

LETTERS to the EDITOR

BELL'S THEOREM

A Chara, — It was a sheer delight to read Howard's Kinlay's article on Bell's Theorem (July 26) because this particular mathematical demonstration may well be, as Mr. Kinlay claims, the most important single discovery in the history of science and its implications are at least as interesting and perhaps even more mind-boggling than the current national debate about whether the goat who eats an acorn thereby kills a real oak or only a potential oak, or how many zygotes can dance on the head of a pin.

Bell's mathematics proves that, if quantum theory is valid, any two particles once in contact will continue to be instantaneously correlated no matter how far apart they subsequently move. What this means is, however, quite puzzling and it may not refute Einstein's determinism at all, contrary to Mr Kinlay. There are, in fact, several philosophical "models" of what Bell's discovery implies, and one of these models is not only deterministic, but in the words of its proponents "super-deterministic." This model interprets Bell's results as meaning that the universe is not only as orderly as Einstein though but hyper-orderly, even monistic. (See *The Tao of Physics*, by Dr. Fritjof Capra.) In such a totally unified cosmos, as Spinoza realized, there can only be one mind,

and the appearance of separate minds can only be a figment; in short, there is, as Spinoza also knew, no individual free will in such a universe.

However, this does not mean that "science has proven Spinoza right," since there are alternative verbal models of Bell's mathematics. Indeed, to believe there is only one interpretation is theology, not science. The most popular alternative to super-deterministic monism is Dr David Bohm's model of hidden variables, which assume that space and time are unreal, i.e. are information-stacking devices of the human nervous system and not facts about the universe. (Bohm, *Wholeness and the Implicate Order*.) This seems to lead us back to Platonism or at least implies the Platonic notion that what we see is unreal while the true Reality is what we do not and cannot see.

A third model, created by Dr Jack Sarfatti and his school, assumes that the non-local connectedness between particles described by Bell means that some form of information is travelling faster than light between the particles. This can easily lead to conclusion that it is theoretically possible to communicate with the past and lands us in all the paradoxes of science-fiction. Another model implies that Bell's

non-local connectedness occur in one universe at a time, and the famous quantum randomness produces equally real universes in super-space on all "sides" of us, so to speak. (Both of these models are discussed by Talbot, *Mysticism and Modern Physics*.) There is also the non-Aristotelian approach of von Neumann and Finkelstein which holds that the universe contains more than "yes" and "no" choices — that it contains a "maybe" in Finklestein's witty metaphor. And the Copenhagen view of Niels Bohr still exists for many physicists; this assures us that all formalisms (equations) including Bell's are not describing the universe but are only describing what we can say *at a date* about the universe. (See Paigels, *The Cosmic Code*.)

In short, Bell's Theorem does not resolve our philosophical problems, as Mr Kinlay appears to believe, but only gives us new problems, albeit extremely amusing ones. Certitude still belongs only and exclusively to those who have shielded themselves from scientific history and remained in the snug cocoon of medieval abstract logic. — Yours, etc.,

ROBERT ANTON WILSON,
Ph.D.,
5 Sandycove Avenue West,
Sandycove, Dublin.