



The Physicist and the Abalone Diver

The difference between the creators of two new theories of science reveals the social nature of the scientific process By MICHAEL SHERMER

Consider the following quotes, written by authors of recently self-published books purporting to revolutionize science:

"This book is the culmination of nearly twenty years of work that I have done to develop that new kind of science. I had never expected it would take anything like as long, but I have discovered vastly more than I ever thought possible, and in fact what I have done now touches almost every existing area of science, and quite a bit besides.... I have come to view [my discovery] as one of the more important single discoveries in the whole history of theoretical science."

"The development of this work has been a completely solitary effort during the past thirty years. As you will realize as you read through this book, these ideas had to be developed by an outsider. They are such a complete reversal of contemporary thinking that it would have been very difficult for any one part of this integrated theoretical system to be developed within the rigid structure of institutional science."

Both authors worked in isolation for years. Both produced remarkably self-consistent theories and make equally extravagant claims about overturning the foundations of physics in particular and science in general. Both shunned the traditional route of submitting their work to peer-reviewed scientific journals and instead chose to take their ideas straight to the public. And both texts are filled with self-produced diagrams and illustrations alleging to reveal the fundamental structures of nature.

There is one distinct difference between the two authors: one was featured in *Time*, *Newsweek* and *Wired*, and his book was reviewed in the *New York Times*. The other has been largely ignored, apart from a few exhibits at art museums. Their bios help to clarify these dissimilar receptions.

One of the authors earned his Ph.D. in physics at age 20 at the California Institute of Technology, where Richard Feynman called him "astonishing," and he was the youngest to ever win a prestigious MacArthur "genius award." He founded an institute for the study of complexity at a major university, then quit

to start his own software company, where he produced a wildly successful computer program used by millions of scientists and engineers. The other author has been an abalone diver, gold miner, filmmaker, cave digger, repairman, inventor and owner-operator of a trailer park. Can you guess the names of the authors and which author penned which quote?

The first quote comes from Stephen Wolfram, the Caltech whiz and author of *A New Kind of Science*, in which the fundamental structure of the universe and everything in it is reduced

to computational rules and algorithms that produce complexity in the form of cellular automata. The second comes from James Carter, the abalone diver and author of *The Other Theory of Physics*, proffering a "circlon" theory of the universe, wherein all matter is founded on hollow, ring-shaped tubes that link everything together.

Whether Wolfram is correct remains to be seen, but eventually we will find out because his ideas will be tested in the competitive marketplace of science. We may never know the veracity of Carter's ideas. Why? Because, like it or not, in science, as in most human intellectual endeavors, who is doing the saying matters as much as what is being said, at least in terms of getting an initial hearing.

Science is, in this sense, conservative and sometimes elitist. It has to be in order to survive in a surfeit of would-be revolutionaries. For every Stephen Wolfram there are 100 James Carters. There needs to be some screening process whereby truly revolutionary ideas are weeded out from ersatz ones.

Enter the skeptics. We are interested in the James Carters of the world because in the interstices between science and pseudoscience, the next great revolution may arise. Although most of these ideas will land on the junk heap, you never know until you look at them closely. SA

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JAMES CARTER'S THEORY bases the structure of the entire universe—from atoms to galaxies—on circlons, "hollow, ring-shaped mechanical particles that are held together within the nucleus by their physical shapes," as shown here in a helium atom.