

## Myths Within Science

### The unreasonable popularity of **Chaos** and **Time**

hindsights by

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Two popular accounts of new mathematics, *Chaos: The Making of a New Science*, by James Gleick (Viking, 1987) and *A Brief History of Time: From the Big Bang to Black Holes*, by Stephen W. Hawking (Bantam, 1988) are best-sellers. One cannot help but wonder why.

U.S. publishers follow the roulette approach: If you bet enough on various manuscripts, eventually you will win the jackpot. All attempts to predict the success of a book in today's market have been abandoned. The descriptions of a book's content and the author's qualifications are never enough to predict its success, much less its chance to take off and make it on the best-seller list. For example, no one predicted the success of *Godel, Escher, Bach* (by Douglas Hofstadter), or afterward, could say what magic caused it.

In recent months we have witnessed two more unlikely titles on the best-seller list: Gleick's *Chaos* and Hawking's *A Brief History of Time*. Our intention here is to offer a theory of these market phenomena, a sort of psychoanalysis of the collective reader. Hopefully we can improve our understanding of best-seller roulette.

First of all, the success of these books cannot be based on what they say. *Chaos* makes for interesting biographical reading, but teaches little about the substance of chaos dynamics. Gleick is not a mathematician but a journalist, and his book talks about the history of chaos theory, a new branch of mathematics, but never touches its essence.

*Time* presents a different problem. Here is a first-rate theoretical physicist talking about his work. The first-hand account of the thrilling developments of black hole theory from 1965 to the present cannot be faulted. The problem is that the book is hard to follow, in spite of the author's heroic efforts at nontechnical exposition. Furthermore, the unique personal account is embedded in a disappointing essay on the philosophy of science and cosmology.

In brief then, if we were to consider these books on their intrinsic merits, in some kind of an academic vacuum, we would have to say that they both have failed. Thus their popularity must be based on something else. But what? We believe it is because they appeal not through their content, but through the kind of basic unconscious images they evoke in the reader's mind, images which are particularly attractive at this moment in our Western history. Both have attractive myths dressed in a scientific disguise.

Chaos is anathema to science, the high temple of order, but beloved of people. People know that life is messy and chaotic, their relationships beyond control. They feel in their hearts that the scientists' hygienic view of life and mind is offensively remote from the down here of day-to-day. This is the basis of the anti-science undercurrent of modern culture.

But what Gleick tells us in *Chaos*, through a collection of anecdotes, is that now science has had to eat humble pie, to accept its dreaded disorder: chaos is inevitable. Even better, it has forced us to embrace chaos for evermore, abandoning its holier than thou posture above us. Metaphorically, scientists are humbled in their arrogance, brought down to our level, here on their chaotic side of life.

Meanwhile, Hawking's book, *Time*, broadcasts not his theories but his self: a handicapped genius, an ephemeral mind caged in a Star Wars wheelchair, yet soaring into the skies of abstraction to explore the cosmos. From every media, we have seen Hawking, peering up at us from his wheel chair, his equations in the background. He is the epitome of mind, free of the burden of flesh: pure spirit. Our mass-media, post-modern reader longs for this kind of disembodiment into the free space of pure reason which, alone, will conquer the confinement of the universe. In fact, Hawking, one of our greatest fliers, has gone far out into this free space, armed with the most rigorous of pure mathematics, and returned to us with the main message of the book: there is no beginning, end, nor boundary to our universe. As we have always had serious doubts about the Big Bang hypothesis and its Big Crunch implication yet had not the muscle to condemn it, this post-modern Dedaelus is our planetary hero.

*Chaos* evokes the vibrant disorder of life and love, the feminine earthiness, and embodiments of ordinary life, Gaia, Mother Earth. *Time* evokes the crystalline precision of pure reason, the masculine aloofness of the celestial, the boundless universe, Ouranos, Father Sky.

Both of these latent images in the public are symptoms of where we are in this complex society of ours, pervaded by techno-science. Our religion of scientism has excluded Chaos and Chronos from the temple of orthodoxy. Relegated to the collective unconscious, they have awaited their chance. And now, thanks to Gleick and Hawking and the exigencies of history, they are returned to the stage of the collective conscious, heroine and hero of our post-modern play. As William Irwin Thompson has explained in his recent *Imaginary Landscape: Making Worlds of Myth and Science*, the isomorphism of myth and science is the hallmark of the post-modern paradigm.

Beyond the myths within science, they have little in common. *Chaos*, by a journalist, is about the secondary trappings surrounding a mathematical revolution created by people he has briefly interviewed. *Time*, by the creator of a major scientific advance, deals with the substance of his own work. However, there is also a small connection between them. Looking up the word "chaos" in the index of *Time*, we find three entries. On these pages, Hawking discusses the role of chaos in the creation of our orderly universe, and it is not at all apparent that he is aware of the chaos revolution. Nevertheless, he writes (page 156): "I still believe there are grounds for a cautious optimism that we may now be near the end of the search for the ultimate laws of nature."

It is possible that, through organizing their writings around ancient myths at the surface of the collective unconscious, Gleick and Hawking have entered into an unconscious resonance with each other, as well as with the reading public. And this ancient integrity may be at the root of the success of their books.