LESSON 1: Introduction to Traditional Chinese Materia Medica

History

The use of natural substances as medicine in China, such as herbs, minerals and medicines of zoological origins, can be traced back to 1.7 million years ago to the time of first human activity. Lay doctors or Shamans, who were mostly women at that time, would use these substances that were found in their surroundings to treat the ills in their communities. These shamans or ‘Wu’, meaning “women who can bring down the spirits”, had a close relationship, understanding and communication with nature. Among the peoples of that time it was believed that illness and health were subject to the principles of a natural order and much of that belief was steeped in superstitions.

The shamanistic tradition was partly absorbed by Taoism; with medicine playing an important role in the development of Taoist religious activities. Later, in the sixth century BCE, this was still the case with Confucius noting that, "A man without persistence will never make a good shaman or a good physician".

Bear in mind that apart from the recorded documents, much of what is said about the origins of Chinese medicine is more legend than history. It was quite common to write material anonymously and attribute it to historical figures and heroes. According to the legend, the origins of traditional Chinese medicine are traced back to three legendary emperors/mythical rulers: Fu Xi, Shen Nong and Huang Di. Historians believe that Shen Nong and Fu Xi were early tribal leaders. Fu Xi was a cultural hero who developed the trigrams of Yi Jing (I Ching) or
the Book of Changes. Ancient texts record that Fu Xi drew the eight trigrams, and created the nine needles. Shen Nong, the legendary emperor who lived 5000 years ago, is hailed as the "Divine Cultivator"/ "Divine Farmer" by the Chinese people, as he is attributed with being the founder of herbal medicine, and taught people how to farm. In order to determine the nature of different herbal medicines, Shen Nong sampled various kinds of plants, ingesting them himself to test and analyzed their individual effects. According to the ancient texts, Shen Nong tasted a hundred herbs in a single day, including 70 toxic substances, in an effort to understand how to relieve people's pain from illness. As there are no written records, it is said that the discoveries of Shen Nong was passed down verbally from generation to generation. It was first put to paper in approximately 101 BCE in the *Sheng Nong Ben Cao Chien* (The Divine Husbandman's Classic of Materia Medica), commonly referred to as Ben Cao meaning material medica.

The first emperor, Huang Di (Yellow Emperor) came to the throne 100 years later in 2696 BCE. The classic, the Yellow Emperor's Inner Classic (*Huang di nei jing*), was also verbal until compiled onto paper between 200 BCE and 100 CE (current or Christian era). It is divided into two sections, Basic Question (*Su wen*) and Spiritual Pivot (*Ling shu*), each containing eighty one chapters. This book is the theoretical foundation of Chinese medicine.

Even though Traditional Chinese Medicine (TCM) has a long written tradition, going back 2 - 5,000 years, much of it is still somewhat oral. Many of the ancient texts and even some of the modern works are considered notes to aid a 'master' to teach students from. They have almost been considered 'code' books that can only be fully utilized under the guidance of a master. Many converging traditions make up what is now called TCM. The Chinese government has attempted to solidify many of these
traditions into a modernized, written tradition. This effort has fallen under a great amount of communist influence over the years and is considered only partial material by some. Traditions coming out of non-communist China, as well as many secret 'mystery schools' have very strong oral traditions attached to them, teaching different versions of the same material.

**Compiling the Classics**

By the Later Han Dynasty (25 - 250 CE) the complete Yellow Emperor's Inner Classic (*Huang Di Nei Jing*) was compiled and published. This classic shows that observation of the natural world reflected the principle of human health. The *Huang Di Nei Jing* was a philosophic expression of medicine, showing the basis of yin and yang and the five phases and that the human microcosm is a miniature of universal reality. The herbal content is rather slim with only 12 prescriptions and a total of 28 medicinal substances.

The Divine Husbandman's Classic of Materia Medica on the other hand, contained 364 (5) medicinal substances, one for each day of the year. There are 252 botanicals, 45 (6) minerals and 67 zoological entries. It was the first book of its kind to focus on individual herbs and is the origin of the term medicinal property (in TCM literature). It further divided substance into upper, middle and lower grades. The upper grade nourishes life, the middle grade nourishes constitutional types (*xing*) and the lower grade expels disease. Each substance is evaluated for taste (*wei*) and temperature characteristics (*qi*), as well as toxicity. It also outlines 170 kinds of diseases that can be treated with the above medicinal substances. Although this classic is attributed to the famous and mythical Divine Husbandman (*Shen nong*), it was compiled in the first century by various authors and then compiled in the sixth century by famous Taoist, Tao Hong-Jing.

By the first century the term 'ben cao' was employed, which
literally translates to mean 'materia medica', but also implies the knowledge from the information.

Zhang Zhong-Jin (ca. 2nd - 3rd century CE), one of the most famous physicians in Chinese history, lived in the late Han Dynasty. He wrote several works, including the famous ‘Shang Han Lun’ (Treatise on Cold Disease). This 16 volume collection has details on diagnosis and treatment for 397 ailments with corresponding herbal prescriptions and is the origin of several famous formulas still used today.

By this time there was much work done (mostly in secret) by the Taoists, who concentrated on alchemy and the elixirs of longevity and immortality. Much of this material is either lost or held by secret societies.

Other works

Guo Hong (283 - 363 CE) wrote ‘Bou Po Shi’, an alchemical introduction to medical chemistry. His 3-volume ‘Yue Han Fan’ was a collection of many classic and folk remedies

Tou Yu-Gin (462 - 536 CE) was a famous herbalist that created the ‘Ben Cao Chein’ (seven volumes, 730 herbs) and ‘Yung-San Chian’ (a book on longevity).

The Newly Revised Materia Medica, ‘Tang Ben Cao’ (659 CE), was commissioned by the Emperor Li Chi for Su Ching and 20 scholars to create the new materia medica. It had 54 chapters, with 850 drug descriptions, including illustrations and 20 of the drug descriptions imported from other countries. It reportedly corrected many mistakes found in earlier works.

Tang Shen-Wei's Materia Medica Arranges According to Pattern (Zheng lei ben cao, 1108) was the major materia medica of the Song dynasty (90 -1279). It contained 1,558 medicinal substances.
By 1596 famous physician Li Shi-Zhen's Grand Materia Medica (*Ben cao gang mu*) is published, having 52 volumes containing: 1,892 substances: 1,173 botanical, 444 animal and 275 mineral entries. It also has an appendix with 11,096 prescriptions. It has been translated into over 60 languages, part of which is still used today.

Much work and research has been done in the development of Traditional Chinese Materia Medica's during the past two thousand years. Official transcripts and texts now include folk remedies from the countryside and many other herbs from outside of China.

**Post-revolution Period (1911 - present)**

The Chinese republic was born after the 1911 revolution, with Western-educated physician Dr. Sun Yat-sen becoming the new leader. He basically outlawed all forms of ancient outdated 'folk medical practice' in favour of new western medicine. Herbal use fell into a dark age with most knowledge in the cities going underground, but still active in the countryside. During the long march (1934 -35), then revolutionary Mao Zedong had no modern medicine available to him and relied on acupuncture and natural remedies for himself and troops. He was so impressed that he pronounced in 1949 that "Chinese medicine is a great national treasure; we must strive to improve and elevate its status." Since that time considerable resources have gone into studying and researching TCM. The current Encyclopedia of Traditional Chinese Medicinal Substance (*Zhong yao da ci dian*) contains 5,767 entries and is considered the definitive Chinese compilation to date.

Today, China embraces traditional Chinese medicine and it is practiced throughout the country. Most Chinese hospitals are fully integrated and provide traditional and modern medicine together. Major medical universities provide two tracks of study. Students may choose to study traditional or conventional medicine. Regardless of the course of study, doctors in China receive training in both forms of medicine. The only difference is that one form is stressed over the other. Medical research facilities continue to study traditional Chinese medicine and are creating strong evidence to support its use for both old and new medical problems.
Comparing Chinese and Western Medicine

Even though these two cultures were virtually isolated until the famed Marco Polo visit in the 13th century, there were many concordant advances in their respective landmarks of medical history. The Yellow Emperor Classic appeared around the same time as Egyptian papyrus (approx. 2000 BCE) revealed ancient medical practice in the west. Both based their philosophies on a macro/micro-cosmos reality of the universe, nature and man. The knowledge of blood circulation, with similar diagrams, makes one wonder what was behind this era of history/civilization.

Two historic figures, Confucius (551-479 BCE) in China and Hippocrates (460-367 BCE) in Greece, lived almost at the same historic time, since Hippocrates was born within two decades of the death of Confucius. More amazing was the contemporary appearance of two great physicians, Hua Tuo (110-207 CE) and Galen (130-217 CE). Hua Tuo, a legendary Chinese surgeon who reportedly used anesthesia (Ma Fei San) for surgery centuries before such achievement in the West, could have met Galen in Rome for a medical conference, if they could have traveled by air. Galen of course was a titan in Western medicine, whose ideas influenced European medicine for more than a millennium. Imagine while Hua Tuo was draining an abscess for an army general, Galen was amputating the mauled leg of a gladiator in a Roman theatre.

According to Professor Joseph Needham of Oxford, by the time William Harvey explained our modern concept of blood circulation in "De Motu Cordis" (1628 CE), Chinese physicians were already able to make differential diagnosis between typhoid fever and typhus fever, and had extracted steroids from urines.

Herbal Energetics

Herbs are a natural form of qi, with specific actions and properties. Their qi is used to influence the qi of the body and therapeutically restore balance. These energetic qualities are described through the '4 Qi': nature, taste, tendency and quality.
Nature

A herb's nature implies the temperature qualities of: hot, warm, neutral, cool and cold. Therapeutically, hot and warm are considered yang and are used to treat yin conditions, while cold and cool are yin and used to treat yang conditions.

"Hot diseases must be cooled, and cold diseases must be warmed." - Nei Jing, chapter 74

Taste

A herb's taste is categorized as acrid, sweet, bitter, sour, and salty. Energetically, acrid flavours cause qi to scatter and disperse, as do sweet flavours. Acrid and sweet are both yang in nature due to their ability to move qi. Bitter, sour and salty flavours all cause qi to move downward and consolidate, this makes them yin.

Acrid flavours enter the lungs and travels in the qi, when there is a disease of the qi, acrid flavours are to be avoided. Sweet flavours enter the spleen and moves in the flesh, when the disease is of the flesh sweet flavours are to be minimized. Bitter flavours enter the heart and moves in the bones, when the disease is of the bones bitter flavours are to be avoided. Sour flavours enter the liver and move in the sinews, when the disease is of the sinews sour flavours are to be avoided. Salty flavours enter the kidneys and travel in the blood, when the disease is of the blood salty flavours should be avoided.

Generally speaking, each taste has a function; sweet is tonifying, harmonizing and moderating, sour is astringent, acrid/pungent is dispersing and invigorates qi and blood, bitter reduces and dries, and salty softens and purges.

Tendency

The tendency of an herb is ascending or descending; therefore tendency represents its direction of travel in the body. Herbs may be chosen for a formula to guide the action of other herbs up or down, du huo (Angelica root) has a tendency to descend to the
lower part of the body and is used to guide damp clearing herbs to the lower back and legs.

**Quality**

The herb's density (in taste and texture) is either thick or thin this describes the quality. In a person with a very yin constitution (damp or cold) it is advised to use thick (yin) herbs with caution because they will create further stagnation. A thin herb on the other hand will not ground energies that are rising excessively, such as the case with an excess type headache.

**8 therapeutic methods**

The 4 qi contribute to the action a herb performs, and the action of a herb is categorized in the ‘ba fa’ - 8 therapeutic methods:

1. **Diaphoresis** (*han fa*): promoting sweating, regulates nutritive qi (*yīng*) and defensive qi (*wēi*), disseminates and stimulates lung qi

2. **Vomiting** (*tu fa*): Expelling matter from the throat, chest and stomach. Pathogens are typically phlegm, stagnated food or toxins.

3. **Purging** (*xia fa*): also known as draining downward, cleanse the bowels by promoting defecation.

4. **Harmonizing** (*he fa*): Harmonizes the functions of organs or harmonizes different levels.

5. **Warming** (*wen fa*): Warms the interior and yang, dispelling cold.

6. **Clearing** (*qing fa*): Clears heat and toxin, and drains fire.

7. **Tonifying** (*bu fa*): Nourishes, augments and replenishes areas that are weak.

8. **Reducing** (*xiao fa*): Eliminating accumulations or clumping due to stagnation (e.g. food accumulation)

The 8 therapeutic methods are the basis of categorization of TCM herbology.
Processing & Preparation

Depending on suppliers and personal preference, herbs can be ordered dried, powdered, and in tablet and tincture form. The dried form (known as raw, sheng yao) is very effective and many find that results may be seen quicker, although to some the process of preparing raw herbs can be inconvenient and requires the most preparation for the herbalist and the client. Others may find it not as palatable, for those not accustomed to the new flavours. Powdered, tincture and tablet forms tend to be more convenient and therefore have a higher compliance. Raw herbs take much more knowledge of the plant morphology and preparation of each herb in order to ensure quality control and proper combining. Much of the raw or dried herbal product and herbs to manufacture tablets, powders etc. is grown in Asia, Southeast Asia and India, although there is a growing market for herbs grown here in Canada and from our neighbours down south (USA).

Other forms of Chinese herbal preparations include: hand rolled honey pills, syrups, medicinal wines, special pills (vermillion) made of expensive ingredients, and patented remedies.

When decocting herbs recommend to your patients to use glass, porcelain or clay pots and wooden utensils, metallic substances are generally not advised and affect the properties of the herbs used. Ceramic electric herbal cookers may also be used.

Generally speaking, herbs (raw form) should be put into a pot and covered with water (up to 2 finger widths above the level of the herbs) and brought to a boil, then simmered on lower heat for 30-45 minutes. Drain off the water and repeat this procedure with the same herbs, combine the liquids and divide into 2 dosages for the day. The advantage of decoctions is that it is possible to vary the cooking times of individual herbs in a formula.
The preparation of herbs will alter their actions. Longer cooking times make a herb more warming and tonifying, it also minimizes the toxicity of some herbs, such as *fu zi* (*Aconitum*). Quicker frying and cooking methods will help to preserve. Other methods such as: dry frying, frying with wine, vinegar, ginger juice or honey will give the herb a more warming quality. Charring the herb will allow it to aid in stopping bleeding; soaking in vinegar or wine will create an invigorating effect.

Dosages are given in grams and range from 1-3g for more toxic substances to 120g for plasters and poultices. Most common dosages are 9-12 grams.

Traditionally, the Chinese herbalists had their own sets of measurements that are still used today in shops in Chinatown.

1 liang = 30 grams  
1 qian = 3 grams  
1 fen = .3 grams  
1 li = .03 grams

When administering herbs we must educate our patients about refraining from caffeine, greasy and spicy foods because they will interfere with the actions of the herbs. Often patients will ask if they can add juice or sugar/honey to their decoctions, again this is not advised because it changes the properties of the formula you have created.

**Formulas & Combinations**

Illnesses present in many different forms, as simple one root (cause), one branch (symptom) or they may be more complex involving multiple roots and branches. When creating a formula we take this into consideration.
We can categorize formula combinations in 7 ways.

1. **Simple** ‘*dan xing*’ - the use of a single herb to treat a simple illness.

2. **Mutual Accentuation** ‘*xiang xu*’ - using similarly acting herbs to achieve a similar function.

3. **Mutual Enhancement** ‘*xiang shi*’ – using 2 or more herbs with different functions to enhance the affect of one of the herbs.

4. **Mutual Counteraction** ‘*xiang wei*’ - when the main herb has undesirable side effects other herbs may be added to counterbalance those side effects.

5. **Mutual Suppression** ‘*xiang sha*’ - the main herb is used to counter balance supporting herbs negative side effects.

6. **Mutual Antagonism** ‘*xiang wu*’ - (this is more to be aware of when combing rather than intentional) the actions of two herbs will nullify or neutralize each other's desired effects.

7. **Mutual Incompatibility** ‘*xiang fan*’ - (again, this is for awareness rather than intention) the combination of certain herbs will cause negative side effects that on their own would not normally occur. Traditionally there ‘18 incompatibilities’ that are not be combined to due to their ill effect.

The main herb in a formula is designated as the chief (or king) the action of the formula is based on this herb. The main supporting herbs are called deputies, and the assistants are more minor herbs that address side effects or accompanying symptoms. The envoys are the herbs that direct the main actions of the formula to specific organs or meridians.

Traditional Chinese formulas typically include 6-12 herbs per formula; it is rare that single herbs are used on their own.

**Cautions & Contraindications**

Cautions and contraindications are based on the condition of the patient, herbal combinations/incompatibilities, herbs/drug/nutrient interactions, herb toxicity, and dietary incompatibilities. For children and seniors dosages should be lowered; with pregnant
women dosages should be lowered and certain herbs are to be avoided. In some cases herbs that move the blood and have a downward moving property are to be prohibited during pregnancy due to potential miscarriage. Contraindications for individual herbs will be discussed in their respective sections.

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