

Sense About (ancient) Science – Part 3 - Charles Buck **Wot? – no giblets?**

It is a well-known and amusing fact in the world of skeptics that acupuncture is silly because the ancient Chinese didn't have a clue about anatomy. But is this true? and even if it is true how much does it really matter in actual day-to-day medical practice? In the confined space available here I sound a few notes on our oriental trumpet to straighten the record.

This question came to the fore in the 1840's when anatomy was the main area of medical knowledge that western physicians chose to use as evidence of the superiority of their medicine over the Chinese variety. China's physicians then pointed out that biomedicine was equally weak in that it paid scant attention to understanding and regulating function, but the westerners couldn't see what on earth they were on about so they assumed it was nonsense.

Actually, China has had a reasonable understanding of anatomy for 2,000+ years but much of that knowledge did not seem crucial to classical physicians. The people who knew anatomy, besides butchers, were medical trades-people such as midwives, bonesetters, haemorrhoid experts and battlefield trauma specialists. They simply could not have done their jobs without a certain understanding of anatomy learned as an oral tradition. Nonetheless, once classical medicine began, around -200, some anatomical information began to be recorded.

Hints of the existence of early anatomy come from the Mawangdui manuscripts (-168) where we find some neck muscles named:

muscle	translation	probably
heng yang	enduring yang	sacrospinalis
ce yang	slanted-lateral yang	trapezius
ce yin	slanted yin	scalenes
qian yin front yin		sternocleidomastoid

Apart from Hua Tuo's alleged surgical exploits in the 2nd century, the messy giblet stuff was not really the domain of the silk-clad classical physician, this was dealt with by other specialists. If needed you could call on haemorrhoid specialists, or midwives, if you wanted your wounds drains of pus you could see a *yangyi* (sores doctor – a profession first described around -1000). These were the people you relied upon to know their anatomy, when classical physicians needed someone with anatomical skills we would get them in. In murder investigations, for instance, forensic examination and dissection was conducted by a butcher or a midwife who would dictate their findings to the investigating official. Unfortunately, much information has simply been lost having been entrusted to these less literate professions. Anyway, for much of history the biggest concern we had to contend with were life-threatening epidemics - knowing the full Latin names of all the body's bit of gristle doesn't help much there.

Nonetheless, even at the origins of classical Chinese medicine we find evidence of investigations into the body structure intended to improve medical knowledge and it is reasonable to say that for most of the past two millennia China's understanding of anatomy has exceeded that of the west. The *Neijing* often mentions the internal organs and there are records of human dissection in the Han dynasty, for example the *Biography of Wang Mang* in the Annals of the Han dynasty, this tells us that in the year -206:

After Wang Sun-jing was captured in battle the Emperor ordered that his body be dissected by a butcher and a court physician. His internal organs were measured and the course of the blood vessels traced using a strip of bamboo. This was done to improve the treatment of disease.

This work may have been the source of some anatomical knowledge found in the *Neijing* which contains a detailed description of the digestive tract from end to end. Also, Chinese medicine understood blood circulation 1700 years prior to Harvey's celebrated discovery of

this for modern medicine. Neijing quotes include: *the heart regulates all the blood in the body and blood flows continuously like a river current or the orbits of the sun and moon – it is comparable to a circle without beginning or end.*

In the Song dynasty (+960 to 1279) new efforts were made to improve anatomical knowledge with the production of new charts. The *Chart of Mr Ou Xi Fan's Organs* appeared in 1045 and shortly afterwards the *Cun Zhen Tu* (Collected Truths Chart) based on dissections of 55 cadavers. Another more accurate text based on new dissections was then published by Yang Jie in 1113 giving reasonable descriptions of internal anatomy but these lacked the precision of the European anatomists working five centuries later.

On a speculative Dan Brown-ish note, is it a coincidence that Europe's first anatomists were Italian and that it was Italian traders who pioneered the mediaeval trade with China just at a time when Chinese scholars were publishing anatomical charts? Indeed, where did the Italians get the idea for universities from and why did they suddenly start dressing up in the silly hat and gown on the Song dynasty Confucian scholar? Were they simply copying what they had seen in China?

This anatomy issue was the chosen battleground in the 1840's – because it was perhaps the single area where biomedicine was demonstrably superior. But anatomy is not everything – the most crucial measures of a medicine are safety and efficacy. Acupuncture and Chinese herbal medicine thrive in the modern world because much of the time they work. Indisputably, acumoxa helps many conditions and herb extracts such as Artemesin (from the herb qing hao) are saving hundreds of thousand lives a year – as they were in ancient China. So, ironically, in terms of actual treatment we can now see that Chinese medicine was generally far superior to its western counterpart in the 1840's. Many of its treatments actually work quite well in contrast to virtually all the western treatments of that time which would be considered ineffective or dangerous today. Western anatomy may have been obsessively detailed but it was not always a great help in getting patients better.