

The First Materia Medica: The Shen Nong Ben Cao Jing

Abstract

The oldest surviving Chinese materia medica, the *Shen Nong Ben Cao Jing* (Divine Farmer's Classic of Materia Medica), categorised 365 herbs according to three categories: 120 'upper' (上 shang) herbs, 120 'middle' (zhong) herbs; and 125 'lower' (下 xia) herbs. This article discusses the clinical implications of this tripartite organisation, which goes far beyond being a mere indicator of the level of toxicity of the herbs documented. It also includes a discussion of the *Shen Nong Ben Cao Jing's* categories of jun, chen, zuo or shi (chief, assistant, envoy and messenger), the meaning of which differs significantly from the typical current interpretation of these terms.

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Introduction

Similar to the *Nei Jing* (Inner Classic), the *Shen Nong Ben Cao Jing* did not have a single author or represent one person's perspective or experience, but was rather put together by an unknown number of authors over a period of time, and credited to Shen Nong. According to Chinese folklore, the mythical 'Divine Farmer' Shen Nong is credited with inventing tools and agriculture, and is said to have categorised plants into vegetables, grains, medicines and poisons for the benefit of the people. The most commonly quoted statement about Shen Nong is that in the course of one day he tasted 100 plants and identified 70 poisons. While such statements more likely refer to legend rather than reality, the legacy of the Divine Farmer remains with us today, and honours the very first Chinese materia medica with his name.

Organisation of the text

The first significant aspect of the *Shen Nong Ben Cao Jing* to note is that the book is not simply a compendium of all the herbs that were in use during the Eastern Han Dynasty, but rather constitutes a careful selection of only 365 herbs. The choice of this specific number – correlating with the number of days in a year – reflects the naturalist perspective of the authors, for whom the choice of a number correlating with a natural cycle was clearly more important than simply listing every medicinal herb known at the time. Such correlations of numbers reflecting natural cycles can be seen throughout Chinese medicine, and this example might be regarded as the herbal equivalent of the 365 acupuncture points on the body, the 12 channels to match the 12 months, the five zang to match the five phases, etc.

Secondly, it should be noted that the *Shen Nong Ben Cao Jing* listing of herbs has been referenced in virtually every materia medica that followed, with almost every new author quoting the original text before adding

additional commentaries.

The third notable attribute of the *Shen Nong Ben Cao Jing* is its organisation. It is divided into three scrolls that document three distinct groups of herbs: 120 'upper' (上 shang) herbs, which can be taken daily to lengthen the lifespan; 120 'middle' (中 zhong) herbs, which can be taken to prevent and hold back illness; and 125 'lower' (下 xia) herbs which treat illness, are mostly toxic and should not be taken for a long time.¹ Many scholars state that this tripartite organisation refers to varying levels of toxicity, but the theory behind the three distinct levels of herbs is actually much more profound than this, and represents a theoretical framework that explains how to use herbs in clinical practice based on the intensity of their effects on the body.

Upper herbs

The *Shen Nong Ben Cao Jing* tells us '上藥多服久服不傷人。欲輕身益氣不老延年者', which I translate as, 'Upper plants prescribed in quantity and/or prescribed for a long time will not injure the person, [use if one] desires to lighten the body, benefit qi and lengthen the lifespan.' From this statement we can infer that the people of the time were interested not only in healing illness, but were also looking to plants for the '100 years of health' as promised in the opening pages of the *Nei Jing*.²

Upper category herbs can be taken daily for a long time without injuring the patient. In this category are herbs such as Ren Shen (Ginseng Radix) and Huang Qi (Astragali Radix) – perhaps unsurprisingly, as today they are classified as herbs to tonify the qi. But also in the upper category are herbs that we may not associate today with 'lightening the body, benefiting qi and lengthening the lifespan' such as Fang Feng (Saposhnikovia Radix), Shi Chang Pu (Acori tatarinowii Rhizoma), Hua Shi (Talcum), Long Gu (Fossilia Ossia Mastodi) and Wu Wei Zi (Schisandrae

Fructus). Of course, this does not mean that these herbs can be taken by anyone for any length of time without the prescription being based on a clear diagnosis. The upper herbs only provide their desired effects when their specific flavour and nature are tailored to the constitution of the individual, or else prescribed so that the flavour and nature of the herb mitigates the unbalancing effects of environment in which a person lives. Only in such situations will long-term ingestion have a positive affect on the patient's health.

In terms of the clinical application of upper herbs, according to the *Shen Nong Ben Cao Jing* we should ask ourselves the following whenever we write a formula: have we prescribed these herbs to be consumed every day to lighten the body, build the qi and lengthen the lifespan? Are we thinking of these herbs as safe to be used daily to keep disease at bay? In modern Western culture, where taking vitamins and supplements is a common practice, the *Shen Nong Ben Cao Jing* is an excellent resource for the clinical use of 120 upper herbs that can be used in a similar manner. When the herbs are matched with the constitution and/or environment of the patient, they are safe and will not harm the patient even with extended use. These are the substances one could and perhaps should choose to consume daily so that disease or even mild deficiencies do not arise.

Middle herbs

Regarding the middle category of herbs, the *Shen Nong Ben Cao Jing* tells us: '中藥無毒有毒。斟酌其宜。欲遏病補虛羸者' ('Middle herbs [some] are not toxic [although some] have toxicity. [One should] consider their appropriateness. [Use if one] desires [to] hold back illness, tonify deficiency and for those who are weak.'). This wording describes 120 herbs that we can use when patients show deficiency that may allow illness to enter, or to hold back or prevent an illness from worsening. Thus middle herbs are employed at the pivotal moment where our patients are neither full of health, nor fully diseased.

Despite having little or no toxicity, middle herbs are not considered safe to take every day without potentially causing harm to the patient. In the middle category are herbs such as Dang Gui (*Angelicae sinensis Radix*), Bai He (*Lilii Bulbus*) and Shao Yao (*Paeoniae Radix*). These are herbs that many contemporary practitioners might assume would be in the upper category and therefore prescribe them long-term. However, these herbs are not in the category of herbs safe to take daily for long periods of time (and note also that they are not in the category of herbs that treat disease, which means they may not be effective if they are the focus of a formula for a sick person). The middle herbs accomplish the specific job of treating deficiency and holding back illness, but from the perspective of the *Shen Nong Ben Cao Jing* they should be stopped when the body has returned to health. The middle herbs are an excellent choice when a patient shows mild symptoms of deficiency

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and their body needs to be gently 'nudged' back to health, but their condition has not progressed to the point that they have a specific disease (which would require more potent herbs to return the body to harmony).

Lower herbs

Regarding the lower category of herbs, the *Shen Nong Ben Cao Jing* tells us: '下藥多毒。不可久服。欲除寒熱邪氣破積聚愈疾者' ('Lower herbs many are toxic. [They are] not appropriate for long-term consumption. [Use if one] desires to expel cold and heat evil qi, break masses and heal illness'). Thus, only the last category of 125 herbs are said to be able to treat actual disease. This should not be overlooked as we create our formulas. In the lower category of herbs we find many toxic substances, none of which should be taken for extended periods of time. Here we find herbs that one might expect to see, such as Da Huang (*Rhei Radix et Rhizoma*), Fu Zi (*Aconiti Radix lateralis preparata*) and Ban Xia (*Pinelliae ternatae Rhizoma*) - medicinals which are still used with caution by practitioners today. However, this category also includes herbs that we may not think of as particularly toxic or as having to be used sparingly, such as She Gan (*Rhizoma Belamcandae Chinensis*), Jie Geng (*Platycodi Radix*) and Xuan Fu Hua (*Flos Inulae*). Also in the lower herb category are 25 insects, which reminds us that animal products such as these are powerful and toxic, and should only be used for short periods of time in situations requiring immediate treatment. It is important not to overlook this in today's world where many practitioners prescribe patent formulas containing lower category herbs for the long-term treatment of chronic patterns, for example blood-breaking herbs for chronic blood stasis.

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Principles of treatment

In the *Nei Jing Ling Shu* it is stated, '上工，刺其未生者也；其次，刺其未盛者也；其次，刺其已衰者也。' ('Upper doctors needle when illness has not manifested, a step below [doctors] needle before the illness is in excess, a step below [doctors] needle when the patient is already depleted'). Tang Dynasty doctor Sun Si Miao expanded on this theory, writing '上工治未病，中工治欲病，下工治已病' ('Upper doctors treat [patients with] no illness. Middle doctors treat [patients] on the verge of illness. Lower doctors treat [patients who] already have illness'). In this context,

the *Shen Nong Ben Cao Jing* provides us with the theory to be an upper, middle or lower doctor. Thus, a doctor with the highest medical skill treats the patient before any illness has manifested, using upper herbs to prevent illness in their patients. Middle doctors have to resort to using middle herbs, tonifying deficiency and preventing progression into a defined illness. Lower doctors have to use lower herbs to expel the strong pernicious influences that have already depleted their patients.

If we are using herbal medicine to treat disease, we should look through the list of herbs in the lower herb category and consider how frequently we use these herbs ...

Because many people today view the *Shen Nong Ben Cao Jing* as an antiquated compendium of herbs and their functions, they often overlook the section on theory and application of herbs that was studied as a matter of course by every classical practitioner prior to modern times.

上藥一百二十種為君，主養命；

Upper herbs: [all] 120 of them are jun, they are in charge of nourishing vitality.

中藥一百二十種為臣，主養性；

Middle herbs: [all] 120 of them are chen, they are in charge of nourishing physicality.

下藥一百二十五種為佐使，主治病；

Lower herbs: [all] 125 of them are zuo and shi, they are in charge of treating illness.

用藥須合君臣佐使。

In using herbs, one must combine jun, chen, zuo and shi.

The terms jun, chen, zuo and shi are typically translated as chief, assistant, envoy and messenger. The typical understanding of these terms is that the chief herb treats the main problem, the chen or assistant herb assists the main herb, and the zuo and shi as envoy and messenger herbs counteract any harsh properties of the other herbs, harmonise the formula and/or direct the action of the formula to a specific region of the body. However, the use of this terminology in the *Shen Nong Ben Cao Jing* is different. The *Shen Nong Ben Cao Jing* defines the entire group of upper herbs as jun ('chief') herbs, but according to the *Shen Nong Ben Cao Jing* these herbs are not in charge of treating illness, but are in charge of nourishing life and affecting our vitality.³ The middle herbs are defined as chen ('assistant') herbs, but in the *Shen Nong Ben Cao Jing* these are considered to have a more powerful effect on the body than upper category herbs, and are thus used when we need to affect deficiency or hold back illness. The entire group of lower herbs are defined as zuo and shi - what today are called envoys and messengers, but in the *Shen Nong Ben Cao Jing* these are not used as harmonisers or delivery mechanisms,

they are the herbs that have the most dramatic effect on the body and are thus used for short periods to clear pathogens that have invaded the body.

Understanding herbs according to the strength of their effects on the body helps us to be more clear in our choice of herbs when creating a formula. In modern Chinese and English-language materia medicas, we find herbs from the upper, middle and lower categories grouped together by herb action, but according to the *Shen Nong Ben Cao Jing* such herbs should be used in very different circumstances. For instance, in the Regulate Blood category in the materia medica by Bensky et al.,⁵ we find the following herbs from the *Shen Nong Ben Cao Jing*: Wang Bu Liu Xing (Vaccaria Semen), Dan Shen (Salviae miltiorrhizae Radix), Ze Lan (Herba Lycopi Lucidi), Tao Ren (Persicae Semen), Chuan Xiong (Chuanxiong Rhizoma), Bai Ji (Bletillae Rhizoma) and Hu Zhang (Radix et Rhizoma Polygoni Cuspidati). The application of these herbs in treatment becomes quite different from the typical modern approach when seen from the perspective of the *Shen Nong Ben Cao* categorisation. Wang Bu Liu Xing and Dan Shen are classed as upper herbs, meaning they will benefit the person but be ineffective as primary herbs when treating an actual disease - at least at the standard dosages typically used today. Ze Lan, Tao Ren and Chuan Xiong are middle category herbs, indicating they are excellent to bring the system back into harmony and keep a potential illness from manifesting, but should not be taken long term nor be expected to be effective at treating an acute condition. Bai Ji and Hu Zhang are lower herbs, indicating they have the efficacy to treat a serious condition but must be stopped after a short period of time. Using herbs in this way brings the practice of herbal medicine in line with the *Ling Shu* quote above, where we are employing herbs to maintain a person's health by strengthening the zheng qi (upper herbs), to keep an illness from developing or treating deficiency (middle herbs), or to treat disease by expelling pernicious qi (lower herbs).

If we are using herbal medicine to treat disease, we should look through the list of herbs in the lower herb category and consider how frequently we use these herbs in our formulas versus the number of upper or middle category herbs we may tend to favour. While today we may believe lower herbs to be toxic substances and thus rarely use them, the *Shen Nong Ben Cao Jing* reminds us this is the group of herbs to use if we expect to effectively treat an illness that has already manifested. We must consider this when writing a formula, as it is these potent substances that are exactly what is needed to expel from the body pernicious qi such as wind, cold, heat, damp, dryness and fire, and quickly and effectively heal our patient. But we are also reminded that toxic substances should not be used for any length of time.

In a situation where our patient is not sick per se, but is out of balance, or has mild symptoms that will worsen without treatment (what today might be referred to as a state of sub-acute illness), herbs from the middle category

should be our primary focus, as they are strong enough to build and nourish the body, tonify deficiency and stop pernicious qi from growing stronger. However, these herbs are not strong enough to have negative side effects on our patient during the course of treatment.

Just as importantly, the *Shen Nong Ben Cao Jing* emphasises that we should not believe that upper herbs will treat our patients quickly or successfully should they have a serious illness. The perspective of the *Shen Nong Ben Cao Jing* is clear: Upper category herbs are for treating the vitality and spirit - they support the upright qi and lengthen our years, but their presence should be a tiny part of a formula if we are treating disease. If we rely on a formula composed mainly of upper herbs like Hua Shi (Talcum), Shu Di Huang (Rehmanniae Radix preparata), Mai Men Dong (Ophiopogonis Radix), Mu Xiang (Aucklandiae Radix), Yin Chen Hao (Herba Artemisiae Capillaris), Sang Ji Sheng (Taxilli Herba) and Wu Wei Zi (Schisandrae Fructus) when treating actual illness, we should not expect the results to be profound. These herbs lengthen the lifespan and lighten the body, but do not treat disease or benefit deficiency. Using this group of herbs to treat disease may not harm our patients, but is unlikely to cure their condition. For some patients with serious conditions, delaying their return to health through a long course of ineffectual treatment may have as dire consequences on their chances of recovery as incorrect treatment itself.

However, if our practice consists of providing preventative medicine, the upper herbs should be the focus of our treatment, and we should be cognisant of avoiding the prescription of herbs from the middle or lower categories without due cause. Our patients could be taking upper herbs every day, not necessarily as a complicated multiple-herb formula to be prepared as a decoction, but steeped as a light tea of one or two herbs. In this way we are following Sun Si Miao's guide to being an 'upper doctor' - treating patients before they even become ill. This does not mean we should eschew middle category herbs when they would be beneficial. We might provide our patients with seasonal food recipes using middle herbs to hold back illness and benefit deficiency. The classic formula 當歸羊肉湯 *Dang Gui Yang Rou Tang* is one of the more famous examples of this.

Clinical examples

To provide a simple explanation of how to use this theory in the clinic, let us use the example of a patient with a previous history of yang deficiency, weakness and cold. As the seasons change from Summer to Autumn, in September a few grams of the upper herbs Huang Qi (Astragali Radix) or Gui Zhi (Cinnamomi Ramulus) could be prescribed to drink daily as a tea. Assuming we did not treat her in this manner, by November she may start to notice a fear of cold or coldness in the body (cold hands or feet, desire for warm drinks, the need to wear more clothes etc). If this

is the case we may consider prescribing the middle herbs Gan Jiang (Zingiberis Rhizoma) and Dang Gui (Angelicae sinensis Radix) as the focus of a formula to tonify and warm the body. Again, assuming we did not treat the patient in this manner, by December or January, the yang deficiency or excess of pathogenic cold in the body might need to be addressed with lower category herbs such as Fu Zi (Aconiti Radix lateralis preparata), Wu Tou (Aconiti Radix) and Ban Xia (Pinelliae ternatae Rhizoma).

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Conversely, if a patient comes to us already sick, our treatment would begin with lower herbs and then move to middle and upper herbs as the patient progresses towards health. At the author's clinic in Hangzhou in China many patients come presenting with dysentery or food poisoning manifesting with relentless diarrhoea. In this situation, the lower herb Bai Tou Weng (Radix Pulsatillae Chinensis) is often the main focus of treatment as part of the four-herb formula *Bai Tou Weng Tang* (Pulsatilla Decoction). In such cases once the toxicity has been relieved and the patient is no longer rushing to the bathroom, treatment with middle herbs Bai Shao (Paeoniae Radix alba) and Ge Gen (Puerariae Radix) will begin to protect and restrain the yin, combined with a small dose of Huang Qin (Scutellariae Radix) and Huang Lian (Coptidis Rhizoma). Finally, after such a severe loss of fluids and damage to the qi, the upper herbs Ren Shen (Ginseng Radix) and Mu Xiang (Aucklandiae Radix) are added to the prescription to rebuild the qi and fluids and ensure the qi moves smoothly and the bowels return to normal. After several days of regular bowels and no bloating or discomfort after eating, three to six grams of Ren Shen (Ginseng Radix) or Shan Yao (Dioscoreae Rhizoma) steeped and drunk daily as a tea will consolidate the patient's recovery.

Conclusion

As the very first Chinese materia medica, the *Shen Nong Ben Cao Jing* is a book that every famous doctor through history would have studied, and we should be aware of its perspective when studying their formulas or creating our own. When we examine our patients and choose herbs for their treatment, we should ask ourselves whether we are treating the very ill, whether we are trying to hold back deficiency, or whether we are seeking to assist our ageing patients to remain vital up to 100 years of age (as promised in the *Nei Jing*). Just as importantly, we should ask ourselves whether we are prescribing herbs safely. While modern materia medicas discuss toxicity, they do not tend to classify herbs according to the upper, middle or lower categories. Without this information, we may

inadvertently prescribe lower category herbs to treat mild illness, or upper category herbs for severe disease. In either case, incorrect treatment brings to mind Zhang Zhong Jing's famous statement in the *Shang Han Lun* (On Cold Damage): '一逆尚引日，再逆促命期' ('To treat incorrectly once lengthens the days [of illness], to treat incorrectly a second time shortens the life expectancy').

A dedicated practitioner and teacher, **JulieAnn Nugent-Head** is part of the Association for Traditional Studies, a not-for-profit company dedicated to bringing classical knowledge back to the forefront of Chinese medicine. For more information about the Association for Traditional Studies, its training programs and free online video library of educational material, please visit www.traditionalstudies.org.

References

1. For a complete list of the *Shen Nong Ben Cao* upper, middle and lower herb classification please see www.traditionalstudies.org/shen-nong-ben-cao-division-of-herbs/
2. '乃問于天師曰：余聞上古之人，春秋皆度百歲，而動作不衰。' (I asked the great teacher: 'I have heard it said that the 'Ancients' in Spring and Autumn existed for 100 years and their movements did not become weak or feeble.')
岐伯對曰：上古之人？其知道者，法于陰陽，和于術數，食飲有節，起居有常，不妄
3. 'Affecting vitality' in this sense can be seen as giving a healthy glow to the person, or a sparkle to their eyes.
4. Certainly, upper category
5. Bensky, D., Clavey, S., & Stöger, E. (2004). *Chinese Herbal Medicine: Materia Medica*. 3rd ed. Seattle: Eastland Press

作勞，故能形與神俱，而盡終其天年，度百歲乃去。(Qi Bo answered: 'The people of ancient times? Those that knew the Dao, [they followed] the laws of yin and yang, the balance of mathematics and restraint in food and drink. Daily life had rhythms, they did not recklessly (over-)work. Thus their shape and their spirit were together. They could live their whole life and not until 100 years pass away.')

herbs can be used for powerful effects, but not without 'unique' usage. For example, 60 grams of Ren Shen (Ginseng Radix - an upper category herb) is used alone in *Du Shen Tang* (Unaccompanied Ginseng Decoction) to restore depleted yang and save life. Note that this is way out of the typical 'recommended dosage' range. The point is that six to nine grams of Ren Shen will not do anything to save the life of a patient suffering from heart failure.