editorial

Heresies and Paradigm Shifts

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ONE OF THE important characteristics of science is that it undergoes occasional paradigm shifts. The paradigm determines the sort of picture one has of the world, the type of questions one asks and the experiments one performs. Much scientific progress is made within the current paradigm but eventually anomalies arise and these result in a crisis which leads to the adoption of a new one. During the crisis, a variety of imaginative theories will be advanced. The upholders of the old paradigm – who are usually in the majority initially – will try to resist the march of progress by denying the anomalies and dismissing the new theories as heresies, but eventually the critics die off and the new paradigm takes hold.

Some scientists think that we are on the verge of a new paradigm today – possibly one that will accommodate consciousness and radically alter our concepts of space and time – and this is particularly relevant to the SMN, eager as we are to embrace ideas on the frontiers of science. That is why we are always prepared to offer a forum for heretics, even if we risk thereby incurring the wrath of the establishment. The frontier of science is inevitably mired with controversy and any worldview eventually needs revision. Thomas Gold (himself a heretic) once remarked that "heresy in science is thought of as a bad thing, whereas it should be just the opposite."

The problem is that claims for a new paradigm are as frequent and premature as proclamations about the end of the world. (See the forthcoming SMN meeting about *Patterns of Apocalyptic Thought* on November 12.) Some anomalies go away (e.g. N-rays in the last century) and most heretics eventually prove to be wrong. It therefore requires discrimination and some degree of luck to back the right horse. For example, while I believe we should back parapsychology and some forms of complementary medicine, I have doubts about cold fusion and astrology. But opinions vary and I could be wrong; everybody has a different boggle threshold and the border between science and pseudoscience is not always easy to resolve.

Faced with this dilemma, we can only heed the admonition in our publicity leaflet: "The Network is independent of creed, open to new insight, rigorous in evaluating evidence, and respectful of different viewpoints." We should also exercise skepticism in the true sense of word (viz. a dispassionate weighing of the evidence in the search for truth) rather than the modern sense of complete rejection. "Skeptic" comes from the Greek word for "doubt", the importance of which was emphasised in a thought-provoking BBC radio programme, *In Doubt We Trust,* by Mark Vernon last month. Doubt has become a bad word in modern culture, being associated with fear and failure, but without it there can be no exploration or creativity. Doubt is vital because nothing is more dangerous than the steadfast conviction of the fundamentalist or the arrogance of those convinced they have all the answers. The mystery of life should be embraced and the limits of our knowledge recognised. Donald Rumsfeld's much-mocked distinction between known knowns, known unknowns and unknown unknowns was actually rather profound, although it might have been better if he'd confined his activities to the metaphysical domain.

These thoughts came to mind recently when I saw a list entitled "The top five mad scientists in the world": Dean Radin, Daryl Bem, Rupert Sheldrake, Russell Targ and Yakir Aharonov. They are called mad, not because they are crazy, but because they pursue what most scientists would call "pseudo-science". The first four are parapsychologists and the last one a quantum physicist. The work of most of them has been described at SMN meetings, so should this be a source of pride or embarrassment?

Bem's high position doubtless results from the recent furore over his paper "Feeling the Future: Experimental Evidence for Anomalous Retroactive Influences on Cognition and Affect", to appear in the prestigious *Journal of Personality and Social Psychology*. When this was highlighted in the *New York Times* in January, it triggered a ferocious onslaught from the critics. "There has to be a common sense cutoff for craziness…opening the floodgates to the frequent publication of crackpot ideas in top-notch journals would spell the end of science as we know it" said cognitive scientist Douglas Hofstadter. "An assault on science and rationality" said astronomer David Helfand. "Even if Daryl Bem's study turns out to be gold-standard science….one can still be confident that its findings are incorrect", said philosopher Anthony Gottlieb. "Pure craziness…I can't believe a major journal is allowing this work in…I wouldn't rule out that this is an elaborate hoax", said psychologist Ray Hyman.

This, of course, is part of a general and long-standing antipathy towards para-psychology from mainstream science. However, the attacks come not from science itself but from *scientism*, the almost religious belief in the one-level reality of materialistic reductionism, in which consciousness is just an epiphenomenon of the brain and thoughts its excreta. Science journalist Jim Schnabel denounced these outbursts as an attempt by researchers to "effectively suppress the findings of a scientific colleague because his findings threatened their reality" and he noted that scientific reasoning had been replaced by fear and loathing. "Maybe psychologists, like quantum physicists, will have to deal with the deep strangeness in our universe" cautioned Robert Krulwich. The experiments, the furore and the fightback are described in a cogent article by Larry Dossey in *Explore* called "Why are scientists afraid of Daryl Bem?" One of Larry's skills is a masterful use of quotations and many of the ones in this editorial come from there.

No. 3 on the list, Rupert Sheldrake, is particularly well-known to the SMN and has often addressed us. Indeed, the SMN became the focus of a media attack when he spoke at a session we organised on parapsychology at the British Association meeting in Norwich in 2006. Rupert, of course, is no stranger to controversy. His book *A New Science of Life* – introducing his ideas of morphic resonance – was famously denounced in 1981 by John Maddox, the editor of *Nature*, as a book fit for burning. In a BBC interview in 1994 Maddox further declared: "Sheldrake is putting forward magic instead of science and that can be condemned in exactly the same language that the Pope used to condemn Galileo, and for the same reason. It is heresy."

The reference to Galileo might be regarded as a home goal (since he was eventually vindicated) but it is an illuminating one because science has in a sense become the religion of the 21st century. Indeed, bioscientist Sarah Knox makes the same comparison when she points out that rejecting the paranormal because there is no plausible materialistic mechanism for it is like the learned men of Galileo's day refusing to look in the telescope. So having fought to free itself from the dogma of the Church, science has now come full circle and become ensnared in its own dogma. As the philosopher and historian of science Neil Grossman puts it: "Both materialist and creationist must ignore, debunk and ridicule the scientific findings that have refuted their beliefs."

Alfred North Whitehead, who was born 150 years ago, recognised the stultifying effect of scientific conservatism only too clearly in a statement in 1948: "Nothing is more curious than the self-satisfied dogmatism with which mankind at each period of its history cherishes the delusion of the finality of its existing modes of knowledge. Advance in detail is admitted: fundamental novelty is barred. This dogmatic common sense is the death of philosophical adventure." The SMN may sometimes face criticism for supporting heretics and we may err on occasions but that is a price worth paying in the search for a new paradigm.