

The Limits of Science

Letter to Academe

In their article “The end of the scientific era” (*Academe*, Feb.96), Park and Goodenough end the section on “Anti-Science” with the suggestion: “it would be enough for people to understand that we live in an orderly universe, a universe governed by physical laws that cannot be circumvented by any amount of piety or cleverness—laws that dictate everything from the birth of stars to falling in love” (p.15). Why not also the murder rate in our cities and the tragedy of Bosnia?

I would suggest that such pronouncements of 19th-century determinism do more to turn bright students away from the academic teaching of science than any “New Age mysticism.” Philosophers of science have realized in the course of the last sixty years that whatever orderliness we come to see in the universe is due at least as much to the conceptual structure of our theories as to the “data” we choose to consider relevant. The leading scientists themselves have, I believe without exception, come to share the view that Einstein expressed by a brilliant metaphor. He compared the scientist to a man who, faced with a clock he cannot possibly open, invents mechanisms that might explain the movements of the hands and the ticking he perceives—knowing full well that he will never be able to check his model against what “really” goes on inside the clock (Einstein & Infeld, *The evolution of physics*, New York, 1967, p.31; original 1938).

Even a wider public has by now picked up enough about indeterminacy and probabilistic laws of nature to be put off by obvious hype. The scientific kind of fundamentalism is as noxious as any other. Today there are few if any reputable scientists who would credit the laws of nature with directing our amorous experiences—the ones I know are only too happy to leave such claims to astrologers.

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