

Orbs and Organs

In a previous article I discussed the difference between ‘Twelve Officials’ theory and Zang/Fu. Other writers have stressed the difference between the Zang/Fu and the Western understanding of the anatomical structures that are denoted in the customary translation of the Chinese terms.

Heiner Fruehauf in his article CHINESE MEDICINE IN CRISIS: SCIENCE, POLITICS, AND THE MAKING OF “TCM” compares the Classical Chinese Medicine and Traditional Chinese Medicine view of the anatomy and the ‘organs’ in particular.

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|---|---|
| <p>CCM Views body as field (traditional <i>zang/xiang</i> theory: <i>zang/fu</i> are primarily viewed as functional systems)</p> | <p>TCM Views body as materiality (influence of modern anatomy: <i>zang/fu</i> are primarily viewed as structural organs)</p> |
|---|---|

Manfred Porkert in “The Theoretical Foundations of Chinese Medicine’ coins the term ‘orb’ to distinguish the Chinese concept from the anatomical structure and discusses the distinction between the view of the ‘organs’ in functional based Chinese medicine, and anatomical based Western medicine. (Square brackets are my insertions).

...Whereas in anatomy Western medicine, causal and analytic, primarily describes the aggregate carriers (or substrata) of effects, inductive synthetic Chinese medicine is primarily interested in the fabric of functional manifestations of the different bodily regions. These manifestations are described systematically by the discipline of “orbisiconography” (*tsang-hsiang* 臟象) [*zangxiang*]¹

The ambiguity of the technical term “orb” (*orbis*) reflects almost exactly that of the Chinese term *tsang* [*zang* 臟], which refers on the one hand to a bodily substratum with ill-defined material and spatial contours, and on the other hand to a physiological function associated with that sub-stratum and qualitatively defined in time with precision and subtlety. The Chinese word *fei* “lungs” for instance, calls to mind only coincidentally and vaguely most of the ideas that someone with a Western education associates with the lungs. Instead *fei* designates primarily and predominantly an orb of functions defined systematically and logically, the “orbis pulmonalis.” The qualifiers used in orbisiconography (*pulmonalis*, *cardialis*), and so on) must be understood as definitions of effective relations or functions, not simply as a expressions of a crude anatomical insights. This is why statements bearing on a certain orb can under no circumstances be made to agree completely with statements bearing on the corresponding organ in Western thought. The better statements are supported in context by empirical data integrated into their logical systems, the less reconcilable they turn out to be. Given this fundamental

¹ Xiàng 象 means ‘image’. Suggesting more of a symbolic representation.

divergence it may happen that for a given orb described by traditional Chinese medicine (e.g. the *orbis tricalori*, *san chiao* [*san jiao*], Western medicine can define no corresponding substratum or, inversely, that Chinese medicine does not postulate an orb for an organ (e.g. the pancreas) defined by Western medicine.

Orbisiconography (tsang-hsiang), methodologically speaking, is not the close counterpart of Western anatomy but its antithesis. Illustrations of orbisiconography were, as a rule, meant primarily as diagrams of functions, not as pictures of anatomical substrata. The attempt to view them as “anatomical figures” inevitably leads to abortive conclusions.

[Porkert 107]

The following is somewhat redundant but serves to emphasize the point.

The naming of organs to designate the large apparatuses located in the major cavities of the human body is rather unfortunate, for it is not a question merely of the anatomical connotation which the names imply.

All the ideograms used in Chinese medicine in connection with the body's workings describe mechanisms and functions. These mechanisms usually unfold in certain regions of the body whose anatomical location makes us think of their specific Western names. However, adjustment of name and location does not always strictly coincide, for the functions attributed to an organ are not limited to a topographical region, and they extend far beyond the area in question. The heart for example, by controlling the circulation, commands the entire vascular system the thus the total vitality of the body. Also the mechanisms subsumed by the designation of 'spleen' carry their affects to the extremity of the body.

(Larre 158)

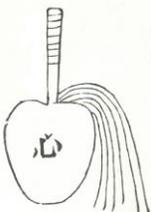
What Porkert calls orbisiconography can best be understood as philosophically based upon 'systems theory'.

Systems theory was the nomenclature early investigators used to describe organization and interdependence of relationships. The system concept contrasts with the Classical perspective of reductionism which has as its subject a single part. A system is composed of regularly interacting or interrelating groups of activities/parts which, when taken together, form a new whole. In most cases this whole has properties which cannot be found in the constituent elements.

http://en.wikipedia.org/wiki/Systems_theory

We could say that Chinese medical energetic anatomy and physiology is primarily about relationships between things and secondly the function of the individual parts.

Xin (Heart-Mind)



The syndromes related to Heart in Chinese medicine include many symptoms that are of an emotional nature, including a psychotic degree of disturbance, and also general anxiety and palpitations. It is an aspect of Chinese medicine in general that emotional and psychological aspects are associated with the internal organs and the Heart is central to this. It is of

note that although the brain is an extra-ordinary organ in Chinese medicine it does not figure among the Zang-Fu. Clearly Chinese medicine and Western medical science have a very different understanding of the location of mind. This would appear to be a major discrepancy between Eastern and Western understanding. It is worth bearing in mind that it is common for modern Westerners to assume that the mind and the brain are more or less synonymous, in other words that the mind is located in the brain, but philosophically this is debatable, for example recent research has revealed that the nervous system surrounding the gut is more complex than previously recognized, and is not just the passive 'wires' carrying messages to and from the brain, but actively involved in processing.

A previous article has discussed the differences between Twelve Officials and the Zang-Fu model. In modern TCM the 'bowels' are considered to be somewhat more distinct from the visceral functions. Within the Fire Phase the Xin Bao also has a somewhat more ancillary role (In earlier times the Heart channel was identified with the Xin Bao Luo). Xin Bao Luo and San Jiao are considered as somewhat distinct and unique and thus do not have their own syndromes within the context of the Zang-Fu. Most heart symptomatology is thus seen as related to the Heart specifically in terms of syndromes (Heart Qi Xu, Heart Yang Xu, Heart Blood Stagnation etc.). Within Five Phases tradition this would be seen as a rather limited perspective and the role of the other orbs would be seen as extending to these visceral functions.

Heart and Small Intestine

The Chinese consider the Heart to be central to our emotional being and consciousness. The Shen, traditionally considered to be the 'spirit' is said to reside in the Heart. Shen is understood to be consciousness, in modern TCM. In this respect the Chinese are in broad agreement with cultures east and west. The Egyptians considered the heart to be seat of the soul and the knowledge of good and evil. This pairing of soul (consciousness) and discrimination is very interesting when compared with the Small-Intestine function of 'separating pure and impure'. It suggests that this function is considered to be intimately related to the Shen, and to have implications far beyond the mere digestive process. For example in the course of human development a baby learns to discriminate self and not-self. Later on in the phase of maturity associated with Fire this discrimination develops to a further stage of self-consciousness, basically a mature characteristic, which can be also go to an extreme self-consciousness and social anxiety. Schizophrenia can be defined as a breakdown in the capacity to understand what is self and what is not-self.

Xin Bao Luo, Xin Zhu, Dan Zhong

There are a number of names that are considered to be alternative names for the same entity.



The translation of Xin Bao Luo as 'Heart Wrapping Collaterals' led to a translation of circulation/sex. Referring to the circulatory system in general; as such it represents the body tissue most associated with Fire in the Wu-Xing. In modern TCM usage this has been rendered more circumspectly as the 'Pericardium'; this would seem to be a rather limited

translation. The term Heart-Master or Heart-Protector also relates to its subsidiary functions. In terms of Zang-Fu theory it is seen as this intimate with the Heart. The ‘sex’ part of this transliteration is because of a close connection to a function that is seen as separate in other traditions and labeled Kidney-Yang or Ming-Men. Xin Zhu, heart-master is perhaps a little confusing, because this function is clearly subordinate to the heart. It should be thought of more as that which the heart masters, i.e. the circulation and blood.

Dan Zhong, this is also the name of CV.17 CV.17 is described as the Front-Mu point of the upper jiao in the Ling Shu, (CV.15 is given as the specific Front-Mu of the Xin Bao. It later came to be considered the Front-Mu of the Xin Bao which is the way it is usually described in modern texts. Such discrepancy reveals the close connection of certain function. The result of this change is that practitioners of modern TCM will often be treating CV.17 as the Front-Mu of the Xin Bao and actually having a wider effect than they are conscious of.

San Jiao – Triple Burning Spaces

Although the Xin Bao Luo can be identified with the circulatory system to some degree the San Jiao appears to be the most unique of the Chinese officials. It has not been



identified with any specific structure. However, we can typify its function as homeostasis (of which body temperature is just a marker) and some identification with the hypothalamus and pituitary is possible. Although modern TCM tends to interpret hyperthyroidism in relation to the Heart one can see that San Jiao would be very important to elaborate this picture.

The San Jiao although considered to be paired with the Xin Bao in Yin/Yang relation within the Five Phases, is also considered to be the Bowel attached to the Kidney-Yang function in TCM terms. The San Jiao is described as regulating fluid passageways in the Su Wen, emphasizing a close connection to the Bladder. And indeed this connection is further emphasized by the fact that Bl.39 is the Lower He-Sea point of the San Jiao.

Fei (Lung(s))



The Lung is like a canopy on top of the internal organs.

Heart and Lung – Complementary Officials

It is considered the complementary organ to the Heart, the Prime Minister to the Heart – Emperor. Among the officials it is said to rule the ‘life-giving’ network, or in Zang-Fu terms to ‘control’ the Qi, bearing in mind that the *en vogue* translation of this is ‘energy’ but the more literal translation would be ‘breaths’. (See Table below)

| Heart | Lung |
|---|--|
| Sovereign | Prime Minister |
| Rule Xue (Blood) | Rules Qi (Breaths) |
| 1 st Position left side of pulse | 1 st position right side of pulse |

Gan (Liver)

The Liver in Chinese medicine is associated with some diseases that would be associated with the liver in Western pathology such as jaundice and hepatitis. However, it is worth noting that in Chinese medicine these conditions are actually described as a Liver/Spleen disharmony, and that some cases of jaundice and hepatitis are more closely associated with the Spleen in Chinese medical syndromes. Clearly the Chinese concept of Liver and Spleen overlap with the anatomical liver. Among the mental/emotional associations that the Chinese make with the Liver that express themselves in relation to muscular activity and coordination many aspects of the nervous system as understood within Western medicine would be included under the auspices of the Liver and Gall-Bladder in Chinese medicine. Indeed in modern TCM the Liver and Heart are central to all mental-emotional disorder.



Dan (Gall-Bladder)

Gall-Bladder is the ‘Upright official of Decisions and Judgment. The Uprightness refers to something of a particular character about the Gall-Bladder. Gall-Bladder is something of an oddity as it is also included among the list of extra-ordinary organs. It is distinguished from the other bowels by containing more pure substance where the others have mixed pure and impure.



Gall-Bladder among its syndromes has one called ‘Gall-Bladder Deficiency’, which is described as more of a personality trait, and representing the equivalent of a Liver Yang Deficiency. In other words TCM does not name a syndrome of ‘Liver Yang Xu’, but this syndrome describes the equivalent state. This makes Gall-Bladder in terms of Zang-Fu closer to the view of Yang Organs that is found within Twelve Officials and Five Elements styles.

Liver and Gall-Bladder

Paired organs are clearly very closely allied and so we should expect a great degree of overlap between their functions. In terms of the Twelve Officials the description of the Liver as in Charge of ‘Strategic Plans’ and the Gall-Bladder as in charge of ‘Decisions and Judgment’ can be seen as mutually complementary.

“...the biliary function is not uniquely limited to the receptacle of the gall bladder, but concerns the entire ‘hepatic gland’.” (Larre 220)

Pi (Spleen)

It has been stated that the Chinese do not identify the pancreas as a distinct primary organ. However, it is of note that the illustrations of the Spleen do appear to look more like a pancreas than a spleen. Also the association of the Sweet taste with the Spleen would suggest a greater association with the pancreas. It was customary to call this function the Spleen/Pancreas in many European texts. It is not known if the Chinese character has undergone some change, that these European authors were perhaps aware of, or whether this transliteration was simply conjectural.



Spleen and Stomach

We have already drawn attention to the fact that Stomach and Spleen are seen as very closely entwined. We should also note that in the Ling Shu the point CV.12 is considered to be the Front-Mu of the middle jiao, in later and modern practice it is considered to be the Front-Mu of Stomach; again demonstrating that modern practitioners are unconsciously treating a wider range of functions than they are aware of with the use of CV.12. We will return to the importance of this in discussing the Stomach.

Spleen and Liver

We have already called attention to the overlapping of Chinese Liver and Spleen in relation to the Chinese Liver. We should also note the overlap of Spleen and Liver in relation to Chinese Spleen functionality. For example, the syndrome of ‘Spleen not Containing Blood’ that manifests as tendency to bruise easily would obviously call to mind clotting mechanisms that would be related to the liver in Western understanding.

It is of note that the channels of the Liver and Spleen are bilateral, this would help us recognize that the functionality of the Liver and Spleen officials overlaps the liver and spleen (pancreas) organs. Another representative of this overlap is that the point Liver.13 is the Front-Mu point of the Spleen.

Spleen (Pancreas) and Liver

In further exploring the relations of these two orbs and their anatomical substrates we should note that:

- 1) The ‘Spleen’ in Chinese medicine is perhaps the best example of a major discrepancy between the Chinese orb and the anatomical organ.

- 2) Many authors have noticed that the Spleen appears to have more in common with the pancreas in Western terms which has led to the appellation Spleen/Pancreas being preferred by many authors².
- 3) Liver.13 is the Front-Mu of Spleen. (there are several inter-connections formed by the Spleen and Liver Channels in the abdominal area).

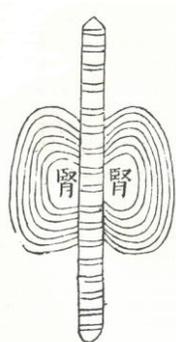
The anatomical relations of the liver and spleen/pancreas form an interesting correlate to their close relations in Chinese medicine. The liver is a tapered organ lying **predominantly** on the right side of the abdomen, the spleen/pancreas ensemble form a tapered structure lying **predominantly** on the left side of the abdomen. If we view the Chinese orbs as circles over this diagrammatic representation of the organs we approach a graphic representation of their overlapping functions.

Spleen and Small Intestine

One aspect of the functionality of the Spleen is to send the pure of the gu qi upwards and the impure downwards. We will see that Separating the Pure and Impure is actually considered to be a primary function of the Small-Intestine. We might thus ask if the Spleen also does the same function, or is some connection of the two officials implied. The latter is suggested by the characteristics of a syndrome that is characterized by ‘undigested food in stool’ as ‘Small-Intestine and Spleen Yang Xu’.

Shen (Kidneys, testicles)

The Kidneys could arguably represent the greatest discrepancy between the Chinese function and Western anatomy.



The dual meaning of the Chinese character is clearly closely related to its functionality. The concept of Jing energy is more closely associated with the gonads than the kidney organs. We can also make a closer connection to the adrenal glands (cortex and medulla) of the Chinese concept of Kidneys storing our long term and emergency resources. Many thus make a strong connection of Kidneys with the endocrine system in general. It is of especial note that the pancreas has an endocrine function and diabetes (‘thirsting and wasting’ is associated in Chinese syndromic medicine with the Kidneys and San Jiao; the most prominent symptoms being thirst and urination. Kidneys do have some endocrine function of their own particularly in relation to blood pressure maintenance.

We have already mentioned the Brain (also an extra-ordinary organ) and Spinal Cord as considered to be the ‘sea of marrow’ the Kidneys are seen as the source of these. We have also noted the close connection of Kidney and San Jiao which again pertains to the pituitary-hypothalamus and homeostasis.

Pang Guang (Bladder)

² Although the pancreas is represented by a modern character it is interesting to note that pictures of the Spleen in ancient Chinese texts look more like the pancreas.

The description of functionality of the Bladder and its pathology clearly pertains to the urinary system in general, and so we must include the anatomical kidney under the sphere of the Bladder functionality. It is of note that despite this the Front-Mu point of the Kidneys is GB.25 which is the most posterior of all the Front-Mu points. Its usage appears to be most pointed towards kidney organ problems. This paradox is perhaps made clear by the naming of GB.25 as Capital Gate, a name similar to Bl.64 Capital Bone. However, bearing in mind that the Bladder would represent the Yang aspect of the Water phase we see a certain amount of crossover in that the Front-Mu point of the Bladder is CV.3 a point used to support the Kidney energies. Above this is CV.4 Yuan Guan the Front-Mu of Small-Intestine (linked to Bladder as the Tai Yang), and CV.5 Stone Gate the Front-Mu of San Jiao (that we have already discussed as functionally linked to Bladder). Above this is CV.6 the Sea of Qi or Dan Tian.



Bladder and Uterus

There is also some overlap between the Bladder and Uterus. The outer Bladder line point for Bladder is Bl.53 'Bao Huang Shu (Bao=Womb and Huang=Vitals Shu)'. This relation is the reason that Bl.67 is a specific point for turning a breach baby. I speculate that one of the Chinese characters that form the double terms for Bladder may have referred to the Uterus at one time. Uterus and Bladder are both oestrogen sensitive organs.

Guang 光 Light, ray, moonlight, sunshine, smooth, glossy

Guāng (Kuang) 膀胱 Bladder

Kidneys and Bladder

Kidneys and Bladder for a close pair.

Bowels

In looking at the following three bowels we should note that they form the main divisions of the gut. Indeed if we identify the three Chinese officials as representing three functions of the gut we can see that these functions are not tied exclusively to the three main anatomical structures. If we start with the example of a simple creature like an earthworm we could see these three main functions as entirely coincident, in humans these functions have become more concentrated in a particular organ, but not exclusively so.

The Digestive System

A discussion of the digestive system in general serves as a particularly good example for examining the differences between the Chinese functions entities and the Western organs. We should also note the relative indivisibility of Stomach and Spleen functions. It is of note that in Chapter 8 of the Su Wen these orbs are not even separated, but their role is described jointly³.

³ It is worth noting that the Stomach and Spleen channels also represent this closeness, i.e. the channels of these two organs run side by side, this is a facet of the unusual nature of Stomach as a Fu with characteristics of a Zang – the Channel of Stomach although a Yang channel is on the yin surface.

The Stomach is referred to as the ‘sea of foods, it governs digestion’ [‘rotting and ripening’]. Although we can see this function as specialized in the stomach organ it is by no means exclusively so. The process of digestion begins in the mouth where the first digestive enzymes are released and continues through the small intestine and large intestine, in the latter the natural bacteria aid this process. The Small Intestine is said in the MTC to be a ‘bowel of transit and transformation/purification’ [sometimes expressed as ‘separating the pure and impure’] again this is a process by no means exclusive to the small intestine organ. Absorption begins in the mouth and continues even into the large intestine, in fact the bulk of fluids (and many nutrients) are absorbed in the large intestine. The Large Intestine is described has the function of evacuation of food waste, but also participates in digestive transformation’. Thus the three functions that are central to the digestive process can be seen as overlapping throughout the whole digestive tract rather than three distinct sections of it. It is interesting to note the particular point combination known as the (lower) sea of blood points: St.37 and St.39; these are the lower he-sea points of the Large Intestine and Small-Intestine (and of course are both on the Stomach channel), emphasizing the interdependence of these functions.

We can extend these processes beyond the digestive system per se. For example and examination of the San Jiao system as comprehensively taught indicates the process of ‘separating pure and impure to be taking place throughout the San Jiao system. This illustrates that the Small Intestine function and San Jiao function are inextricably linked, meaning that Small Intestine function is clearly not exclusive to the small intestine organ; and this is the practical expression of the relation of SI and SJ within the Fire phase⁴. TCM generally details a simpler view of the San Jiao system, but particular emphasis is placed upon the Spleen and the aspect of ‘separation of pure and impure’. Does this mean that the Spleen also ‘separates the pure and impure’ or is the Small Intestine involved here? The syndrome of ‘Small Intestine and Spleen Yang Xu’ is most associated with pronounced symptoms of undigested food in the faeces – meaning that when we refer to the Spleen separating the pure and impure we are really referring to a relation of the Small Intestine and Spleen.

The **Stomach** is identified with ‘rotting and ripening’, this represent the digestive process, we can see that this begins in the mouth with the release of digestive enzymes it certainly could be argued that it is most specialized in the stomach itself, but it by no means stops there, food continues to be digested after leaving the stomach, and particularly with the aid of bacteria in the bowel

The **Small-Intestine** is responsible for ‘separating the pure and impure’ which we can easily identify with the assimilative process. Assimilation actually starts in the mouth where some medications are given for this reason. It is certainly concentrated in the small-intestine, but does not cease in the large-intestine where in fact most of the liquid is absorbed.

⁴ We of course recognize the relationship of the paired orbs/channels within Fire and the relations of Heart and Xin Bao are often mentioned, but Small Intestine and San Jiao are also mutually complementary.

The **Large Intestine** is responsible for transit and elimination. This is perhaps the most congruent example of Chinese official and Western organ. However, we should not forget that elimination of waste is not confined to the large intestine. The Channel of the Large Intestine is closely connected to upper respiratory tract where mucous discharge can be viewed as an eliminative process.

We can see these three processes, and their interconnection represented in the Sea of Blood points that are also the Lower He-Sea points of Small and Large Intestine St.37 and St.39.

Wei (Stomach)

We noted that Chapter 8 of the Su Wen considers the Stomach and Spleen as one unit.



This is further reinforced by texts that emphasize that the Stomach is a Fu organ with certain characteristics more akin to a Zang organ, in that it does actually have a ‘storage’ function. In syndromes it is considered to have its own ‘qi’ unlike the other Fu-Bowels. We can see these exceptional characteristics represented at the level of the Channels where because the Stomach channel although being a yang channel is on the front of the body, and thus representing the yang within the yin, thus the paired yang Stomach and yin Spleen channels lie close together for much of their pathways. We have

previously mentioned the point CV.12 as having a wider field of action that the modern association with the Stomach.

Xiao-Chang (Small-Intestine)

Small Intestine is said to be in charge of ‘separating the pure and impure’. We have already seen that there is an overlap with Spleen functionality. If we



look at the San Jiao system in general we will see that ‘Separating the Pure and Impure’ actually occurs repeatedly within the San Jiao system. San Jiao and Small Intestine are indeed connected by being the two bowels paired with the two viscera of the Fire Phase, demonstrating that they are just as intimately connected as are the two yin organs of the Fire phase. This is perhaps is the best illustration of the fact that a Chinese function can not be rigidly identified with a specific anatomical

structure.

Da-Chang (Large Intestine)



We have already drawn attention to the fact that elimination is not exclusively a role of the large intestine organ. It could be said that the whole digestive tract is a gradual change over from the process of intake to excretion.

Conclusion

Officials and Zang Fu theory are differing, but compatible ways of understanding the primary individual functions of the body-mind system. The Chinese concepts are based upon a systems theory approach and are not congruent with Western understanding of the organs. It is important to recognize these differences to avoid miss-understandings in discussion with patients and health professionals.

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