Chapter 14

Conclusion

Feng shui theorists and consultants are practicing something that superficially appears like science and is infused with scientific terminology – witness the title of a recent book *Scientific Feng Shui for the Built Environment* (Mak & So 2015), or the numerous feng shui claims that have been documented in this work, of which the following is representative:

> This flow that regulates our lives is an invisible energy known as ch'I (or *qi*). To partake in this energy, we can arrange our inner nature and our outer environment to allow it to flow like water or drift like the wind, and provide us with benefits rather than harm. We cannot control the wind, but we can however arrange our lives so this 'energy' benefits us. (Rolnick 2004, p.9)

But despite the incessant waving of the science banner, beating of the science drum, and liberal use of scientific terms; despite the significant number of science-trained practitioners; despite employment of instruments such as Meridian Energy Analysis Devices (MEAD) connected to computer monitors – feng shui is not a scientific practice. Further, it is not just poor science, it is pseudoscientific. 'Poor' science suggests it can get better, that if a few things (measurements, readings, data collection) are done more accurately, then feng shui can progress along to 'fair' or 'good' science. It cannot do this because it is fundamentally not science at all; it is outside the scientific pale.

The key elements of science – content, methodology, experiment, mathematization, theoretical and conceptual growth and refinement, and social organization – are present only as simulacrums. There is no tradition of controlled and reproducible experiment; there is no recognition of the defect of *ad hoc* rescuing of failed hypotheses; there is no effort to disentangle variables and study their contributions; there is a dramatic inconsistency with the core of established scientific knowledge, most especially the conservation of energy postulate; there is no effort to explain this inconsistency by engagement with the scientific community; there are no contributions to established, peer-reviewed, scientific research journals; there is altogether unwarranted dependence upon individual or sectarian interpretation of basic feng shui principles; despite three-to-four thousand years of adherence and cultivation, there is no cognitive growth; there is a resolute refusal to subject feng shui to serious empirical test, instead there are 'get out of jail' cards built into the very core of the belief system; and finally there is a radical disjunct between the law-governed, deterministic worldview of science and the chaotic, idiosyncratic 'fortune-telling', 'auspicious times', 'good or bad luck' worldview of feng shui promoters and qigongists. Affirming all or even some of the latter requires that the fundamental laws of causation for macro objects are jettisoned; and if that happens then science is also abandoned. Whatever legitimate debate there is about causality at the micro or sub-atomic level (Bunge 1982, Weinert 2005, chap.5), there is none at the macro-level where feng shui interventions, and random chi-caused events supposedly take place.

Unfortunately, the feng shui and qigong communities do not have a monopoly on the juxtaposition of scientific competence and anti-scientific commitments and beliefs. For example, Edgar Dean Mitchell the NASA astronaut who was the sixth person to walk on the moon after piloting the Apollo 14 craft and who has science and engineering doctorate degrees from MIT holds a constellation of 'extra scientific' beliefs. Mitchell has claimed that

on his way back from the moon he had a Savikalpa Samadhi experience during which his soul absorbed the fire of Spirit-Wisdom that 'roasts' or destroys the seeds of body-bound inclinations. After this experience he conducted in-flight ESP experiments with his friends back home. These experiments were published in the *Journal of Parapsychology*. Mitchell believes a remote healer, Adam Dreamhealer, cured his kidney cancer over the telephone. He also believes in UFOs, interplanetary visitations, and that he has had personal encounters with these extraterrestrials.

There are hundreds of thousands, if not millions, of Mitchells for whom seemingly first-rate science education seems to have had little if any flow-on effect for the rest of their beliefs or conduct of life. Such rigidly compartmentalised thinking is a particular problem for those believing that science education should beneficially impact student's personal life and should contribute more generally to the improvement of society and culture. This was the expectation of the Enlightenment philosophers and educators; it was John Dewey's hope; and it is the expectation of the American Association for the Advancement of Science who maintained that:

> the scientifically literate person is one who is aware that science, mathematics, and technology are interdependent human enterprises with strengths and limitations; understands key concepts and principles of science; is familiar with the natural world and recognises both its diversity and unity; *and uses scientific knowledge and scientific ways of thinking for individual and social purposes*. (AAAS 1989, p. 4, italics added)

Without using the expression, this AAAS Enlightenment-informed, expectation is the hope of all people going into science teaching as a career; it is the reason that governments put resources and money into science education. The assumption underwriting all components of a school curriculum is that they individually and collectively make personal and social life better; there is a flow-on effect for good education. Richard Peters was correct in saying that education is like reform, it has improvement built into its very meaning (Peters 1966).

The unique contribution of the science programme to this more general problem-solving, society-improving and personal flourishing educational goal is, as described in Chapter 2, the cultivation and refinement of of what the AAAS call scientific *habits of mind*. These are meant to 'flow on' from the classroom and laboratory bench to the home, workplace, and community. For the AAAS, the wider 'planetary' problems are not just material - they are social, cultural, and ideological – but application of a 'scientific habit of mind' is necessary for solving these wider problems. They are not solved by feng shui consultations or qigong exercises. This is a restatement of the fundamental Enlightenment principle of scientism.

The beginning of scientism can be seen in the once-revolutionary claim of Newton, Condorcet and the early Enlightenment philosophers that the methods and outlook of the new science should be applied outside the laboratory; they should be harnessed in understanding and solving other pressing social and cultural problems including ones associated with superstitions and the exercise of unjustified ecclesial and feudal powers.

Many reject this characterisation of science and of science education fearful that it leads to scientism (Haack 2016, Sorell 1991), but only caricatures of scientism need be feared. Scientism has had a bad press in social science, in 'critical' and postmodernist philosophy, and especially in constructivist science education. In these circles, 'scientism' is

regarded as a synonym for reductionism, dogmatism, closedmindedism, superficialism, colonialism, cultural imperialism, intellectual over-reachism, and most other -isms with which no sensible and well-informed person would wish to be associated.

Components of this constellation may accurately reflect some who wear the 'scientism' badge, but these are outliers, they represent a caricature of the position. Science is itself fallible, tentative and self-correcting, so also is any extension of science and of scientific method. Mario Bunge (1986, 2010 chap.13, 2014 chap.2) and James Ladyman (2011, 2018) defend scientism. As with all thoughtful proponents of scientism, they reject reductionism, positivism, dogmatism and intellectual imperialism. Physicists should not be deferred to in determining government tariff policy, but medical researchers should be listened to in determining government health policy. Ladyman speaks for most upholders of scientism when he writes:

> In sum, humane scientism takes science to be authoritative in respect of objective knowledge, including about human beings and society. It recognizes no limits to science in principle, but is also antithetical to scientific hubris and hype. However, humane scientism holds the best of the arts and humanities in high esteem and recognises the role that culture and custom, and religion and tradition, play in a good human life. (Ladyman 2018)

Scientism is the view that *only* the methods of natural science are capable of providing knowledge of the natural, social and personal worlds; there are no other routes to such knowledge. Listening to gurus, holding Ouija boards, invoking mediums, remembering dreams, interpreting sacred texts, or consulting astrologers simply gives no knowledge of nature (earth quakes), of social circumstances (collapse of economies), public events (the outbreak of war), personal episodes (sudden illness or death), or even psychic episodes (delusions, emotional states and so on). Such sources might provoke hypotheses or ideas to be tested, but they do not provide knowledge. Thus stated, scientism is not nearly as 'beyond the pale' as it is usually taken to be (Ross, Ladyman & Spurrett 2007).

In as much as the modernization of thought about the natural and social world depends upon its reconciliation with science, then feng shui ideology and qigong theory is a barrier to the modernization of thought. Considering the Rolnick quotation at the opening of this chapter, it is clear that everyone benefits from appropriately arranging their lives, environment and social circumstances. But this is a difficult and complex enough task just considering naturalistic, economic, and graspable factors; to add completely unmeasurable, ungraspable, imaginary factors such as chi flow and accumulation into the equation of life is a thoroughly unhelpful distraction. Moreover, it is not merely unhelpful, it can be positively dangerous and damaging; it sends people down a false path and allows harm to flourish. Thousands of children needlessly die each year because their parents shun established medicine in favour of any of the smorgsboard of Alternative or Complementary medicines.

Further, it is manifest from the most cursory of web searches that feng shui practice has been overtaken by charlatans and fraudsters; by practitioners of the 'dark arts' as Matteo Ricci said in the sixteenth century, Ernst Eitel in the nineteenth, Ch'en Duxiu in the early twentieth century, and as so many others down to the present day have said. Charlatans and fraudsters are not absent from science, but they can be identified and called out.[1] It is not at all clear how this can be done for feng shui practice, especially when the heavy artillary of

[1] On fraud in contemporary science, see at least Bell (1992), Gardner (1981, pp.123-130), Gratzer (2000), Oreskes & Conway (2010), Park (2000) and Silverberg (1965).

'multilogicality', 'many worlds', 'parallel truths', 'incommensurability', 'paradigm change', or 'cultural autonomy' – provided by some philosophical traditions can be called upon to rescue any position once its error and weakness is exposed. It then becomes a philosophical task to neuter the artillery, to show that it does not do what its champions claim it to do.

All institutions, belief systems and ideologies benefit from historical study; from understanding themselves in an historical sequence and context. To the discomfort and distress of fundamentalists, all the major religions have gained from developing such historical perspectives. Both the development and corruption of religious and political institutions and beliefs over time is a common historical reality. So too science has changed over time. Famously Thomas Kuhn said that it was his unplanned teaching of a history of science course at Harvard University that opened his eyes to the manner in which scientific theories changed or were supplanted in the history of science. He credits the development of his whole novel theory of scientific change to this exposure to the historical dimension of science (Kuhn 1970, p.v). Science students, and all other students, have much to gain by becoming familiar with the history and philosophy of their own discipline.

Students can benefit from applying the same historical-philosophical analysis to feng shui. Many episodes, transitions and debates have been discussed in this book. The cases of Matteo Ricci, Ernst Eitel, the 'New Youth' movement in early 20th century China, the claims made for Traditional Chinese Medicine and acupuncture - can all be examined in science classes. And even better in cross-disciplinary teaching where science, technology, history, social studies, philosophy, and religion faculty can coordinate their programmes. Across the spectrum of features of science – experimentation, authority, prediction, precision, mathematisation, idealisation, coherence, testimony (Matthews 2011) - feng shui can be juxtaposed with science, and similarities and differences drawn out.

Richard Feynman in a 1974 Commencement Address at Caltech University titled 'Cargo Cult Science: some remarks on science, pseudoscience, and learning how to not fool yourself' well illustrated this book's argument about feng shui being a pseudoscience:

> We really ought to look into theories that don't work, and science that isn't science. I think the educational and psychological studies I mentioned are examples of what I would like to call Cargo Cult Science. In the South Seas there is a Cargo Cult of people. During the war they saw airplanes with lots of good materials, and they want the same thing to happen now. So they've arranged to make things like runways, to put fires along the sides of the runways, to make a wooden hut for a man to sit in, with two wooden pieces on his head for headphones and bars of bamboo sticking out like antennas—he's the controller—and they wait for the airplanes to land. They're doing everything right. The form is perfect. It looks exactly the way it looked before. But it doesn't work. No airplanes land. So I call these things Cargo Cult Science, because they follow all the apparent precepts and forms of scientific investigation, but they're missing something essential, because the planes don't land. (Feynman 1974, p.11)

For Feynman, the plane does not land for the Tanna Island villagers because they do not have the special and demanding integrity required when acting as a scientist; namely 'bending over backwards to show how you're maybe wrong' (Feynman 1974, p.13). Lee McIntyre identifies the same quality as the core requirement of a scientific attitude; the extra-methodological feature that separates science from pseudoscience (McIntyre 2019). Feynman, Bunge, Popper, Dewey, Huxley, Mach and countless others continue the Enlightenment commitment to the primacy of evidence in establishing, maintaining, and

defending both theoretical and empirical scientific beliefs. This is something that needs be passed on in science classrooms.

Feng shui belief in society and in classrooms presents not so much a problem for teachers as an opportunity. Its considered and informed examination is a way for students to learn about the nature of science and other important social processes – the impact of marketing, the cultural determiners of gullibility, and so on. It will be apparent that feng shui violates all constitutive and procedural components of science. Its ontology is evasive, ill-determined and unbound; its epistemology is empiricist and subjectivist. Such learning can be science education's contribution to the cultural health of society which is inversely related to the degree that gullibility, credulity, superstition and unwarranted beliefs prevail in the society. Chinese people need only think of the Cultural Revolution to have this truth driven home, while US citizens need only reflect on the election of Donald Trump to have the same lesson.

The quality of such learning will depend on the quality, sensitivity and informedness of the teaching. At all points of classroom contact with feng shui, and its chi-based worldview, the issues should be problematized, questions asked, claims examined, and alternatives investigated. Little is gained by a didactic, catechism-like approach to the issues. This is the deadening and useless approach to religion so frequently taken both by evangelists for religion in all religious traditions, and by opponents of religion in Soviet and communist-states. Over time, and by engagement with problematic aspects of feng shui, the strengths and advantages of a scientific outlook should become apparent to students, along with appreciation of the methods and achievements in non-scientific intellectual and cultural domains.