

April 1, 1993 (Vol. 8, no. 15)

Dear Colleague:

Newton's formulation of physical laws, so elegant and authoritative, gave a tremendous boost to the West's self-confidence, which was to spill beyond the study of nature to the understanding of and aspiration for society. The basic assumption, concerning both nature and society, was lawfulness, accessible to reason. Well, I think much of that is gone. Chaos, rather than order, is now believed to govern, at a fundamental level, the solar system. Newton didn't exactly have it wrong with his picture of a clockwork solar system, it's just that his time-span was too short: extend it to 100 millions years and it will be seen that the planetary positions are chaotic and cannot be predicted at all. Have you looked at the Milky Way lately? Beautiful, isn't it? The very picture of serenity, with a history to match: that is, until recently astronomers thought its story was one of uneventful progression from a primordial gas cloud to an orderly swirl of stars. No more. We are now told that our galaxy had a violent youth, in the course of which it gobbled up one or several smaller galaxies in its neighborhood.

Catastrophe theory, chaos theory. These mathematical theories are now part of a popular image of what nature is really like. Uniformitarianism, which dominated the study of the geologic past even when I was a student, now seems as outdated as the Victorian belief in steady progress and Victorian self-confidence. Earth history is almost become one of extraordinary events, which include the sudden and unpredictable invasion of comets from outer space. And, of course, human history, particularly after the sudden and totally unexpected demise of the Soviet Union, is an unholy mess. Only the most naive can discern in it a pattern or an inevitable trend. At no time in recent history has the rabbit foot dangling on the the car's rear mirror seem so reasonable--so rational--rather than superstitious.

As an ageing man, I can be expected to feel nostalgia for the kind of assurance--the sense of orderliness in the universe--that Newton gave us for the last three hundred years. And yet, from my own experience, I endorse the current postmodernist view of chaos and chance, for, with each passing year, my own body seems less a wonder of architecture, more a jerry-built (perhaps even an accidentally thrown together!) contraption the functioning of which is quite unpredictable. To the extent that my body is my world, that world is very much as the postmodernist theorists have presented it. What I don't understand is why the young, with their dependable Newtonian bodies (strong evidence, surely, of God's admirable craftsmanship), should also embrace postmodernism!

Best wishes,

