusion. In modern time, two areas of concern have arisen with regard to difficulty in mental concentration.

One is in children, the so-called attention deficit disorder, which manifests in lack of concentration, fidgeting, and disruptive behaviour. The other is in the elderly population, with senile dementia or Alzheimer's disease.

Dietary toxins have been blamed by some as the source of such problems; for example, chemical food additives and food allergens, such as milk proteins, have been said to cause hyperactivity in children.

Acorus Tablets (SF) are based on formulas used in China to treat hyperactive children and are similar in formulation to prescriptions used there for some cases of senile dementia and Alzheimer's disease.

The main actions of this formula are: to calm the spirit, resolve phlegm, to clear heat and to nourish yin.

The formula is often combined with Salvia/Amber Tablets or Fu-shen 16 to enhance the calming action.

For adults one can consider adding Ginkofolin (WT) or Pueralex (WT) to promote circulation to the brain.



ACORUS CALAMUS

TCM HERBAL STORY

RHUBARB

Rhizoma Rhei - Da Huang

Once upon a time, there was a doctor Huang who would harvest herbs to create medicines for the ill. An expert on the healing properties of Coptis Rhizome (Huang Lian), Astragalus (Huang Qi), Polygonatum Root (Huang Jing), Scute (Huang Qin), and Rhubarb (Huang Gen), his patients all call him Mister Five Huang. Every March, the doctor would venture into the mountains to harvest herbs, and lodge in farmer Ma Jun's house till the end of fall. The Ma family was extremely hospitable to the doctor, and as time passed by, they developed a strong bond.

Then one year, disaster struck the Ma family. A great fire had burned down their house, along with all their belongings. Only Ma Jun and his son had survived by escaping to a cave, which sadly became their home. The doctor looked everywhere in search of the Ma family that had taken care of him for so many years. When he finally found the poor father and son living in a cave, he told Ma Jun, "Bring your son along and we'll make a living off of traditional Chinese medicine!" And so they became lifetime partners, through harvesting, selling, and curing patients with their traditional Chinese medicine. Slowly, Ma Jun became familiar with the healing properties of the five medicinal huang herbs. Occasionally, when doctor wasn't home, Ma Jun would practice on patients who came by.

On the summer of a passing year, a

slender pregnant woman with a pale yellow face and fragile frame came to their practice in seek of a remedy for diarrhea. Coincidentally, Dr. Huang was not home at the time, so Ma Jun took the initiative. Unfortunately, he had mixed up coptis, which is used to treat diarrheas with rhubarb, which purges fire and relaxes the bowels, and gave it to the pregnant woman. As a result, the pregnant woman's diarrhea worsened, nearly losing her life, as she suffered miscarriage. She sued all the way to the county court. The judge immediately sent his men to arrest Ma Jun, for the charge of inflicting harm through mountebankery.

When Doctor Huang caught wind of the news, he hurriedly went to court. With both knees on the ground, he begged the judge to charge him with

the crime, claiming that he was Ma Jun's teacher, and hence should be responsible for the harm; but Ma Jun's heart felt worse for what he had done, and was willing to admit the crime and face the judge's punishment. The county judge admired their friendship, so much that, when he considered the Mister Five Huang's untarnished reputation, the pregnant woman's already weak constitution, and her short pregnancy period, he ruled that a monetary punishment from the two of a few silvers was enough, and set them both free. But before he let them go, the district judge said to the doctor, "The rhubarb used in the five huang herbs acts much stronger than your other four medicinal herbs, so you should change its name, to prevent future confusions that may lead to more trouble." The doctor deeply thanked the judge. As he went home, he changed rhubarb's name from Huang Gen to "Da" Huang (Da stands for "big" in Chinese) better differentiate the two, and the name slowly spread to popular use.

The dried roots and rhizome of rhubarb are from the plant *Rheum palmatum* L., *Rheum tanguticum* Maxim. ex Balf. or *Rheum officinale* Baill. of the Polygonaceae family. It has a cold property, bitter taste, and enters through the heart, large intestine, liver and stomach.

The original article is from Brion Research Institute.

Actions & Indications:

Drains heat and purges accumulations

Drains damp-heat

Drains heat from the blood

Invigorates blood and dispels blood stasis

Clears heat obstructing the blood level

Clears heat and reduces fire toxicity

Caution & Contraindications:

Use with extreme caution during pregnancy

Nursing mothers should not use because active ingredients will enter the milk

Do not use in cases of Qi or blood deficiency.

Do not use when cold from deficiency of the Stomach and Spleen.





IMPORTANT REMINDER: The information about the formulas and products is given to illustrate the types of ingredients that are being used in Chinese herbalism. No claims are made regarding the effectiveness of any of the formulas. Listing them here is not intended to imply that there is evidence for their efficacy.

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