

Oriental Medical Physiology

Shaoyang (Sanjiao and Gallbladder) Physiology

Six Levels of Physiology In Chinese Medicine

- Taiyang (UB/SI) – Opens outward (to outside)
- Shaoyang (GB/SJ) – Pivot
- Yangming (LI/ST) – Closes inward
- Taiyin – (LU/SP) – Opens outward (to inside)
- Shaoyin – (HT/KD) – Pivot
- Jueyin – (LV/PC) – Closes inward

Shaoyang Introduction

- Shao yang is a pivot between taiyang and yang ming
- Skin and external surfaces are associated with taiyang and pathways of digestion are associated with yangming - all other yang areas are encompassed by shaoyang
- Like the yin pivot, shaoyang is associated with movement and regulation and is used clinically to drain excess accumulation
- In the steamer analogy, the shaoyang level is like the lid regulating steam movement
- Shaoyang is associated with movement in the spaces between the sinews and bones - Liver nourishment of sinews, Kidneys -development of bones
- Shaoyang involves the sanjiao and gallbladder

Sanjiao

The Sanjiao holds the office of irrigation design; the water pathways issue from it

- The Sanjiao is one of the most debated topics in the history of Chinese medicine
- Many scholars-physicians have debated which (if any) anatomical structures comprise this 'organ'. Others have focused on its collections of functions.
- The Inner Classics describes the Sanjiao as an organ of irrigation and waterway management and it is described as a maintainer of fluid passageways
- Quote from Classic of Difficulty, *"How is the sanjiao supplied and what does it generate? Where does it begin and end? At which places might one treat the sanjiao? Is it even possible to know these things?"*

Sanjiao Functions

- The Sanjiao is a pathway for source qi
- The Sanjiao manages the various types of qi
- Controls the water passages and the excretion of fluids
- The Sanjiao is a place where yin and yang meet and transform

Sanjiao Functions

The Sanjiao is a pathway for source qi

- Source Qi is essence in the form of Qi (rarified). It is created by the union of Essence and Mingmen. It can be compared to genetic expression that occurs throughout the body.
- The sanjiao is what makes the source qi 'separate (into its different functions) and it controls the movement and passage of the three Qi through the five Yin and six Yang organs' – Classic of Difficulties
- Pg 210, in The Foundations of Chinese Medicine describes functions of source Qi aided by the sanjiao

Sanjiao Functions

The Sanjiao manages the various types of Qi

- The sanjiao controls the ascending-descending and entering-exiting of Qi in the Qi Mechanism
- The sanjiao ensures Qi passes through in the Qi Mechanism which takes place in all the organs and cavities
- The result of this Qi transformation by the sanjiao is the production of Nutritive Qi, Defensive Qi, Blood, and Body Fluids. Therefore the Sanjiao manages the various types of Qi
- Pg 211 in Foundations compares Liver and Sanjiao Function regarding movement of Qi

Sanjiao Function

Controls the water passages and the excretion of fluids

- The sanjiao is responsible for the transformation, transportation and excretion of fluids

Sanjiao Function

The Sanjiao is a place where yin and yang meet and transform

The spaces of the Sanjiao are sites of transformation. Classic of Difficulty states it is the ‘beginning and end of the pathways of Qi’

Sanjiao is the passageways for post-natal Qi of “water and grains”, so the fluids which circulate through it are outside the blood vessels.

It is helpful to think of cells which take in nutrition and convert this to cellular function (converting yin nutrition to yang function)

Four Views of Sanjiao

Sanjiao as One of the Six Yang organs

- Historically, the sanjiao was considered as one of the six Yang organs.
- It was said to have a form, meaning it is substantial and receives food and drink and has a hand in processing these.
- The sanjiao allows free passage and excreting or 'letting out' of
 - Defensive Qi in the upper burner
 - Transportation of Nutritive Qi in the middle burner
 - Excretion of body fluids in the lower burner
- Malfunctions are described as 'not flowing smoothly' and manifest as blockages of Qi and fluids in the above passages

Four Views of Sanjiao

Sanjiao as a Mobilizer of Source Qi

- Other descriptions state the sanjiao 'has a name but no form', emphasizing it is not an organ, but a collection of functions.
- A major function is that the sanjiao acts as a channel for the expression of Source Qi. Source Qi resides in the lower abdomen between the two Kidneys. It spreads to the five Yin and six Yang organs via the sanjiao. It then enters the 12 channels and emerges at the source points.
- Therefore the sanjiao allows the Source Qi to separate and differentiate for its different functions around the body.

Four Views of Sanjiao

Sanjiao as Three Divisions of the Body

- The Sanjiao is also described as three division of the body
 - Upper Jiao (burner) – diaphragm upwards
 - Includes the Heart, Lungs, Pericardium, throat and head
 - It is like a mist – distributes fluids by the Lungs to *couli*
 - Middle Jiao (burner) – between diaphragm and umbilicus
 - Includes Stomach and Spleen, and Gallbladder
 - It is like a maceration chamber – functions to rot and ripen food and drink and transport this nourishment
 - Lower Jiao (burner) – below the umbilicus
 - Includes Liver (anatomically and some functions are considered middle jiao, others relate it to lower, esp. gynecologically), Kidneys, Intestines, Bladder
 - It is like a ditch – separates essence of and fluids into clear and turbid and excretes turbid
- Three jiaos are a summarization of the functions of the Yang organs (and includes the Lung and Spleen function) in their work of receiving, digesting, transforming, absorbing, nourishing and excreting. The organs are not separate from the sanjiao.

Four Views of Sanjiao

Sanjiao as Body Cavities

- The Sanjiao is a system of body cavities
 - Includes chest cavity, abdominal cavity, joint cavities, spaces between skin and muscles, space between Membranes (superficial and deep fascia, the mesentery, the omentum and stroma surrounding organs)
 - These are generally irrigated and lubricated by various fluids and the Sanjiao controls these cavities because it controls the transformation, transportation and excretion of fluids in all parts of the body and it controls the movements of Qi in and out of cavities

Expansion of Concept of Sanjiao

Communicating Networks

- As a thought experiment, consider which systems in the body are so ubiquitous that, if nothing else were seen, would show the entire 3D shape of the body?
- These systems would be in communication with almost every aspect of the body's physiology?

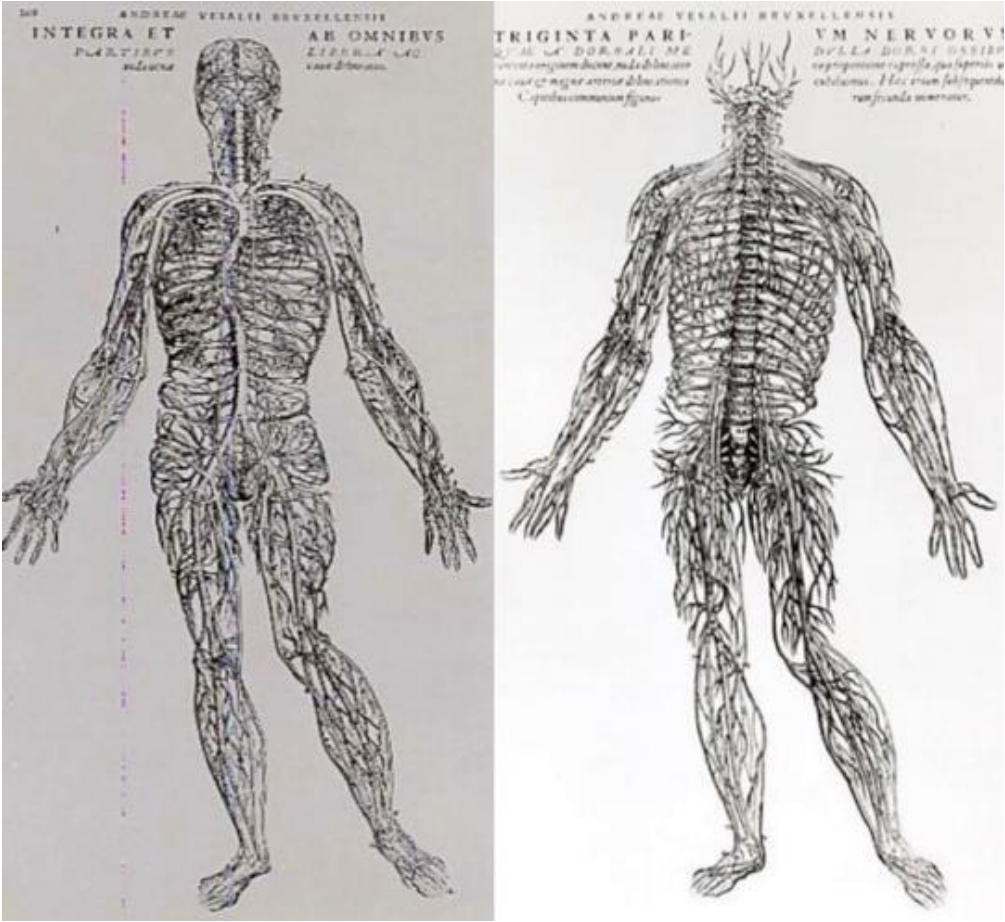
Communicating Networks

- These are:
 - The fluid net – composed of the blood and lymph vessels; communicates chemical information.
 - The neural net – composed of the nerves and individual neurons and neuroglia; communicates electrical information.
 - The fibrous net – composed of the continuous extracellular matrix of the fibrous connective tissue; communicates mechanical information.

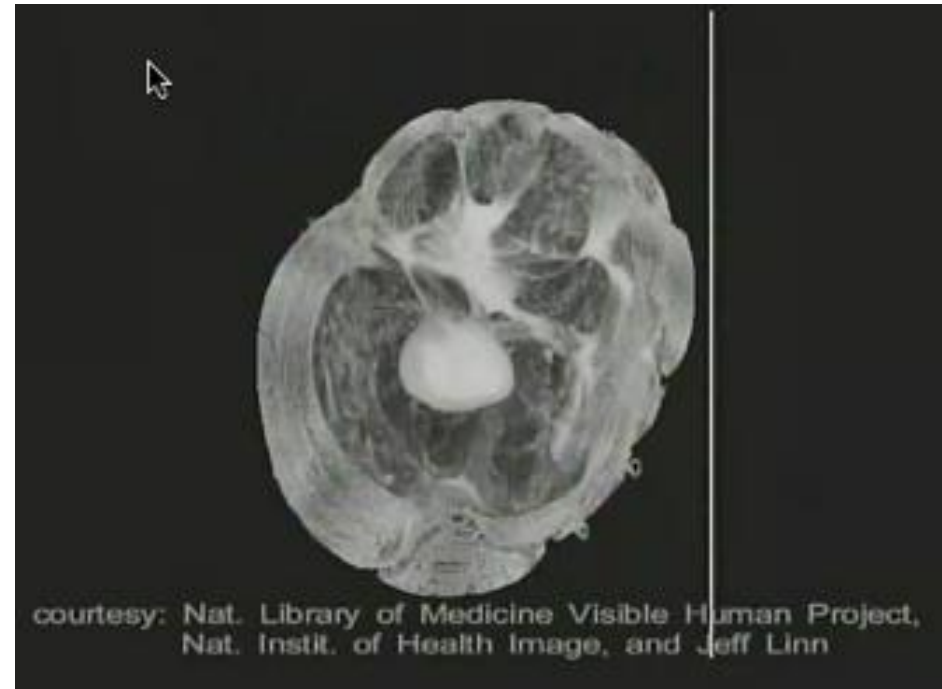
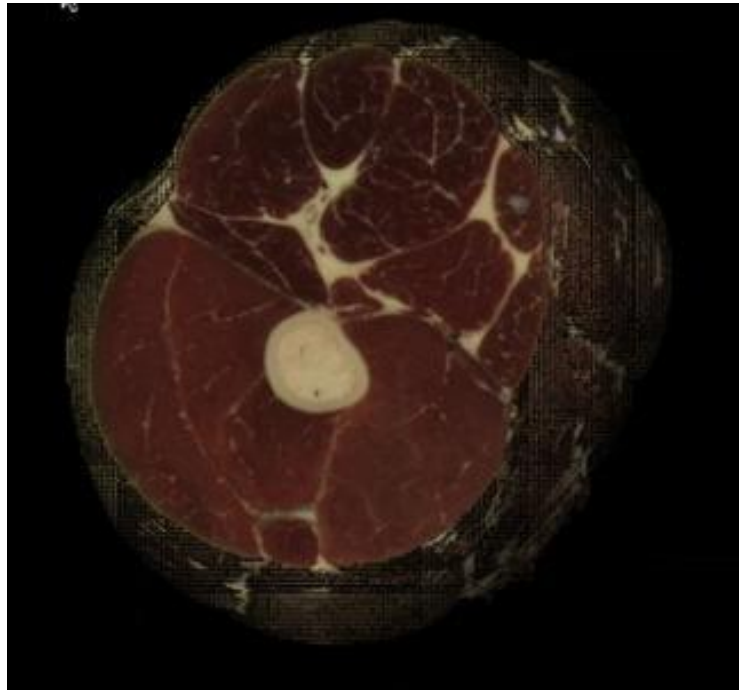
Fluid Net – Communicates Chemical Information



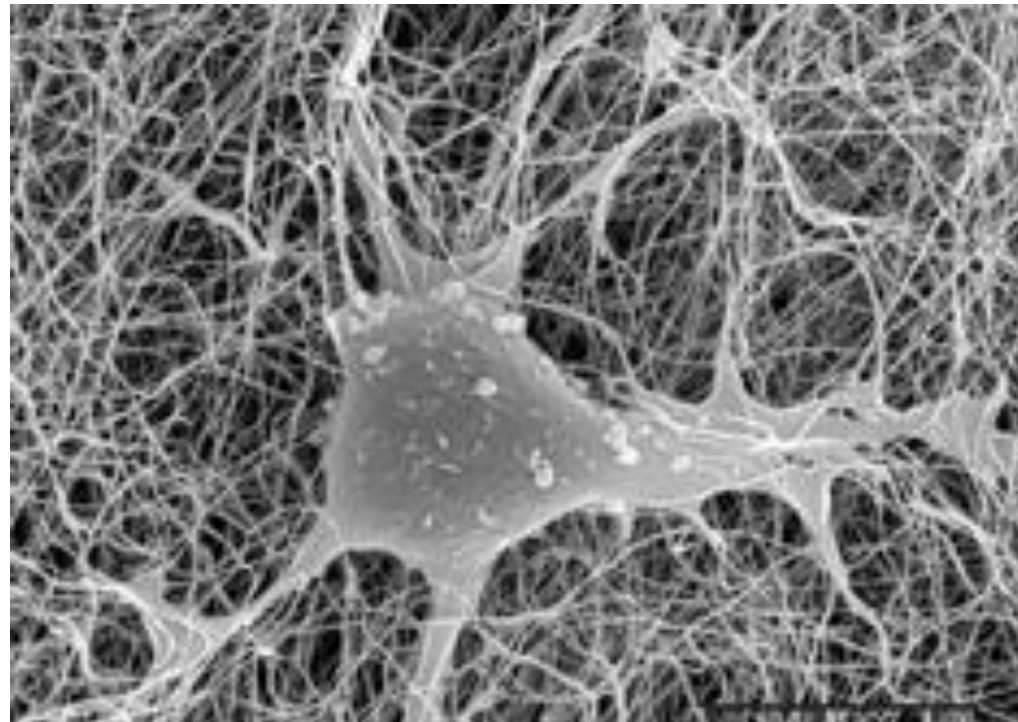
The Neural Net Communicates Electrical Information



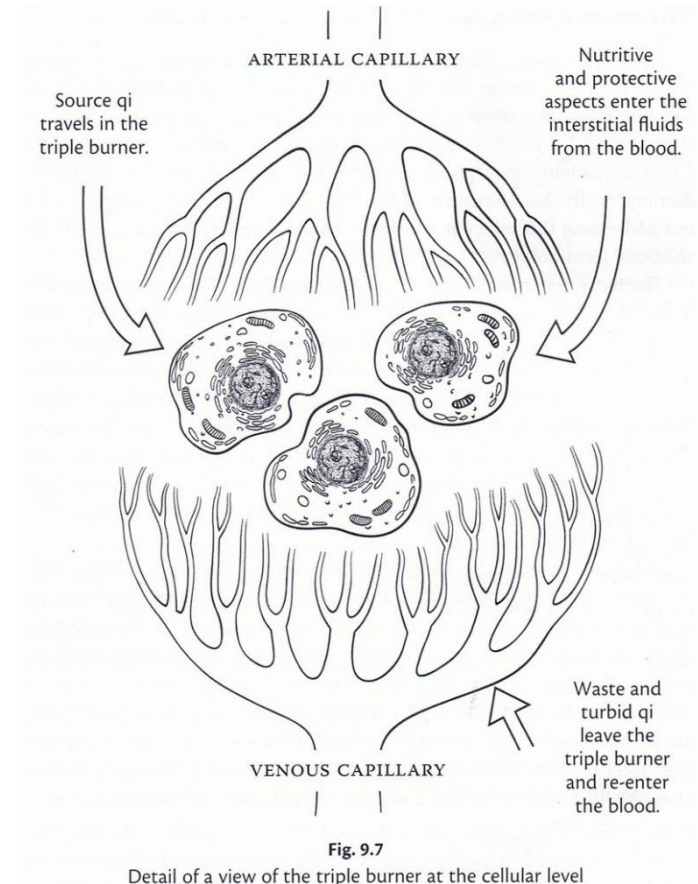
The Fibrous Net Communicates Mechanical Information



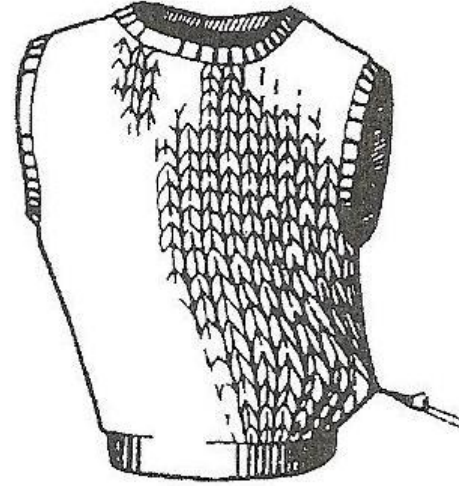
- The Sanjiao relates to all fibrous CT and interacts with the other communicating networks. Unspecialized CT has an open framework.



- This open tissue creates a ‘hollow organ’ for interstitial fluid flow to reach the various cells of the body, carrying nutrients, gases, hormones, etc.
- Therefore it is the ‘passageway for water and grains’ and the ‘beginning and end of the pathway of Qi’. (*Classic of Difficulties*)
- “The Triple Burner holds the office of irrigation design; the water pathways issue from it” – *Basic Questions, Chapter 8*



- The sanjiao has a name but no form – *Classic of Difficulties*, Chapter 38



- It does not have a shape of its own, but takes the form of other organs.
- Some sources use description of a corridor to describe the form of the sanjiao, implying a crack or fissure
- The sanjiao is more about the spaces within the structure around the organs, muscles, nerves and vessels.

Expansion of the Concept of Sanjiao

- From Applied Channel Theory, by Wang Ju-yi and Jason Robertson.
 - Ju-yi states, “All the channels have a connection to the fluids within the sanjiao.
 - Each channel represents a circuit of fluid movement along a definable course of muscles, nerves, and vessels which have a particular relationship to an internal organ.

Gallbladder

Gallbladder holds the office of rectifier and is the issuer of decisions

- Rectifier is impartial and unbiased, conveys idea of incorruptibility and clear sense of judgment
- Gallbladder similarly chooses what should and should not be taken in during digestion
- In order to do so, the movement of the shaoyang pivot must be smooth and free of corruption
- The gallbladder is also an extraordinary fu organ - more on this later - stores clear substance (bile)'

Gallbladder Function

- Stores and excretes bile
- Maker of decisions
- Controls the sinews

Gallbladder

Function - Stores and excretes bile

- It is the only Yang organ that stores a clear fluid. The Gallbladder is classified as an extraordinary organ
- The Gallbladder aids digestion, it helps the Stomach to digest and the Spleen to transform

Gallbladder

Function - Maker of decisions

- Decision making depends on healthy movement
- It controls the capacity to make decisions and helps all other internal organ

Gallbladder

Function - Controls the sinews

- The Liver nourishes with Liver Blood, whereas the Gallbladder control has to do with proper movement of Qi to the sinews