

Mystic Physics

Is there really some deep fundamental union between modern particle physics and the Buddhist or quasi-Buddhist mysticisms of East Asia, especially China? Does modern physics really support the idea that Taoism is superior to other religions (if Taoism is a religion)?

Representatives of a small group of physicists and other thinkers centered in Berkeley and Stanford would like us to believe that. I can say "group" without gross inaccuracy. These people all know each other and talk to each other. I met several of them on the same afternoon in the same garden (behind Jack Sarfatti's house on Telegraph Hill) including the two most celebrated authors of the moment, Gary Zukav and Fritjof Capra. Zukav's book, *The Dancing Wu Li Masters* (Wm. Morrow & Co., Inc., 1979), came out in the spring. Capra's, *The Tao of Physics* (Shambhala Publications, 1975), is a few years old, but it is becoming something of a cult classic.

What these gentlemen and their friends are trying to do is to relate modern physics to other important concerns of humanity, and in this case particularly to mysticism or religion. It is a work that needs to be done again and again if only because physicists tend to get caught up in the doing of physics, the shooting of positrons at electrons or at superconductors, as historians get caught up in the examination of Pipe Rolls or the collation of county deed registers, and they do not have time to step back and contemplate the meaning of their art. Some of them don't even wish to.

In time past I have told both Capra and Zukav of my appreciation of what they are doing, and I will repeat it here in print. They are doing what other people are afraid to do. But I must enter a few cautions about the way it is being received.

The connections that these two authors have found between present-day particle physics and Chinese mysticism make extremely interesting reading, and they are powerful suggestions. They are not the latest word from Sinai, but I fear that in some quarters they are being taken so. I read both books with fascination. The connections and the plays of thought are delightful, and I was given a number of things to ponder.

There was also a certain agitation. I had been educated in an entirely Western context with little acquaintance with Eastern ideas. I believed, and believe, that we have an empirical physics because we first had

an empirical theology. Jewish and Christian religious thought has always been based on revelation — that is, experience and evidence, not speculation. "Where is it written?" is the bottom line.

There are numerous connections and parallels between physics and Christian theology. (Why not? The two grew up together.) I thought of a couple as I read, and I throw them out here as examples of the sort of thing that might profitably be pursued: the relation between Chalcedonian Christology and the complementarity principle or the connection between general relativity and Christian eschatology. (I am not theologian enough to tackle either one.)

Nevertheless, Capra nearly had me convinced that Taoism, if not the only spiritual system compatible with particle physics, was certainly the most compelling one. Then I came to his chapter on the S matrix. Aha! Old-fashioned physics. The faith is saved.

That's not the point, and yet it is the point. The basis for this whole dance is a theory called bootstrap dynamics, which is not held by many particle physicists nowadays. Today's vogue is the gauge field theories, quantum chromodynamics, Weinberg-Salam theory. These things are very Western in their intellectual qualities. Their inherent structuralism and hierarchicalism would seem to destroy the formlessness and egalitarianism that are the basis of the Taoist and the dancing analysis.

But QCD, etc., may not be the best explanation 10 years from now. Bootstrap dynamics may be back. Or something else. That's the real point. Ideas in physics change. Ideas in theology change. And they do not change in synchrony. Binding one too firmly to the other, as I think Capra does, can lead to embarrassing disjunctions. Religion is stuck with an outmoded cosmology, or physicists find that religion ignores their most intimate concerns (it is harder to interest priests in Robertson-Walker spacetimes than it is to interest physicists in the theology of baptism) and therefore ignore religion. The works of Zukav and Capra should be regarded as contributions to a dialogue that ought to go on for a long while.

My own opinion is that Western philosophies and theologies are equipped to face the uncertainties and dualities of modern physics and to deal with them squarely, as Niels Bohr and his followers tried to do. It may be that the Buddhist approach will succeed, but it involves a reduction to formlessness and a de-individualization of phenomena, a nirvanization of physics, if you will, that will be hard to swallow for those who are spiritual descendants of people who had the nerve to ask God what His name was.

Finally, there is the most difficult part —

the spiritual or mystical aspect of it all. This is the part of human experience that changes least. It is the nearest to eternity on earth, and it is difficult, well nigh impossible, to describe in words. It would seem foolhardy, therefore, to apply intellectual formulations to it. It does take courage, but, if these matters are not to be merely the verbal ping pong of the intellectuals, it must be done. It is here that these matters will affect people's lives in the same way that the formulations of physics or biology affect the material aspect of people's lives by the material changes they engender.

But how will they affect it? Those who take the spiritual world seriously know that there are devils as well as angels lurking there. A headlong rush after any experience that may be waiting there is inadvisable. But this is the age of spiritual gourmandise. Warnings cannot be issued, because no one will listen.

If the particular insights of physical (and biological) science about the nature of reality can deepen or extend our spiritual life, that is all to the good. They have been too long neglected by most spiritual directors. If they lead to occultism or cultism, better they were left alone. For a really scarifying example see Malachi Martin's story (in *Hostage to the Devil*) of two priests who became preoccupied with Teilhard de Chardin's attempt to evolve the Christian theology of humanity.

One of the valuable lessons of any spiritual training is that it doesn't do to make a religion of religion, let alone anything of lesser value. Ultimate reality is beyond formulations. Exactly the problem with cults is that they concentrate their attention on the tricks of the trade, and they are usually looking to see how they can perform some manipulation. Since science does come to the aid of material manipulations, and quite legitimately so, quasi-scientific cults are especially susceptible to the latter failing.

I am sure that neither Capra nor Zukav wants to be the guru of a cult. Neither do I. But the temptation is strong. There's a fortune to be made. I could think up some ritual and a set of beliefs. I could embroider a white robe with Feynman diagrams. There is even a rock group called the Baryon Octet I could call on for music. But I have, I think, more important things to do than changing my name to something like Heinrich Himmler Biedermeyer and shouting stormtrooper insults at a bunch of people who have paid heavily to hear them. There is a lot of hard intellectual work to be done. That is, if people in general see any value in the kind of thing Capra and Zukav are doing. It could lead ultimately, if the phrase be not blasphemous, to the hypostatic reunion of the scientific personality.

—Dietrick E. Thomsen