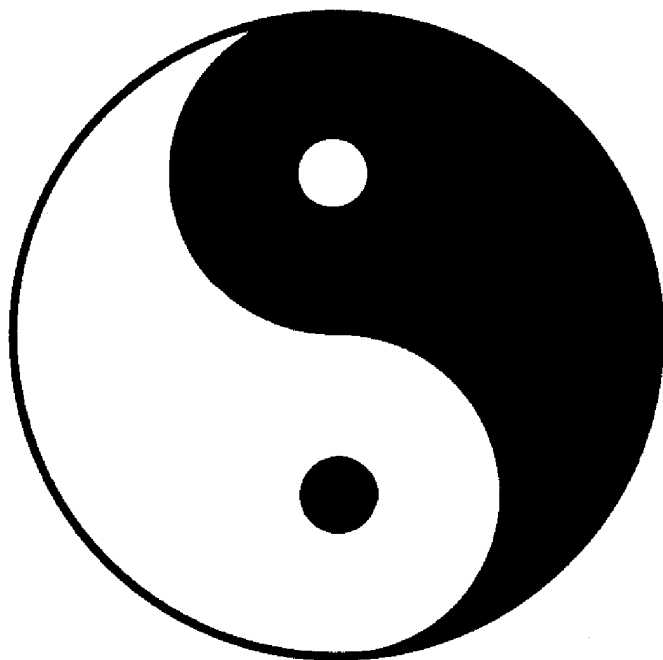


Concealment and Disclosure

physics, the Tao and Buddhist totality

JIM KENNEY



Concealment and Disclosure; courtesy of author

The Chinese symbol known as the *T'ai Chi* or the *yin-yang* is increasingly familiar to Western spiritual seekers. Its intuitive appeal derives from the fact that it provides a visual expression of an ancient concept in Eastern (and Western) spiritual thought: that unity underlies the diversity that characterizes ordinary experience. It represents the nearly universal mystical conviction that the subtle interplay of apparently contradictory principles shapes all existence. What is less often realized is the way in which the increasing clarity of one half of the symbol complex diminishes the other half. As “night” slowly reaches its full crescence, it does so, in a sense, at the expense of “day.” And the reverse is true as well.

In the 1920s, when the pioneers of the “new physics” were probing the dynamic structure of the sub-atomic dimension, Niels Bohr and his friend and co-worker, Werner Heisenberg, set forth two remarkable principles that were to shape the development of Quantum Mechanics. Bohr’s Principle of Complementarity maintained

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that a complete knowledge of events at the atomic and sub-atomic levels demanded a description of both waves and particles. He wrote

However contrasting such phenomena may appear, at first sight, it must be realized that they are complementary, in the sense that taken together they exhaust all information about the atomic object that can be expressed in common language without ambiguity.

When Bohr was knighted by the Danish Crown, he designed his own coat of arms. His shield bears the *T'ai Chi* symbol with a banner displaying the Latin legend “*Contraria Sunt Complementa*” (“Opposites Are Complementary”). The choice of the yin-yang device shows the very real affinity felt by Bohr and so many of his colleagues for the world view which shapes the Eastern philosophical and spiritual traditions.

Another of the cornerstones of modern physical theory is Heisenberg’s Uncertainty Principle, which asserts that it is impossible to determine with real accuracy both the position and the momentum of a sub-atomic particle at the same time. The clearer our knowledge of the position of a particle, the cloudier our notion of its momentum, and vice versa. The same can be said of the wave-particle “duality” which Bohr’s principle calls to our attention. The more one can say about the “particular” character of a process, the less one can know about its “wave” form, its aspect as a system of tendencies and possibilities. As physicists have repeatedly pointed out, no refinement of present measuring techniques can eliminate the fundamental uncertainty. The observer cannot be separated from the observed system. She or he is part of that system.

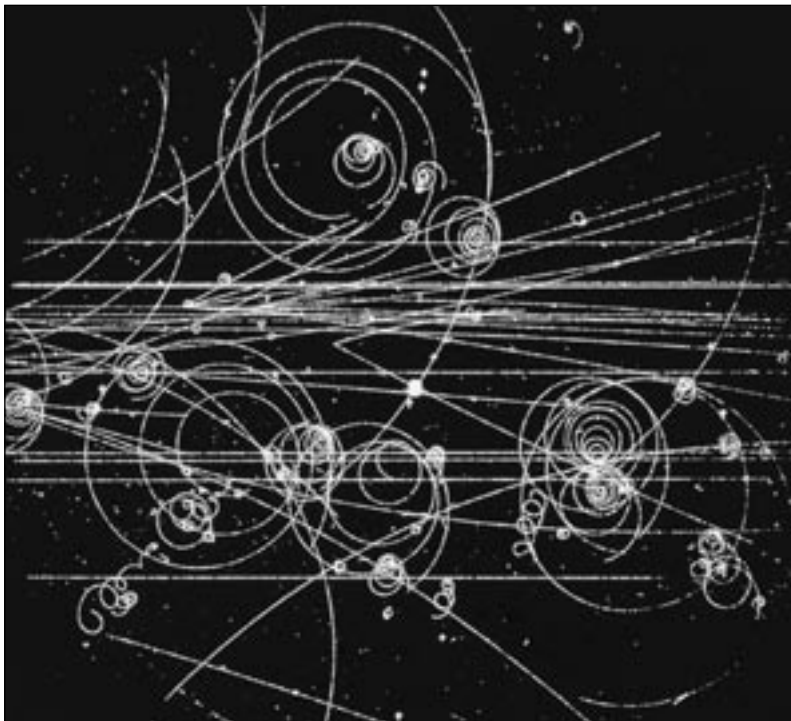
Neither the particle model nor the wave model gives us a complete account of the sub-atomic process. Each demands that we apply conceptual analysis (the “break-down method”) to the indivisible fabric of events. The Complementarity Principle maintains the necessity of both points of view to a consistent theory of sub-atomic events. The Uncertainty Principle postulates the impossibility of precise observation of both aspects at the same time. And so, we find ourselves at the threshold of an ancient intuition: that the fundamental structure of events retains a dramatic degree of mystery. The concepts “particle” and “wave” – like “yin” and “yang” and all other pairs of opposites (“female” and “male” come immediately to mind) – have great value for understanding, but do not refer to independently existing elements of reality. Particle can no more exist apart from wave than female from male, light from dark, or right from left. The process of knowing splits reality. (It’s not accidental that the dominant Western myth concerning human origins revolves around the Tree of the Knowledge of Good and Evil.) But the real point is this: we sharpen our analysis of events at the cost of an inevitable uncertainty about reality. Trees we understand, but when it comes to forests we must confess a certain confusion.

In the Chinese Buddhist school known as Hua-yen (“Flower Garland”), uncertainty is seen as a necessary consequence of conceptual dichotomy, of the “splitting into

two” which is so characteristic of human thought. This school, viewed by many as the sublime achievement of Buddhist philosophy, insists that reality is single and that conceptual thought inevitably fragments the totality. Concepts are superimposed on otherwise unbroken experience, with the result that no conceptual statement can ever yield certainty. As the great Chinese Buddhist scholar G.C. Chang observes:

Totality is usually hidden...because we tend to see one thing at a time from one particular frame of reference.... Usually when we make an assertion of something, we reveal that aspect but conceal the others.... In the vocabulary of Hua-yen this is called the obstruction of the concealment and the disclosure....It is a great pity that the human mind can only function in a one-at-a-time, from-one-level pattern, thus deprived of the opportunity of seeing the infinite versions of a thing at once.

The particle-wave paradox, like all the other paradoxes which conspire to make human life both frustrating and worth living, is a *koan*. In the Rinzai tradition of Zen Buddhism, a *koan* is a riddle, puzzle, or paradox which becomes a subject for meditative contemplation – e.g., “What is the sound of one hand clapping?” The seeker’s *koan* is his or her key. The hope is that time spent in its disturbing presence will unlock the sort of radical insight which transforms living.



Koan; courtesy of author