

Feng Shui: Philosophical Appraisal and Educational Opportunity

Michael R. Matthews

School of Education, University of New South Wales

Feng shui is a set of beliefs and practices arising from an ancient deeply-entrenched Chinese and East-Asian worldview. The ontological core of the worldview is commitment to the reality of an all-encompassing cosmic life-force or energy called *chi* (*qi*). Feng shui includes medical, health, architecture, construction, design, decoration, burial and divination practices. Its worldview is naturalistic. Its ontology has no supernatural entities nor allows for divine interventions in nature; yet it promotes astrology, divination and fortune telling. The worldview underwrites and justifies the traditional Chinese medicine (TCM) practices of acupuncture and herbal medicine.



Although feng shui practices and worldview have their origin in Asia, both have an increasing international presence. Feng shui medical practices, under the title of ‘complementary’ or ‘alternative’ medicine, are routinely taught in Western medical schools; feng shui architecture is likewise taught in many Western architecture faculties. The worldwide web brings hundreds of thousands of feng shui commentary and advice sites into the most remote corners of the world.

There is a surprising asymmetry between the presence, spread and impact of feng shui and its philosophical appraisal; there is little of the latter. There is some exposition, but little appraisal. And there is almost no discussion of the educational opportunities and responsibilities afforded by feng shui for science teachers. This brief piece is a modest beginning contribution to both the philosophical and educational tasks.

Feng Shui and Chi

The naturalistic and ‘scientific’ core of feng shui is commitment to the existence of a putative all-encompassing special energy or life-force *chi* or *qi* that has existed since the beginning of time; that occupies the entire cosmos – the universe, solar system, earth, and everything on the earth; and that flows through the human body where it moves in defined meridians that can be manipulated by acupuncture treatment. Clearly Chi lives in the borderland of physics, metaphysics and pseudophysics; it moves between the domains depending upon who is appraising it.

Simon Brown, author of *The Feng Shui Bible*, gives an account of chi that can be found in thousands of popular books on the subject:

Chi is the subtle charge of electromagnetic energy that runs through everything, carrying information from one thing to another. The chi flowing through your body predominantly carries your thoughts, beliefs and emotions. At the same time some of your chi is floating off,

while you are also drawing in new energy. ... Your energy field connects you to everything else, whether you like it or not. The secret to making this energy work is understanding the process and finding out how you can make it help you in life. (Brown 2005, p.24)

Chi belief has been engrained in Chinese culture – Confucian, Daoist, Buddhist and other variants - for at least three thousand years. The practice of directing and controlling personal chi (*qi*) is called *qigong* (*gong* meaning work/effort). Feng shui belief bears upon most aspects of everyday life: the design of domestic, commercial and government buildings; the siting and orientation of graves; personal fortune telling and divination; choosing auspicious times for marriage, commencement of building construction, opening a restaurant, launching a public company, going on holidays, and much more.

Chi is perhaps best known for its utilization in Traditional Chinese Medicine (TCM). It is invoked in practices such as herbal medicine, acupuncture, yoga, and qigong exercise. All of these are efforts to promote, harness and direct life forces. In China 240 universities offer degree programmes in TCM; 18 countries have included acupuncture in their medical insurance schemes; countless Western medical schools have TCM under the name of ‘complementary’ or ‘alternative’ medicine’. The Tianjin-based Qianjian herbal company was worth \$2.8 billion in 2015; it had 10,000 staff in 110 countries; it operated the largest cancer-treatment hospital in the world.

Just like Judaeo-Christian-Islamic religious beliefs, feng shui impinges on daily personal and social life; it informs people’s understanding of their place in the cosmos; it is a secular worldview. One commentator has said:

Based on ancient Chinese philosophical traditions, feng shui has developed for over two millennia to include knowledge, rituals, aphorisms, and superstitions from throughout China. As such, it is central to any understanding of Chinese cultural history, life, and psychology, as well as that of many other East Asian cultures that also practice Chinese feng shui. (Puro 2002, p.108)

A study of feng shui in Korea commenced with the statement: ‘The importance of geomancy [divination or foretelling the future] in understanding the East Asian cultural landscape and cultural ecology is difficult to overemphasize’ (Yoon 2006, p.xiii).

Dr Yan Xin, a former TCM practitioner who worked in different Chinese and US universities is a celebrity super-Qigongist with an international reputation for healing thousands of patients at a distance by generating and casting his own *qi* over them. Some of his lectures, including in the US, were attended by tens of thousands. In 1986 he was attached to the Qigong Cooperative Research Group at Tsinghua Technical University in Beijing, and claimed that:

the mind power or *Qi* emitted by a trained Qigong master can influence or change the molecular structure of many test samples, including those of DNA and RNA, even if these test samples are 6 to 2,000 kilometers away from the master. *Qi* can also affect the half-life of radioactive isotopes and the polarization plane of a beam of light as emitted from a Helium-Neon laser.

Much has been written on the history, philosophy, and practice of feng shui (Bruun 2008). But despite feng shui’s significant historical, cultural and economic footprint, there has been little critical philosophical appraisal of the theory and practice. Feng shui is surprisingly

ignored in the considerable philosophical discussion of pseudoscience (Pigliucci & Boudry 2013). And there has been no effort to examine how feng shui might be handled as a topic in schools, specifically in science programmes.

This is a pity on both counts. Any philosophical examination of feng shui will lead directly to important and engaging issues about the role of metaphysics in science, realism vs instrumentalism, ontological versus methodological naturalism, the function of empirical evidence in theory appraisal, the demarcation of science from non-science, and more specifically the demarcation of science from pseudoscience.

Feng shui has long migrated from Asia and has an increasing international commercial, domestic, and personal presence. Feng shui is a billion-dollar international growth industry. As a writer in the American Institute of Architects newsletter commented: 'Feng Shui is no longer just an ancient Chinese secret. While slow to take root outside of its original heartland, it is now global and transcends culture and politics' (Knoop, 2001). The Amazon Kindle site lists over one thousand feng shui books in English alone; there are many times this number on second-hand book sites; there are countless thousands, if not hundreds of thousands, of commercial feng shui web sites; hundreds of thousands, likely millions, of people throughout the world daily visit these sites and to varying degrees regulate or inform their life by what they read and purchase.

Feng shui is but one component of the wide spectrum of chi or life-force based Eastern beliefs, therapies, health practices and medicine. Over some two to three thousand years, under different philosophical and cultural influences, many versions of chi-based practice have evolved. Along with feng shui, others are: Qigong, Falun Gong, Tai Chi, and Jin Shin Jyutsu. They all combine chi (*qi*) with *gong*, meaning work, practice, or exercise.

Chi and TCM were given huge exposure in the West with the publication of Fritjof Capra's *The Tao of Physics* (Capra 1984). This book was first published in 1975, it went through three editions, was published in 23 languages, and sold over a million copies. For decades it was a 'must have' book on countless undergraduate bookshelves. Capra wrote:

Traditional Chinese medicine, too, is based on the balance of *yin* and *yang* in the human body, and any illness is seen as a disruption of this balance. The body is divided into *yin* and *yang* parts. Globally speaking, the inside of the body is *yang*, the body surface is *yin*; the back is *yang*, the front is *yin*; inside the body there are *yin* and *yang* organs. The balance between all these parts is maintained by a continuous flow of *ch'i*, or vital energy, along a system of 'meridians' which contain the acupuncture points. (Capra 1984, p.98)

Ken Tobin, a former president of the National Association for Research in Science Teaching and a hugely cited education researcher embraced chi-related medical practice, saying:

The underlying theory relates to *Qi*, universal energy, and its flows through the body. In the case of humans there are 26 pairs of safety energy locks (SELs) through which *Qi* flows, providing the life source to the body ... When a body is disharmonized, energy can be blocked at or close to the SELs, thereby disrupting one or more of the flows needed to distribute the life force to different parts of the body. (Tobin 2015)

That a person so prominent in the international science education community can talk so easily, confidently and without hesitation about life forces, chi flows, SELs, and energy

blockages – underscores the degree of penetration of feng shui thinking beyond its Asian homeland.

Two philosophers identify chi as the foundation of Chinese cosmology and medicine:

Qi is one of the most important and widely interpreted concepts in Chinese intellectual history. As a shared notion underlying all schools, *qi* is believed to be a dynamic, all-pervasive, and all-transforming force animating everything in the universe. The air one breathes, the force that drives the flow of blood, the food one eats, the strength of one's mind, the flow of one's thoughts, the deepest urges of one's heart—all of these are understood in terms of *qi*. Thus *qi* extends across realms that might otherwise be divided in the spiritual, mental, or physical. (Wang & Ding 2010, p.42)

In the Confucian and Daoist (Taoist in the earlier Wade-Giles translation) Chinese traditions philosophy and science were not separate enterprises. It is not that the first influences the second, or that the second corrects the first; there is no such dramatic separation. Traditional Chinese science (natural philosophy) was a part of, or interwoven with, religion and philosophy. This is just how it also was in the West until the Scientific Revolution began to make separations possible. The subsequent Western preoccupation of demarcating one from the other, and examining their interaction, is alien to the Chinese tradition. When the issue does arise, the answer is even more complex than that given in the West. Ole Bruun writes:

The concept of *qi*, which may be translated into 'breath' or 'breath of nature', is fundamental to Chinese natural philosophy. It is strongly indicative of an organic predisposition in Chinese thinking in general, as opposed to the mechanistic orientation that became dominant in European natural philosophy after the Middle Ages. (Bruun 2008, p.108)

Failing the Test

It is noteworthy that the putative universal life-force, chi or *qi*, has not featured in the history of modern science, and has never been identified in any reputable science laboratory. Despite chi beliefs and practices having a 3,000+ years history, there is no instrument that indicates chi's presence, its flow, or measures its intensity. There is no standard chi unit comparable to the standard units for every quantity measured in science: there is nothing equivalent to a standard metre, kilogram, ohm, calorie, watt or joule. There is no 'chi-counter' equivalent of the Geiger counter; indeed, there is simply no chi meter at all. In the whole constellation of chi talk, theory and practice, there are no standards. The remarkable chi claims have never been confirmed in any reputable laboratory test or reported in any mainstream science journal.

Western science has seen some brief efflorescence of life-force type thinking such as Franz Mesmer's *animal magnetism* or Henri Bergson's *élan vital* but these never persisted; the constructs were shown to have no ontological reference. The Benjamin Franklin chaired eighteenth century French Royal Commission (which included Antoine Lavoisier) comprehensively examined Mesmer's claims, theory and practice and:

[we] concluded unanimously about the question of the existence and utility of magnetism, that nothing proves the existence of animal magnetism; that this non-existent fluid is consequently useless. (Franklin et al. 1784/2014, p.37)

This 'failure to find' situation is altogether odd as the foundational energy-centric commitment of feng shui should have practitioners lining up at the doors of science laboratories for vindication. The very first reaction to Simon Brown's above claim, made also by countless others - *Chi is the subtle charge of electromagnetic energy that runs through everything* - would be to demonstrate: When? Where? How much? In a world desperate to find alternate energy sources and less expensive healthcare, one might expect everyone would be seeking scientific endorsement of chi. But this has not happened. This repeated 'failing the test' situation coupled with continued unchanged pronouncements, is a powerful indicator that chi talk, although sounding scientific, is pseudoscientific.

The NOMA (Non Overlapping Magisteria) option promoted by Stephen Jay Gould and many others (Gould 1999) is not available to chi adherents as clearly chi claims are about regular, causal mechanisms in the world; they are claims within the domain or 'magisteria' of science.

Entrenched disregard of test failure has unfortunate consequences: if citizens are raised to simply accept, without evidence and testing, the foundational claims about chi and its yin/yang governed manifestations, then what other such claims will they accept?

For almost two thousand years crushed rhinoceros horn has been a staple of Traditional Chinese Medicine (TCM) on account of it supposedly containing prodigious amounts of distilled chi. It is estimated that 800-1,000 are slaughtered each year and their horns sold for around USD300,000 each. The White Rhinoceros whose double horns were especially chi-rich has, in the past few decades, been hunted to extinction in the wild. The Chinese government has belatedly banned its import. But the government has skirted around saying that the horn has no chi; such a pronouncement would obviously open up too many other investigations into what does and does not contain chi, and so undermine the ontological foundation of State-endorsed TCM.

If people are routinely accustomed to accept claims without evidence, then the pool of such 'no evidence' claims is open to further expansion and can take in all manner of objectionable, dangerous and abhorrent beliefs. The demand for evidence can be problematic when the claims are about supernatural entities, powers and activities. It might, with some initial plausibility, be argued that believing supernatural claims is independent of, or removed from empirical, 'natural' evidence: to ask for the latter is to misunderstand what the claim is about, it is about *supernatural* events and processes of which, many maintain, science needs to remain mute. But feng shui and chi claims are precisely not about a supernatural realm but purportedly about the natural realm in which we live.

Historical Critiques

The deleterious flow-on cultural and scientific problems occasioned by feng shui have long been recognised. Matteo Ricci (1552-1610) the Sinophile leader of the famed late-16th century Jesuit mission to China (Laven 2011) wrote in his *Travel Journal*:

In choosing a place to erect a public edifice or a private house, or in selecting a plot of ground in which to bury the dead, they study the location with reference to the head and tail and the feet of the particular dragons [chi lines] which are supposed to dwell beneath that spot. Upon these local dragons they believe that the good and bad fortune, not only of the family but also of the town and province and the entire kingdom, is wholly dependent. Many of their most distinguished men are interested in this recondite science and, when necessary, they are called in for consultation, even from a great distance. ... Just as their astrologers read the stars, so

their geologists [diviners] reckon the fate, or the fortune of a place, from the relative position of mountains or rivers or fields, and their reckoning is just as deceitful as the reading of the stargazers. (Ricci 1615/1953, p.84)

Ricci appreciated that serious Chinese adoption of European natural philosophy, that is not just its instrumental use for astronomical calculations, would have cultural consequences and that these need to be acknowledged:

And in truth it thus happened that many, having learnt our mathematical sciences [astronomy], laughed at the law and doctrine of the idols [masters], saying that if they taught so much error in natural matters and those of this life, there is no reason to give them credit in supernatural matters and those of the other life. (Rule 1986, p.166)

This comment was directed specifically at Chinese Buddhists, but it has become a perennial issue in all cases of contact between traditional belief systems and modern science: how to maintain traditional authority structures when authorities make claims about the world that younger people who have had some science classes can see are demonstrably false and without foundation? If respect for elders is predicated upon their being custodians of a culture's knowledge, then when that knowledge is seen to be hollow - then either respect is lost or other grounds for respect of cultural authorities or norms need to be found.

Two hundred and fifty years after Ricci's account of Chinese natural philosophy and culture, Ernst Johann Eitel (1838-1908), a Lutheran missionary and Sinologist, took the same path (Wong 2000). He published a substantial appraisal of the history, metaphysics and functioning of feng shui - *Feng Shui: The Rudiments of Natural Science in China* (Eitel 1873/1987). Eitel recognises that feng shui site selection and medical guidance goes beyond harmless and benign commonsense practices:

Well, if Feng-shui were no more than what our common sense and natural instincts teach us, Chinese Feng-shui would be no such puzzle to us. But the fact is, the Chinese have made Feng-shui a black art, and those that are proficient in this art and derive their livelihood from it, find it to their advantage to make the same mystery of it, with which European alchemists and astrologers used to surround their vagaries. (Eitel 1873/1987, p.1)

He echoes Emmanuel Kant and anticipates Alexandre Koyré in affirming the centrality of experiment in modern science:

There is one great defect in Feng-shui, which our Western physicists have happily long ago discarded. This is the neglect of an experimental but at the same time critical survey of nature in all its details. (Eitel 1873/1987, p.69)

Joseph Needham (1900-1995) the greatest and most influential twentieth-century student of pre-modern Chinese science wonderfully documented the interplay of science, technology, philosophy, and metaphysics in Chinese culture (Winchester 2008), saying that:

Superstitious practices flourished in China just as strongly as in all other ancient cultures. Divination of the future, astrology, geomancy [fortune telling], physiognomy, the choice of lucky and unlucky days, and the lore of spirits and demons, were part of the common background of all Chinese thinkers, both ancient and medieval. (Needham & Ling 1956, p.346)

And:

The Neo Confucians [eleventh century] arrived at what was essentially an organic view of the universe. Composed of matter-energy (*Ch'i*) and ordered by the universal principle of organization (*Li*), it was a universe which, though neither created nor governed by any personal deity, was entirely real, and possessed the property of manifesting the highest human values (love, righteousness, sacrifice, etc.) when beings of an integrative level sufficiently high to allow of their appearance, had come into existence. (Needham & Ling 1956, p.412)

Needham correctly said of traditional five-element thinking that:

The only trouble about the Chinese five-element theories was that they went on too long. What was quite advanced for the +1st century was tolerable in the +11th century, and did not become scandalous until the +18th century. The question returns once again to the fact that Europe had a Renaissance, a Reformation, and great concomitant economic changes, while China did not. (Needham & Ling 1956, p.294)

Criticism of feng shui came not only from outside the Chinese tradition; it has been persistent within. In 1915 following the collapse of the Manchu dynasty and establishment of the new Republic of China, in the bubbling economic, cultural, philosophical and warring times of the period, a hugely popular and influential periodical, *New Youth (La Jeunesse Nouvelle)*, was launched. It was edited by Ch'en Duxiu (1879-1942), a noted champion of science, critic of traditional Confucian philosophy and culture, and a founder of the Chinese Communist Party (CCP). Its opening editorial opined:

Our men of learning do not understand science; thus they make use of *yin-yang* signs and beliefs in the five elements to confuse the world and delude the people and engage in speculations on geomancy ... The height of their wondrous illusions is the theory of *Ch'I* [primal force] ... We will never comprehend this *Ch'I* even if we were to search everywhere in the universe. All of these fanciful notions and irrational beliefs can be corrected at their roots by science, because to explain truth by science we must prove everything with fact. Although this is slower than imagination and arbitrary judgment, every progressive step is taken on firm ground. It is different from those flights of fancy which in the end cannot advance one bit. (*New Youth*, 1915, vol.1, p.1. In Kwok 1965, p.65)

The Chinese Communist Party has had an ambivalent relation to feng shui. In 1940 Mao Tse-tung declared for science and against superstition, including feng shui, saying:

The culture of this New Democracy is scientific. It opposes all feudal and superstitious thought; it advocates practical realism, objective truth, and the union of theory and practice. From this point of view, the scientific thought of the Chinese proletariat, along with the comparatively progressive material monists and natural scientists of the capitalist class, must unite to oppose imperialism, feudalism, and superstition; [they] must not ally themselves with any reactionary idealism. (*Selected Works*, vol.2, p.700; in Kwok 1965, p.19)

When the Chinese Communist Party came to power in 1949 feng shui was outlawed as a form of backward superstition incompatible with the materialist ontology of Marxist theory; feng shui was dismissed as one of the 'Four Olds' (Shapiro 2001). Not surprisingly senior party figures continued to employ feng shui consultants, usually under the guise of cleaners or cooks. Then from the beginnings of this century, in their bolstering of Chinese nationalism, the Party, with great intellectual contortion, formally supported feng shui. They brought TCM into university medical schools and feng shui design and theory into university architecture programmes; they hosted international congresses on 'Feng Shui Architecture'.

Notoriously, one variant of feng shui, namely Falun Gong, remains illegal and can only be practiced in prison - if its adherents live to do so (Lemish 2008).

Feng Shui in a Science Programme

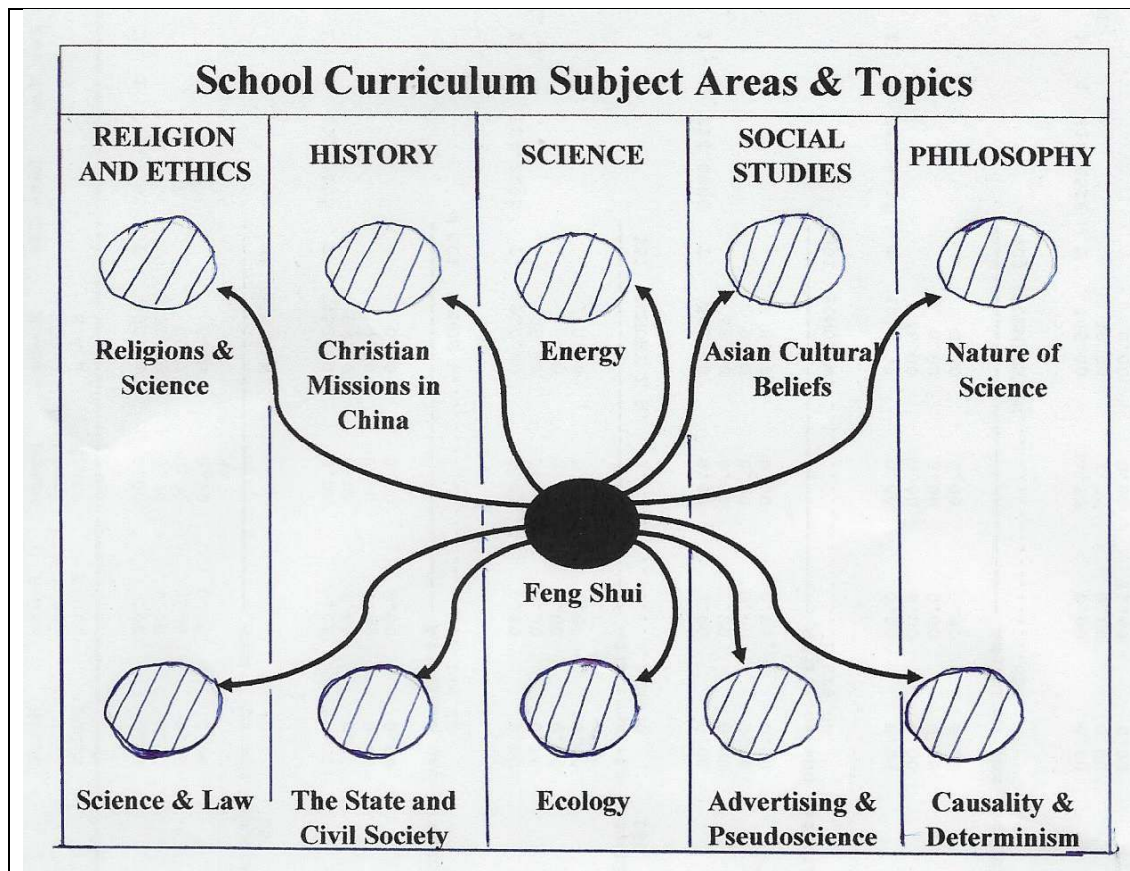
Feng shui is not a supernatural belief. It is about the constitution and workings of the world. Its core is explicitly energy-centric; it claims to be a scientific practice so in principle it can be discussed and examined in science classes. Further there are quite general philosophical, cultural, and educational lessons that can be learnt from its informed and critical appraisal.

Such examination offers rich opportunities for science teachers to elaborate on important features of science, or 'nature of science' (NOS) as selections of these are often labelled. Features such as: the relationship of science to metaphysics, scientific method, the connection of science to worldviews, ontological and methodological naturalism, the demarcation of science from pseudoscience, and the central scientific concept of energy. This could be an important part of the contribution of science education to cultural health.

The same education argument favours the examination in science classes, of any competing or alternative system of beliefs about the world and its mechanisms. Such examination can promote better understanding of the methods, methodology and domain of science. So, for example, when evolution is studied, then contrast Darwinism with creationist and Lamarckian science; when Mendelian genetics is studied, then contrast it with Lysenkoism; when the Copernican system is studied, then contrast it with the Ptolemaic system; when the geophysics of earthquakes or volcanoes is studied, contrast it with pre-scientific theological accounts of both phenomena. With energy being a constant and universal component of all science programmes, there is ample opportunity to study and discuss the startling chi-energy claims of feng shui.

The careful and sympathetic teaching of false theories and pseudoscientific theories not only illuminates the methodology of science, such teaching can prepare students for their inevitable daily encounters with bad science, bogus science and pseudoscience.

Further, feng shui can be a rich topic for coordinated, cross-disciplinary teaching between different school faculties: science, history, social studies, philosophy, art, economics and religion. The cross-disciplinary appraisal of feng shui is an excellent case-study for much-advocated STEM (Science-Technology-Engineering-Mathematics) education, and its Arts-augmented STEAM education.



Almost 20 years ago Mario Bunge observed:

Given the intrinsic interest and the cultural importance of pseudoscience and anti-science, it is surprising that they should receive so little attention on the part of philosophers, particularly in our times of crisis of public confidence in science. (Bunge 2001, p.189)

Subsequently philosophers have attended to conceptual and demarcation issues occasioned by pseudoscience, but feng shui is noticeably missing from all these accounts.

Conclusion

The philosophical appraisal and educational examination of feng shui can be fitted into a larger eight-step argument concerning history, philosophy and science teaching (Matthews 2015). The argument, in brief, is:

- (1) Science needs to be taught in conjunction with the history and philosophy of science (HPS) as it is only in this way that proper student understanding and appreciation of science – its methodology, ontology, epistemology, ethics and interrelations with culture - can be acquired.
- (2) Science education has to fulfil disciplinary, personal, social and cultural purposes. Each is advanced by the development of a scientific habit of mind which will bear upon student appreciation of feng shui.

(3) Accepting the social and cultural purposes of science education means that teaching about feng shui is an educational obligation where the practice and beliefs are entrenched; to ‘look the other way’ is educationally and culturally irresponsible.

(4) Such teaching about feng shui, or its local surrogates (astrology and other such belief systems), allows for clarification of many central issues in HPS, specifically concerning the nature of science (NOS), a topic that appears in nearly all national and provincial science curricula.

(5) No creditable scientific or non-scientific grounds have been advanced for the existence of chi, consequently, belief in chi is fanciful. This conclusion, though clear, need not be conveyed in any closed-minded, dogmatic way; it can be done in a culturally sensitive manner that problematizes issues and seriously engages student thinking about the plentiful chi claims. An at-a-distance historical approach is one such pedagogical avenue (Heering & Höttecke 2014).

(6) Acknowledging whatever success astrological healing, divination, TCM, herbal infusions, acupuncture and qigong exercises have does not mean that the success is attributable to chi manipulation. Sound scientific explanations, including that of placebo effects, can be found; indeed they should be found. This is the long history of identification of the efficacious chemicals in effective herbal treatments and then their commercial production – the story of aspro and quinine.

Recourse to chi is just a distraction; it muddies the research waters. The inference to chi from effective treatment is another example of the common fallacy of affirming the consequent. The argument:

C → **T**
T
∴ **C**

is invalid. Many other factors can equally imply T.

(7) Nor can a non-realist, instrumentalist interpretation of chi be advanced as an answer to the ‘failure to find’ problem. That is, it cannot be said that the failure to find chi is because there is no existent there to find but nevertheless the chi concept is useful as it does instrumental duty. Much like, for instance, ‘intelligence’ which on an instrumentalist interpretation is not there to find, rather it marshals together various empirical accomplishments and test performances. On this account, to look for intelligence is a category mistake; it is to confuse an intervening variable with a hypothetical construct (MacCorquodale & Meehl 1948). But the chi concept is so nebulous, ill-defined and confused, that it cannot function as an intervening variable, it cannot act as a theoretical place-holder for empirical data. Thinking chi is of instrumental use is a step towards mysticism about nature. Like special creation theory, chi is always a *post factum* inference. This is another indication that the chi edifice is a pseudoscience.

(8) Contrary to popular philosophical belief (Laudan 1983/1996), the distinction between science and pseudoscience can be consistently and intelligently maintained and feng shui can be shown to be a pseudoscience.

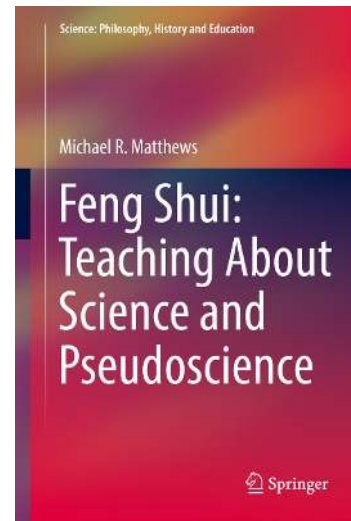
This brief Opinion Piece is more programmatic than programme; there are more signposts than road. But a 340-page elaboration of the argument, along with 840 references, can be read in:

Michael R. Matthews (2019) *Feng Shui: Teaching About Science and Pseudoscience*, Springer, Dordrecht.

<https://www.springer.com/gp/book/9783030188214>

Springer provide pdf files for book reviews, when the review is published the reviewer is sent the print version of the book. For details contact author or Springer Reviews.

To contribute to a possible anthology in which research on philosophical, historical, cultural, sociological and educational issues occasioned by feng shui will be published, contact the author.



References

- Brown, S.: 2005, *The Feng Shui Bible: The Definitive Guide to Practising Feng Shui*, Octopus Publishing Group, London.
- Bruun, O.: 2008, *An Introduction to Feng Shui*, Cambridge University Press, Cambridge.
- Capra, F.: 1984, *The Tao of Physics*, 2nd revised edition of 1975 original, Bantam Books, New York.
- Eitel, Ernest J.: 1873/1987. *Feng Shui: The Rudiments of Natural Science in China*, Lane, Crawford & Co., Hong Kong, (Graham Brash, Singapore).
- Franklin, B., Le Roy, M., Bailly, S. J.-S., Guillotin, J.-I. de Bory, d'A. & Lavoisier, A.: 1784/2014, 'Report of the Commissioners Charged by the King with the Examination of Animal Magnetism'. In I.M.L. Donaldson (trans. & ed.) *The Reports of the Royal Commission on Mesmer's System of Animal Magnetism and Other Contemporary Documents*, James Lind Library and Royal College of Physicians of Edinburgh, pp. 39-76
- Gould, S.J.: 1999, *Rock of Ages: Science and Religion in the Fullness of Life*, Ballantine Books, New York.
- Heering, P. & Höttecke, D.: 2014, 'Historical-Investigative Approaches in Science Teaching'. In M.R. Matthews (ed.) *International Handbook of Research in History, Philosophy and Science Teaching*, Springer, Dordrecht, pp. 1473-1502.
- Knoop, A.: 2001, 'Feng Shui for Architects', American Institute of Architects, Newsletter, <http://www.lezley.info/feng-shui.htm> .
- Kwok, D.W.Y.: 1965, *Scientism in Chinese Thought: 1900-1950*, Yale University Press, New Haven, CT.
- Laudan, L.: 1983/1996, 'The Demise of the Demarcation Problem'. In L. Laudan *Beyond Positivism and Relativism: Theory, Method and Evidence*, Westview Press, Boulder, CO, pp.210-222.
- Laven, M.: 2011, *Mission to China: Matteo Ricci and the Jesuit Encounter with the East*, Faber & Faber, London.
- Lemish, L.: 2008, 'Why is Falun Gong Banned', *The Economist*, 19 August.

- MacCorquodale, K. & Meehl, P.: 1948, 'On a Distinction between Hypothetical Constructs and Intervening Variables', *Psychological Review* 55, 95-107.
- Matthews, M.R.: 2015, *Science Teaching: The Contribution of History and Philosophy of Science*, Routledge, New York.
- Needham, J. & Ling, W.: 1956, *Science and Civilisation in China*, vol. 2, *History of Scientific Thought*, Cambridge University Press, Cambridge.
- Pigliucci, M. & Boudry, M. (eds.): 2013, *Philosophy of Pseudoscience: Reconsidering the Demarcation Problem*, University of Chicago Press, Chicago.
- Puro, J.: 2002, 'Feng Shui'. In Michael Shermer *The Skeptic Encyclopedia of Pseudoscience*, ABC-CLIO, Santa Barbara, CA, pp.102-112.
- Ricci, M.: 1615/1953 *On the Christian Mission among the Chinese*. In L.L. Gallagher (1953), *China in the Sixteenth Century: The Journals of Matthew Ricci, 1583-1610*, Random House, New York.
- Rule, P.A.: 1986, *K'ung-tzu or Confucius? The Jesuit interpretation of Confucianism*, Allen & Unwin, Sydney.
- Shapiro, J.: 2001, *Mao's War against Nature: Politics and Environment in Revolutionary China*, Cambridge University Press, Cambridge.
- Tobin, K.: 2015, 'Connecting science education to a world in crisis', *Asia-Pacific Science Education*, 1:2, (doi:10.1186/s41029-015-0003-z)
- Wang, R.R. & Ding, W.: 2010, 'Zhang Zai's Theory of Vital Energy'. In J. Makeham (ed.) *Dao Companion to Neo-Confucian Philosophy*, Springer, Dordrecht, pp.39-57.
- Winchester, S.: 2008, *The Man Who Loved China: The Fantastic Story of the Eccentric Scientist who Unlocked the Mysteries of the Middle Kingdom*, HarperCollins, New York.
- Wong, T.M.K.: 2000, 'The limits of ambiguity in the German identity in nineteenth century Hong Kong, with special reference to Ernest John Eitel (1838–1908).' In Ricardo K. S. Mak and Danny S. L. Paa (eds.), *Sino-German Relations Since 1800: Multidisciplinary Explorations*, Peter Lang, Frankfurt, pp. 73–91.
- Yoon, H.-K.: 2006, *The Culture of Fengshui in Korea: An Exploration of East Asian Geomancy*, Rowan & Littlefield, Plymouth, UK.