

The Problem with Qi: Vitalism, Science and the Soul of Traditional Chinese Medicine

Abstract

It is difficult for traditional Chinese medicine to be fully accepted in modern healthcare because one of its key concepts – qi – is widely regarded as an example of vitalism, which has been discredited by modern science. Rather than try to establish scientifically that qi exists, or minimise or do away with this problematical concept altogether, traditional Chinese medicine must fully embrace its rich theoretical and cultural heritage and communicate it more effectively with the mainstream.

Introduction

Traditional Chinese medicine¹ is unusual in that it is the only major medical system in the modern world that is, it is often claimed, based on vitalist concepts. Ayurveda retains its vitalistic roots and is practised in Indian communities worldwide, but is for the most part not integrated into modern healthcare. Chiropractic has largely abandoned any talk of the ‘innate intelligence’ of the body in favour of biomedical language, and is still denigrated by conventional medicine despite its broad public appeal. Osteopathy, at least in the United States, has taken advantage of historical circumstance and morphed from a vitalistic medicine into a carbon copy of conventional biomedicine. Traditional Chinese medicine struggles to gain legitimacy in the medical world because its perceived foundation of vitalism is inherently at odds with the materialist science on which the rest of modern medicine is based. The concept of qi is the single biggest stumbling block that is preventing the worldwide scientific acceptance that traditional Chinese medicine so craves.

Vitalism and materialism

Vitalism is defined as ‘the theory or doctrine that life processes arise from or contain a nonmaterial vital principle and cannot be explained entirely as physical and chemical phenomena’.² For most practitioners of traditional Chinese medicine, this definition makes perfect sense because we consider qi to be the ‘nonmaterial vital principle’ that animates and drives all life processes. Unfortunately for us, modern science has soundly rejected vitalism, and the worldwide scientific enterprise continues ever onward on a securely materialist basis: biology, biochemistry, genetics and biophysics have established that life processes are explainable without recourse to any invisible life energy. For this reason, traditional Chinese medicine, with its adherence to

the concept of qi, continues to be the odd stepchild of modern medicine, and cannot be taken seriously because of its archaic vitalist worldview.

Qi

Before we discuss Chinese medicine’s ‘qi problem’ in more detail and move on to possible solutions, we must first inspect more closely the particular vitalism of traditional Chinese thought: we need to define qi and consider how it is similar to or dissimilar from the concept of vital energy in pre-modern European science. To do this we must consider the historical development of the qi concept.³



Figure 1: Calligraphy provided by the author

The character for qi, a stylised representation of three wavy horizontal lines, each one hovering over the other, is said to represent ‘curling vapors rising from the ground and forming clouds above’.⁴ Its earliest use stems from Shang dynasty oracle bones,

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Keywords:
Qi, vitalism,
materialism,
science,
traditional Chinese
medicine, Neo-
Confucianism,
classical Chinese
worldview,
paradigms, TCM
education

where it shows up looking not unlike the character for 'san', the number three (made up of three horizontal lines). The wavy lines that make up this character can also be interpreted to be the breath emanating out of a person, and to this day 'breath' or 'air' are the most common translations for the word qi. This is the basis of the idea that qi is 'vital energy': like humans in all cultures around the globe, the ancient Chinese must have recognised that qi (i.e. breath) equalled life, and that the cessation of qi (breath) equaled death.

But to equate qi with breath is too simplistic. A modern Chinese dictionary gives multiple definitions for qi:

1. gas
2. air
3. breath
4. smell; odour
5. weather
6. airs, manner
7. spirit; morale
8. make angry; enrage
9. get angry; be enraged
10. bully; insult⁵

And, only at the very end, with a note that this is a specific usage within traditional Chinese medicine:

11. vital energy; energy of life⁶

The dictionary goes on to give a long list of compound words incorporating the character for qi, such as qibeng (air pump), qifen (atmosphere) and qitoushang (in a fit of anger). This list of words and definitions should make clear that qi is a word that means different things in different contexts, and that when we speak of qi, it is not exactly the same thing as the 'élan vital' of the early Victorian naturalist. What my modern Chinese dictionary does not state is that while qi can refer to many different things, there was a time when its meaning encompassed everything. Rather than characterising a 'life force' inherent only in living things, classical Chinese thought advocated a kind of über-vitalism, in which the whole universe is pervaded with – or even more radically, composed of – qi of varying degrees of solidity. In addition to the ancient fundamental dualities of yin/yang and heaven/earth, by the Song dynasty Chinese philosophers had introduced a new duality – that of 'li' and 'qi'. Li, often translated as 'principle' or 'law', is thought of as a pattern or template that allows a thing to exist. Li (according to this school of thought) exist prior to matter, prior to existence, so that if a thing exists, it does so because the li of that thing and that category of things precedes it.⁷ In this conception, qi as the counterpart of li does not refer just to a vital energy that flows through channels in the body, or even to breath or air, but to everything that exists – a very broad definition indeed.

The Neo-Confucians

To appreciate the significance of this idea, we need to consider the Neo-Confucians. For a variety of reasons, many Western practitioners of traditional Chinese medicine are enamoured of Daoism.⁸ However Confucianism has, in fact, had a much greater impact on the development of our medicine than Daoism. Throughout Chinese history, the fundamental disagreement between Confucians on the one hand and Daoists and Buddhists on the other has been about the relative importance of the actual material world and a world 'before form', the Daoist concept of 'wuji' (non-being or non-finite) or the Buddhist 'sunyata' (void or emptiness).⁹ According to the Confucians, the Daoists and the Buddhists, by placing emphasis on a non-material realm, retreated into quietism and ignored their responsibilities in the real world. The Confucians, on the other hand, embraced their role in the world, and have therefore always been concerned with questions of statecraft and rulership along with philosophy, ethics and personal conduct. As a result, it is Confucianism, not Daoism or Buddhism, which most informed China's civil examination system and produced the class of literate people who passed our medicine on to future generations.

It is against this backdrop that we have to investigate the evolving definition of qi. The Neo-Confucians, starting in the Tang and flowering in the Song and Ming, represented a rationalist rejection of the religious mysticism that was popular at the time. Though they borrowed ideas from Daoist and Buddhist metaphysics, theirs was a rational, secular and humanistic worldview that rested on the twin pillars of 'investigation of things' (gewu) and 'abiding in reverence' (jujing). They believed that being does not arise out of non-being - the universe simply exists and it merits investigation. The Neo-Confucian word for the stuff being investigated – the stuff of the universe – was qi. In my opinion, this emphasis on the 'investigation of things', arising from the conviction that the universe could be and should be comprehended rationally rather than mystically, represents a rather modern sort of thinking. The fact that it takes yinyang and qi as its basis rather than the scientific method (as developed in the West) does not detract from its power and utility. Curiosity, wonder, appreciation – these are hallmarks of great thinkers everywhere, regardless of their time, place or intellectual lineage.

The great Neo-Confucian intellectuals like Zhang Zai and Zhu Xi were not just philosophers; they were more like the Einsteins of their day, and their cosmological and ontological theories moulded Chinese thinking for a thousand years. There may have been a time, long before, when the idea of qi was quite similar to the Greek 'pneuma' or the Indian 'prana': a type of 'life breath' that vitalised the body.¹⁰ And yes, Daoist recluses may have visualised threads of violet light emanating from the Pole Star and filling their meditation huts, but this has little to do with medicine.¹¹ So, just as we would not revert to

the atomic theory of Democritus in our post-Einsteinian world, it is wrong to speak of qi today as vital energy when it clearly means so much more. Since the Song dynasty (and arguably far earlier), qi has meant everything in the phenomenal universe, as referred to above. It is precisely this broadest of definitions that makes the concept of qi so useful in medicine. When we see the cosmos, the social/political environment, and the human body as being made of the same stuff, and that stuff as existing in a state of mutual influence and constant transformation, we are applying the macrocosm/microcosm worldview that characterises classical Chinese thought.¹² This way of thinking is fundamental to traditional Chinese medicine, and qi is what ties it all together.

To be fair, most modern TCM textbooks discuss or at least mention qi in the broad sense referred to above. *Chinese Acupuncture and Moxibustion* has this to say:

‘According to ancient Chinese thought, qi was the fundamental substance constituting the universe, and all phenomena were produced by the changes and movement of qi.’¹³

Giovanni Maciocia, to his credit, discusses qi at length in his *The Foundations of Chinese Medicine*, concluding that:

‘Qi is at the basis of all phenomena in the universe and provides a continuity between coarse, material forms and tenuous, rarefied, non-material energies. It therefore completely sidesteps the dilemma that pervaded Western philosophy from the time of Plato down to the present day, i.e. the duality and contrast between materialism and idealism.’¹⁴

While I don’t completely agree with the last statement, since the concept of li comes very close to Platonic idealism and has been extremely influential in Chinese thought, especially as it pertains to qi, I laud Maciocia for exposing so many Western students of TCM to the idea that qi is something far grander than the narrow physiological definitions that so often land us in a vitalist muck.

In *The Web That Has No Weaver*, still the best English-language introduction to traditional Chinese medicine, Ted Kaptchuk writes,

‘In Chinese medicine, besides this all-inclusive general meaning, qi can also have a more narrow and specific sense. Qi, in its more practical and clinical sense, means the particular dynamic of engendering, movement, tension, and activation.’¹⁵

Note that even when speaking of its narrower medical sense, Kaptchuk makes no mention of ‘vital energy’. In fact, he goes on to say, ‘To call Qi energy or life force is probably as erroneous as it is to call it matter’.¹⁶ In doing

so he echoes Joseph Needham, the single most important non-Chinese historian of Chinese science, who writes in his encyclopaedic *Science and Civilisation in China* that the translation of qi as ‘vital force’ simply ‘will not do’.¹⁷ The reason is that the world of qi is defined by process, function, change and quality. Therefore, to try to pin it down as energy or anything else that is specific, static or quantitative is to miss the point. As Nathan Sivin dryly notes, ‘This is not an easy idea for moderns, with their clear distinction between substance and function, to grasp’.¹⁸

If China’s greatest philosophers and some of our best scholars make clear that qi does not refer to ‘vital energy’, then what is the problem? It is my contention that we – practitioners of traditional Chinese medicine – are the problem. We are the problem because, influenced by the Marxist materialism underlying modern TCM, by a Western proclivity to think of things as substance or energy rather than as function or process, and/or by romanticised notions of qi as portrayed in kungfu movies and the autohagiographies of qigong masters, we accept uncritically and propagate widely the notion that qi is some kind of invisible energy. And if we are saying it, it is no wonder that it gets repeated over and over again and has turned into a truism that ends up being used to illustrate how unscientific our medicine is.

The two most commonly proposed solutions to the problem of qi

Some may take issue with the view that qi refers to everything in the universe. They may argue that this definition is so broad as to be meaningless, and that in the context of traditional Chinese medicine we are talking about a particular kind of qi: the kind of qi that is indeed more ‘energetic’ than material and drives all our life functions. We just need to prove scientifically what this qi is, and once we do, traditional Chinese medicine will be legitimised and accepted by science. Various researchers have taken this approach, and have arrived at different conclusions. Qi is direct current, electrical fluxes flowing along conductive connective tissue arrays.¹⁹ Qi is biophotons and living bodies are superconducting liquid crystals.²⁰ Qi has something to do with quantum physics and stable water clusters.²¹ All of these theories have merit, but it is telling that so far there is no broad scientific agreement about what qi is. And, if we apply these models to the subtypes of qi within the TCM model, most of these theories begin to fall apart. For instance, every TCM student is taught that the body takes gu qi (food qi) from the food we eat and combines it with kong qi (air qi) to make the zong qi (pectoral qi). If this is true, and there is qi in food and air, then we should be finding direct current or biophotons (or whatever is being declared to be qi) when we apply the ‘qi-meter’ to both hamburgers and air. As far as I know, hamburgers do not emit biophotons,²² nor does

direct current travel through air. At least one scientific observer reports that after decades of 'experiments to determine the existence and nature of Qi', even 'China is easing up on this research.'²³ Perhaps the Chinese scientists are discovering that, when they look too closely, 'there is no there there', to use Gertrude Stein's famous phrase.²⁴

If one common approach to the qi problem is to insist that qi-as-vital-energy exists and that one day it will be scientifically measured, the other approach is the exact opposite. Proponents of this second approach downplay all of TCM's exotic naturalistic terminology, and avoid using words like qi or wind or yin and yang altogether. They have concluded, often correctly, that using such terms in the presence of scientists and medical doctors quickly results in their being seen as quacks, witch doctors or worse. They prefer to talk about muscle insertions and endorphin levels, and to prefer standard orthopaedic tests over traditional methods of channel palpation or tongue and pulse diagnosis. Although I am not suggesting that such an approach is necessarily ineffective or wrong, if it veers from a self-censorship exercise in the name of marketing and public acceptance into a form of medicine that actually does away with qi, wind, yinyang, etc., then it is no longer traditional Chinese medicine.

A more benign variant of this second approach is to focus attention on research. By demonstrating that acupuncture effectively treats menstrual pain, or that the artemisinin in Qing Hao (*Herba Artemisiae Annuae*) kills malaria parasites by altering their redox homeostasis, we help establish the legitimacy of traditional Chinese medicine, since, after all, its efficacy is the important thing as far as patients and referring doctors are concerned. Of course, research of this type is important in our age of evidence-based medicine. The cumulative effect of these studies is already being felt, as doctors increase their acupuncture referrals for specific symptoms such as menopausal hot flashes or nausea due to chemotherapy on the basis of research. However, the risk of relying on this strategy to legitimise Chinese medicine is that by fixating on 'the evidence' we make it easy to forget the theoretical and diagnostic framework that allows us to treat successfully in the first place, and we narrow the scope of our wonderfully generalist medicine to the disorders that researchers happen to study.

The two-paradigm problem

The real issue is not whether qi exists. The problem is that the Western scientific worldview has ascended to a position of global domination as the only paradigm that can be taken seriously when discussing anything having to do with reality. Although this is not such a problem generally, it is definitely a problem for traditional Chinese medicine. It is a problem because it puts us in a trap where we are losers either way: 1) if we insist on diagnosing patients and practising medicine in terms of yinyang,

the five phases and qi, then we are labeled as unscientific quacks and are denied entry into the worlds of science, industry and international commerce, or 2) if we learn the language, play the game, produce voluminous clinical research and structure-function studies, start talking in terms of alkaloids and neuromuscular junctions, earn MD degrees to put after our names next to the LAC, then (we hope) we will be taken seriously. But it would be a pity if, in the process, we stop thinking the way Chinese doctors are supposed to think, and our medicine suffers.²⁵

It is an inconvenient truth, rarely acknowledged within our field, that the classical Chinese worldview and the Western scientific worldview are fundamentally incompatible. The scientific paradigm seeks facts and measurements; it utilises all sorts of sophisticated technology in its ever-sharper investigation of the universe (microscopes, telescopes, nuclear magnetic resonance imaging, cyclotrons, etc.). The classical Chinese worldview looks more at patterns and qualities; its tools are direct human sensory experience (touch, vision, smell, etc.). Trying to measure qi with some kind of electronic instrument is a confusion of the two paradigms. Within Chinese medicine's own paradigm, there is no need for such measurement. There already exists a perfectly functioning qi-meter: the human body and its sensory apparatus. In this view, anything we can experience is qi – the earth we stand on, the air we breathe, the sunlight on our face, the happiness in our hearts, the power we feel when we perform a martial arts movement, the impact somebody makes on us when they smile or enter the room, the sensations in our bodies when we meditate or receive acupuncture are all qi. To narrowly define qi as some sort of mysterious energy in the human body is folly; it doesn't do justice to the qi concept in its own paradigm. It is culturally and historically inaccurate, and attempts to detect this misconstrued 'qi' are probably doomed to failure. Hooking up a qigong master to a superconducting quantum interference device and waiting for qi to appear²⁶ is akin to firing up the CERN Large Hadron Supercollider and hoping that God will show up.

A different way of looking at things

I have tried to show that a narrowing of the definition of qi to a hitherto undetected bodily energy is not in keeping with qi as understood in classical Chinese thought. I have also argued that trying to prove the existence of this bodily qi is a futile exercise. I make the case that Chinese medicine should be practised and understood on its own terms, and that as long as it demonstrates efficacy for patients there is no need to water it down or try to minimise its unscientific language and non-Western concepts. Yet, the fact persists that qi is a stumbling block that makes it difficult to talk about traditional Chinese medicine with skeptics. What should be done to remedy the situation?

I believe that it behoves us, as ambassadors of

traditional Chinese medicine in the Western world, to become better communicators. This does not mean that we should gloss over potentially problematic concepts and pretend that Chinese medicine is more like Western medicine than it is. And we need to stop propagating the myth that qi means 'vital energy'. Instead, we need to develop a more nuanced understanding of our own medicine, and be able to talk about it in a way that is honest and accurate. If our description of what we do sounds foreign, that's because it is. But we of all people should be able to explain what it is.

These days, when someone asks me, 'What is qi?', my answer is, 'It's a different way of looking at things'. By re-framing the concept of qi as a culturally distinctive frame of reference rather than a claim to truth, we invite discussion about worldviews and their application to human health and illness. If my interlocutor is curious and asks more questions, we can talk more about different paradigms, empirical medicine, comparative philosophy and the history and philosophy of science.

Unlike the dictionary definition of vitalism, China's qi concept is not limited to living phenomena. It is applicable to all phenomena; it is a way of thinking about the universe. Qi is a cultural concept that, like all cultural concepts, should be valued for what it is. It should be studied, and its value should be assessed not narrowly by the yardstick of Western science, but more broadly, as part of a distinct non-Western worldview that shows particular promise in the treatment of disease. Chinese thought has from the earliest times been comfortable with ambiguity, with the mystery at the heart of existence.²⁷ To talk about this mystery, image and metaphor are used. In the case of the human body, those metaphors have to do with wind, dampness, fire, governmental offices, military activities, waterways and celestial bodies. The same sort of literalism that may cause someone to say, 'Those quaint Chinese actually think there's wind blowing around in the body!' has led many modern TCM practitioners (Chinese and Western) to assume that qi is something like a bodily fluid - or not too far removed, a fluid-like energy - since it 'flows' in 'channels'. A similar literalism and reductionism is at work when we try to misapply narrow scientific scrutiny to an entire cultural system.²⁸ Instead, let us first understand our own medicine to the best of our ability, then practise it skillfully and compassionately alongside Western medicine and other healthcare systems. After all, as incompatible as their philosophical underpinnings may be, it is hard to argue that Chinese medicine and biomedicine are not complementary in a clinical sense, with each helping to fill the gaps in the other.

The role of education

Traditional Chinese medicine is not, and in my opinion should not be, a religion. Yet, when it comes to the concept of qi, it sometimes feels as if it is. Daring to question qi

at TCM school can be like questioning the existence of God in Catholic school. I believe that one reason for this is due to the way TCM education is conducted. Historically, Chinese culture has a strong authoritarian and conservative element, and places great value on conformity. Perhaps for these reasons, TCM education in the West, following the Chinese model, can feel like a sort of boot camp, in which new concepts are thrown at students with little discussion or critical thinking about them.²⁹ Schools may reason that this is the best way to instill a new way of thinking in students who are not yet familiar with the TCM model. And indeed, the argument can be made that this 'sink or swim' attitude has produced thousands of capable acupuncturists and herbalists. Yet to me, it feels like a sort of indoctrination. It is no wonder that TCM schools do not encourage you to discuss qi - you sound unscientific when you do, even when you are trying to sound scientific. And, as we have seen, it is very important to sound scientific these days. However, because it is so fundamental to Chinese medicine, we keep using the word qi all the time, meanwhile couching everything else we do in scientific terms. Nobody wants to talk about how schizophrenic this position is. And the vacuum that results ends up being filled with vital energies, supernatural rays, and other notions that harm our credibility.

Rather than continuing to add more and more Western medicine to their curricula as seems to be the trend in TCM education, TCM colleges should devote more hours to intelligent discussion and critical thinking about the theoretical and cultural foundations of the medicine being taught. I agree with TCM scholar and practitioner Lan Fengli, who states that traditional Chinese medicine is closer to the humanities than to the natural sciences.³⁰ As such, our field stands to ally itself more with academia and with living traditions of classical Chinese medicine than with science and Western medicine. It would be helpful for schools to draw on expertise from outside the immediate realm of TCM: historians, anthropologists, linguists, sinologists and philosophers can add a variety of perspectives that enrich and benefit our field and better equip future TCM practitioners to represent our medicine in the modern world. Debates would be an exciting adjunct to rote memorisation. If we are offering degrees in higher education, our graduates should be engaging in spirited discussions with other academics, with medical doctors and with scientists - not as wannabe scientists or New Age kooks, but as intellectual equals and articulate representatives of their chosen field. They will not be capable of doing so if they are fed a steady diet of dogma with little opportunity to question or challenge it.

Qi and soul

Qi is a lot like 'soul'. If you say, 'That music's got soul', everybody knows what you are talking about. It does

not matter whether or not you believe in an ethereal aspect of your being that survives death. 'Soul' is a non-scientific cultural concept that is accepted by all because it speaks to our experience as human beings.³¹ My hope is for qi to become accepted in the same way and for the same reason. We are dynamic beings in a dynamic universe, and qi is our way of talking about this. Ironically, we isolate ourselves further and further from the mainstream when we try so hard to explain away qi as electromagnetic energy (or whatever). Instead, let us proudly and uninhibitedly use the word qi so often and so frequently and in so many different contexts that it becomes part of the English language and popular consciousness. One day, I hope, it will be commonplace for people to say, 'That person has amazing qi!', or 'The qi at the waterfall was sublime', or 'The procedure completely shifted the patient's qi'. I like to think that, when that day comes, there will no longer be a 'problem with qi'.

Conclusion

It is inevitable that medicine changes over time; it reflects and is reflected by society at large. Science, technology, capitalism, consumerism and the insurance industry, among other societal forces, are reshaping the medicine of our time into a form that even our immediate forebears – Eastern or Western – would hardly recognise. Perhaps it is quixotic to try to preserve a Chinese medicine that maintains its classical roots. But traditional Chinese medicine is the last remaining vestige of a profound humanistic worldview that we should proudly uphold not just for its own sake, but because it is eminently useful to humankind. Like the Confucian gentlemen (and gentlewomen) physicians who came before us, let us diligently pursue the 'investigation of things' and 'abide in reverence' as we contemplate the mysteries of life and death and minister to the ill. It is their way of thinking that has come down to us through the ages and which makes Chinese medicine so valuable. If we toss out qi and yinyang and the five phases, we may be sticking needles in people or prescribing herbal remedies but we will no longer be practising traditional Chinese medicine.

Let us resist the urge to repackage our medicine in a Western scientific garb. Let us emphasise instead the cultural richness of our medicine, the strength of its ideas, along with its clinical usefulness. If we find ourselves in arguments with people trying to discredit us, let us have the sophistication to argue skillfully and convincingly. Whatever else we do, let us not take qi out of the equation, or turn it into something that it is not. In losing qi, traditional Chinese medicine will have lost its soul, and that would be a tragedy indeed.

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Acknowledgements

The authors wishes to thank Brian Weissbuch, Nancy Chen, Lan Fengli, Diana Moll and Hinrich Boeger for their encouragement and critical comments, and Debbie Shayne for her kind assistance, during the writing of this article.

Endnotes

- 1 Because of the colonialist and pejorative implications of the word 'Oriental', and out of a deep respect for the Chinese origins of all East Asian medical systems, I prefer the terms 'traditional Chinese medicine' and 'Chinese medicine' to 'Oriental medicine'. When referring to the traditional Chinese medicine that has been standardised in China and is now taught in schools, I use the standard abbreviation 'TCM'. When discussing Chinese medicine that is explicitly informed by the classical Chinese worldview, I use the term 'classical Chinese medicine'.
- 2 *The American Heritage College Dictionary*, Third Edition. (2000). Houghton Mifflin Company: Boston, p.1510.
- 3 For more on the etymology and development of the qi concept, see Zhang, Yuhuan & Rose, K. (2001). *A Brief History of Qi*. Paradigm Publications: Taos.
- 4 Wieger, L. (1915). *Chinese Characters: Their Origin, Etymology, History, Classification and Signification*. Dover: New York, p.241.
- 5 *The Pinyin Chinese-English Dictionary* (1979). Hong Kong Commercial Press, pp.535-536.
- 6 Ibid.
- 7 Fung Yulan, (1948). *A Short History of Chinese Philosophy*. The Macmillan Company: New York, pp.284-286; 296-300. We should note that some Neo-Confucians, notably Luo Qinshun, rejected li as an entity separate from or prior to qi. To make my own bias perfectly clear, I do not believe in li; I do 'believe in qi' because I believe in the existence of the universe.
- 8 I believe that romanticising 'Daoist medicine' is a backlash against the current scientisation of Chinese medicine, a kind of fantasy that many of us nurse as we ache for an authentic tradition to practise. Of course, Daoist and Buddhist modes of healing coexisted with classical Chinese medicine and continue to the present day. But they are quite far removed from the modes of healing that we employ as practitioners of traditional Chinese medicine. I refer the interested reader to "The Seal of the Law: A Ritual Implement and the Origins of Printing", a tour de force of sinological research by my late teacher Michel Strickmann, for a glimpse of how utterly different the nature of Chinese religious healing is when compared to secular Chinese medicine. The piece was originally published in *Asia Major* (1993). Third Series, Vol. 6, No. 2, and is available online at <<http://www2.ihp.sinica.edu.tw/file/1559ybUYHaP.pdf>>
- 9 An excellent account of the debates between Confucianism, Daoism and Buddhism through the lens of the 18th century Japanese Neo-Confucian Kaibara Ekken can be found in Mary Evelyn Tucker's introduction to her translation of Ekken's *Record of Great Doubts*, titled *The Philosophy of Qi* (2007, Columbia University Press: New York). Her rendering of qias 'material force', following Wing-tsit Chan, however, is unfortunate.
- 10 See Nathan Sivin on the 'pneumatic medicine' of high antiquity in Needham, J. (2000). *Science and Civilization in China Volume VI:6*. Cambridge University Press, pp.43-44.
- 11 This is my problem with much medical qigong – it misappropriates prior, ultimately religious conceptions of qi and grafts them onto traditional Chinese medicine, adding to the general confusion about the nature of qi.
- 12 It is my premise that yinyang and qi, together with the idea of the unity of the macrocosm and the microcosm, form the basis of the classical Chinese worldview, and that this worldview predates Daoism,

- Confucianism or any other -ism that might want to claim these concepts as their own. Therefore, when discussing 'classical Chinese medicine' I do not refer specifically to any particular school of Chinese medicine but to any approach that maintains the centrality of yinyang and qi in its practice.
- 13 Cheng Xinnong (editor), *Chinese Acupuncture and Moxibustion* (Beijing, Foreign Language Press 1987), 46.
 - 14 Maciocia, G. (1989). *The Foundations of Chinese Medicine: A Comprehensive Text for Acupuncturists and Herbalists*. Churchill Livingstone: Edinburgh, pp.35-37.
 - 15 Kaptchuk, T. (2000). *The Web That Has No Weaver: Understanding Chinese Medicine*. McGraw-Hill: New York, p.47.
 - 16 Ibid., p.70.
 - 17 Needham, J. (1956). *Science and Civilisation in China Volume II*, Cambridge University Press: Cambridge, p.462.
 - 18 Sivin, N. (1987). *Traditional Medicine in Contemporary China*. Center for Chinese Studies, University of Michigan: Ann Arbor, p.50. This book provides in its introductory section one of the clearest expositions on *qi* in an English medical text; see especially 46-53.
 - 19 Oschman, J. (2000). *Energy Medicine: The Scientific Basis*. Churchill Livingstone: London.
 - 20 Ho, Maewan (1993). *The Rainbow and the Worm: The Physics of Organisms*. World Scientific Publishing Company: Singapore
 - 21 Lo, Shuiyi (2004). *The Biophysics Basis for Acupuncture and Health*. Dragon Eye Press: Pasadena
 - 22 A piece of tempeh or a freshly picked tomato, on the other hand, may very well emit biophotons.
 - 23 Flowers, J. (2006). "What Is Qi?", *Evidence-based Complementary and Alternative Medicine*, 3(4): 551-552.
 - 24 Although, in the spirit of the Neo-Confucians, we could flip this around and argue that actually 'there is always there there'.
 - 25 See Fruehauf, H. (1999). "Chinese Medicine in Crisis", *Journal of Chinese Medicine*, 61, pp.1-17, for a heartfelt and depressing look at how this is already the case.
 - 26 I am not arguing that nothing interesting would happen, just that whatever happens shouldn't require qi-as-vital-energy to explain its occurrence.
 - 27 See for instance *Dao De Jing 1:1*, 'The Dao that can be spoken of is not the eternal Dao'.
 - 28 More sophisticated scientific approaches, such as those of Thomas Kuhn, Paul Feyerabend or Friedrich Wallner, may be more useful or appropriate (Fengli Lan, personal communication). To this list my friend the biologist Hinrich Boeger adds Karl Popper, saying, 'I very much like your antiauthoritarian attitude ... when it comes to a consummately antiauthoritarian stance then your man is Karl Popper' (Hinrich Boeger, personal communication).
 - 29 I suppose it is unfair to make such a blanket statement about TCM schools based on my own limited experience from twenty years ago. Nonetheless, it appears that - as reported by my younger colleagues - the situation today is not much changed.
 - 30 Lan, Fengli (2012). *Culture, Philosophy and Chinese Medicine: Viennese Lectures*. Peter Lang GmbH, Internationaler Verlag der Wissenschaften: Frankfurt am Main, pp.260-278. Dr. Lan is a brilliant contemporary researcher whose works have much to contribute to our understanding of traditional Chinese medicine. I particularly appreciate her thesis that Chinese, as a pictographic language, has generated a way of thinking (qu xiang bi lei or 'taking image and analogising') that is intrinsically different from Western thinking, and which forms the core methodology of Chinese medicine. Dr. Lan asks, 'What on earth is Chinese medicine? Is it just an indigenous folk art of healing, which has superficial understanding of human body and diseases and can be judged by Western scientific criteria? Or is it an independent, systematic, and complete medical system?' (p. 281).
 - 31 Not insignificantly, the same is true of love. To fit this into the Neo-Confucian theme, I would say that love is the greater part of 'ren' (human-heartedness), which is the quintessential Confucian virtue.