

# Is the 'new paradigm' of physics inherently ecological?

*"A new age is coming, right? The old days were the days of mechanistic Newtonian physics, rigid social frameworks and brutal attacks on an alien environment. But that's been superseded by quantum theory with its indeterminacy, where everything interacts with everything else in the universe. The coming perspective is a holistic world view: interaction, wholes, none of that old, hateful possessive individualism. The new world view is inherently ecological. After all, ecologists tell us, nature is interdependent. Humans should fit in with nature, not dominate it. Nature really is holistic, and that means society should develop in that direction too."*

*Many environmentalists think they are part of an emerging new age, encompassing everything from the 'new physics' of quantum theory to a holistic ecological consciousness. But does it all really fit together so nicely? Ex-physicist and sceptic Brian Martin punctures a few balloons.*

**O**VER THE YEARS, I've heard quite a few people say things like this. I usually listen politely. I agree with many of their ideas about society. But I can't agree that these ideas are justified by some new 'holistic' paradigm of subatomic particles and ecology.

Idea about links between physics, nature and society have been popularised by some talented writers. Fritjof Capra captured the imagination with his book *The Tao of Physics*, which argued that there is a strong link between conceptions of nature found in quantum theory and strands of eastern mysticism, specifically Hinduism, Buddhism and Taoism. Capra suggested that scientists are finding out that nature really works the way that mystics have long realised: it is interactive, in-

determinate and doesn't distinguish between subject and object. A similar picture of the 'new physics' and mysticism is painted by Gary Zukav in *The Dancing Wu Li Masters*.

Sociologist Sal Restivo decided to examine these claims. He found that the alleged link between physics and mysticism can't be sustained. Capra picked out certain features of physics and certain features of Eastern traditions and found similarities. But, Restivo argues, if you picked out different features of quantum theory or different features of mysticism, or both, quite the opposite conclusions could be reached.

In fact, by picking examples appropriately, you could find similarities between mysticism and old-style, billiard-ball, Newtonian physics.

Whose arguments should you believe, Capra's or Restivo's? Ideally, people should make up their own minds after carefully studying both sets of arguments. But very few do this. Capra's work is widely known but Restivo's is virtually unknown. Why? One reason is that Restivo only published his ideas in a densely written academic tome entitled *The Social Relations of Physics, Mysticism and Mathematics*.

But there is another reason. Many people want to believe what Capra has to say. They want to believe that nature is on *their* side. Many environmentalists want to believe that nature - nuclear processes as well as forests and oceans - really is interactive, holistic, non-hierarchical and mysterious. If nature is this way, then society should be too.

But how do we know what nature is 'really' like? There's a problem here. Scientists have no guaranteed method to determine the reality of nature or, for that matter, the nature of reality. They can only develop pictures and models to describe it. And the models they use are drawn partly from current ideas about society.

In developing his theory of evolution, Charles Darwin was influenced by ideas about society presented earlier by Thomas Malthus, who described society as competitive. Although Darwin recognised a role for cooperation, he made competition - a struggle in which the fittest survive - a central

metaphor in his picture of nature.

After Darwin came the social Darwinists. They emphasised only the competitive aspects of the theory of evolution. They said that because nature is competitive, therefore society should be and those who can't compete successfully deserve no support. Social Darwinism was quite a convenient justification for ruthless capitalist exploitation.

Peter Kropotkin, the famous anarchist from the last century, believed in cooperation rather than competition. He looked at nature and found lots of cooperation. He then used what he found to justify his belief in cooperation between humans. Murray Bookchin, one of today's leading anarchists, has used the same sort of approach in *The Ecology of Freedom*.

Different people can draw different conclusions from nature. The trouble is that 'nature' doesn't speak with its own voice. It must be interpreted, and there is plenty of scope for different interpretations. And not all interpretations are ones you might like. The Nazis, remember, made a big thing of links with nature.

So here's the process. At any given time, there are ideas about how society is and should be organised: competitive, cooperative or whatever. When scientists describe nature, they draw on some of these ideas. Then some people say that because nature is competitive, cooperative or whatever, society should be too. It's all rather circular!

My view is that if we want an egalitarian society, we should argue for it and try to create it and not worry about whether nature is competitive, cooperative or something in between. Ideas about new paradigms in physics really have little connection with the organisation of society.

Capra's later book *The Turning Point* tells of the transformation of society towards a new ecological paradigm. It sounds attractive but, on closer inspection, Capra's analysis of society turns out to be confused and unhelpful. He has no coherent strategy for challenging and replacing the old systems of power. (Interested readers should consult Stephan Elkins, 'The

politics of mystical ecology', *Telos*, Winter 1989-90.)

If you want to read Capra, do so by all means. My point here is simple. The idea of a 'new ecological paradigm' of physics or society is only one way of looking at things and, furthermore, it may not be a very helpful perspective when it comes to the tough slog of creating a better society. Claims about a new paradigm should be taken with a dose of scepticism.

And remember, a new paradigm isn't always a good thing.

## Postscript

Back in the 1970s I was impressed by Carlos Castaneda's fascinating book *The Teachings of Don Juan*, which describes the author's encounters with a Yaqui sorcerer and a completely different way of understanding and interacting with the world. Castaneda expanded on his experiences in later books, describing a different paradigm for comprehending nature.

Years later, I came across the critiques by Richard de Mille. According to de Mille, Castaneda almost certainly never had the experiences he tells about in his books. In other words, the stories are fraudulent or, if you prefer, fictional. The 'separate reality' described by Castaneda was a hoax.

Now, you may choose to believe Castaneda or to believe de Mille. That's your choice. The point is that most readers of Castaneda have never heard of de Mille's criticisms. My guess is that lots of people *want* to believe in Castaneda's stories. Scepticism seldom makes for a best-seller.

Looking for inspiration from modern physics or from mystical traditions can be a deceptive process. What is found in these quests may simply be an exotic version, a distorted reflection, of our familiar, banal, everyday experiences. Rather than looking for an alternative somewhere else, eventually we will just have to deal with our own lives and society.

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*Brian Martin is in the Department of Science and Technology Studies at the University of Wollongong.*