

Pessimism in a Bottle

by Marjorie Mazel Hecht

Sun in a Bottle: The Strange History of Fusion and the Science of Wishful Thinking

by Charles Seife

New York: Viking, 2008

Hardcover, 294 pp., \$25.95

I don't know if Charles Seife is an unwitting or witting operative of the oligarchical faction, typified by Prince Philip, that intends to destroy the United States and other nations by shutting down the science and technology necessary to advance society. But his book certainly reads as though that is his aim.

This glib and arrogant look at fusion power is premised on the idea that mankind does not have the creative ability to solve problems, especially the "impossible" ones. The author, Charles Seife, is a journalism professor who formerly wrote for *Science* and other magazines. Throughout the book, he exhibits no sense of what it means to have a mission in life, to want to advance what Edward Teller called "the common aims of mankind."

A pervasive theme of *Sun in a Bottle*, is that fusion scientists are egocentric self-promoters, competing in a sports event simply to get funding for their "wishful thinking" pet project. National laboratories compete against each other—for "truckloads of taxpayer money." The fusion programs of nations compete against each other. And even when the facts prove them wrong, fusion scientists can't admit mistakes in their game or acknowledge foul play, Seife reports.

They have an "egotistical desire for glory," Seife says about one fusion group. Many are even so blinded by self-advancement as to lie about their experimental data, he says. (His favored target in this respect is Lawrence Livermore National Laboratory.)

"Over and over again, the dream of fusion energy has driven scientists to lie, to break their promises and to deceive their peers. Fusion can bring even the best physicist to the brink of the abyss. Not all of them return." Some of them end up

on the "brink of insanity," Seife states in his Introduction.

The Crime of Optimism

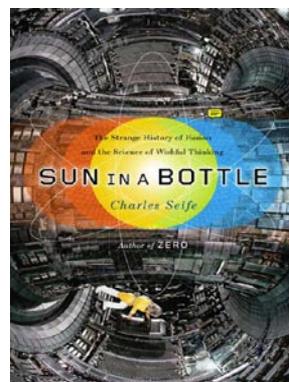
Seife pins the blame on "optimism." He writes that the "dream of fusion energy," which he finds so anti-scientific, was publicly launched at the first United Nations Conference on the Peaceful Uses of Atomic Energy in Geneva in 1955. There, the conference chairman Homi Bhabha, the father of India's nuclear program, stated: "I venture to predict that a method will be found for liberating fusion energy in a controlled manner within the next two decades. When that happens, the energy problems of the world will truly have been solved forever, for the fuel will be as plentiful as the heavy hydrogen in the oceans."

Although Seife doesn't mention this, Bhabha planned and initiated India's peaceful nuclear power program with the aim of harnessing the atom to alleviate poverty. Unfortunately, Bhabha died in a plane crash in 1966, but his dream of India's nuclear program was already under way as a reality.

Seife constantly hammers away at the ridiculousness of such a dream, the difficulties of achieving it, the vast sums of money involved, and the experimental fusion reactors that were built which



Seife nemesis Edward Teller, (center), receives the Enrico Fermi Award from President John F. Kennedy (right) in 1962. At left is Glenn T. Seaborg, chairman of the Atomic Energy Commission, and second from right is Teller's wife, Mici.



failed to reach the "Promised Land."

His is a very partial account of the different paths to fusion and the dedicated scientists who took on the task of figuring out how to solve the problem of fusion reactors. Numerous important pioneers and fusion devices are not mentioned; the General Atomics tokamak, Doublet III, in San Diego, is not mentioned; Dr. Stephen Dean, the founder of Fusion Power Associates and a ceaseless advocate for fusion is not mentioned; Rep. Mike McCormack, the Washington Democrat who initiated the Magnetic Fusion Energy Engineering Act of 1980, is not mentioned.

As for the Fusion Energy Foundation and its magazine *Fusion*, the predecessor to *21st Century*, which played a vital role in educating the public about fusion and in getting that Act passed, Seife has a nasty footnote mentioning the "unwanted" support to fusion of Lyndon LaRouche and his Fusion Energy Foundation. He reports the government shutdown of the FEF, but neglects to mention that *Fusion* magazine won its suit against the "forced bankruptcy" that shut it down, and won again when the government appealed that decision. In his October 25, 1989 ruling, Federal Bankruptcy Judge Martin Bostetter ruled that the government had filed the involuntary bankruptcy in "bad faith" and had perpetrated a "constructive fraud on the court."

When *Fusion* magazine placed ads in science magazines to alert its readers to the "forced bankruptcy," Seife's magazine, the venerable *Science*, refused to take the ad, because it was not "of interest" to its readership!

A Twisted Obsession with Teller

Singled out at the outset of the book for special trashing is Edward

Teller. Teller's chief crime is what Seife terms as his "manic optimism"; the author's belief is apparently that any kind of optimism is a mistake. But Teller's crime doesn't end there. In Seife's view: "Teller became obsessed with wielding the power of the sun. It was an obsession that molded him into one of the darkest and most twisted figures of American science."

To build his case, Seife digs up a collection of comments of fellow scientists disparaging Teller. But despite such assiduous attention to the details of who said what about Teller, Seife reports, wrongly, that Teller limped because "At the age of twenty, he jumped off a tram and nearly lost his right foot." In reality, Teller did lose his right foot and wore a prosthesis. When he was in his 80s, Teller, in fact, joked that he had enough mechanical parts in him to be a bionic man.

Seife puts Teller at the center of his fusion fiasco, from his backing of the hydrogen bomb, to his "monomaniacal" anti-communism, his support for Project Plowshare (which proposed the use of nuclear and fusion bombs to excavate for infrastructure projects), and even his support for "cold fusion" funding, at a time when Seife and co-thinkers had already written off cold fusion as fraud.

Using Teller's military research as a starting point, Seife goes on to claim that inertial confinement fusion research is just an excuse to sell the public on getting a military program funded.

There is no mention by Seife of some of the nearer-term uses for fusion power, short of having a full-scale fusion reactor: for example, fusion propulsion for space travel (using deuterium/helium-3 and pulsed power); the fusion torch, to reduce garbage or rock to its constituent elements, or eliminate nuclear waste; or the fusion/fission hybrid, an intermediate-stage reactor that would use fusion neutrons to breed more fission fuel, or to destroy high-level fission products.

The 'Biggest Scientific Scandal'

As for "cold fusion," Seife devotes a nasty chapter with the theme "the biggest scientific scandal of the twentieth century." He follows the same format as with hot fusion, very selective reporting and outright lies: Martin Fleischmann, a respected and innovative electrochemist who had been president of the International Society of Electrochemists,



NASA

Fusion propulsion is crucial if man is to explore the Solar System, for it would shorten years-long journeys into manageable travel times. Here a NASA engineer inspects the solenoid magnets of a magnetic mirror-based fusion propulsion system under devel-

and who had received the Royal Society medal for electrochemistry and thermodynamics in 1979, and who became a fellow of the Royal Society in 1986, Seife tells us, became a liar in 1989—because no one accredited in the eyes of Seife could replicate the initial Pons-Fleischmann cold fusion experiment.

(Researchers at MIT did get excess heat when they replicated the experiment, but they hid this fact. Many other experimenters also replicated the Pons-Fleischmann results, but these were apparently not researchers approved by Seife.)

Seife ignores the scores of scientists worldwide, with eminent credentials, who are still working and achieving results with what is now called low energy nuclear reactions (LENR) in the United States and around the world. He dismisses the few he does mention as "true believers." And he toes the establishment physics line dismissing bubble fusion and Rusi Taleyarkhan as a fraud, an affair in which he played a role as a *Science* reporter.

Why a Review?

Why review such a book, written by someone who knows so little about the real history of fusion and its pioneers, or about classical science, for that matter? Unfortunately there is an adulatory audi-

ence for such a book, composed of people (and publications) who share the author's implicit view that we cannot provide for a growing world population at a decent living standard. According to this group, we simply must shrink the world's population and keep our scientists away from costly projects that provide hope of a more human future.

In addition to these Malthusian co-thinkers, there is a segment of the nuclear community which firmly believes that we don't need fusion; we can simply develop advanced forms of fission. Some of them even blame the hot fusion physicists for gobbling up government funds so that there aren't enough for nuclear, a view echoed by many in the "cold fusion" community.

All of the above anti-fusion adherents need to study some American history, specifically the American System of *physical economy*, which viewed man's mind as a national resource and understood that without national backing for great infrastructure projects, there was no road to a prosperous future. The works of Alexander Hamilton, Henry Carey, Friedrich List, and others are instructive and accessible on how a physical economy works, and why one plans 50 to 100 years ahead, for the betterment of future generations.

None of these American System writers would have Charles Seife's problem of thinking that money on fusion has been wasted.

So, where are we left at the end of this book? The author states that "the true power of science comes from its ability to withstand the wishful thinking of the humans who craft its stories." Knowing firsthand much of the history of fusion and cold fusion, and having known many of the pioneers personally, I can state flat-

ly that it is Seife, and his friends, like the Malthusian sniper Robert Park, who are doing the wishful thinking, and that they have no idea of what real science is, or what a real mission is, one that is measured in what one leaves for the advancement of posterity, not how many points one scores against rival teams.

In reality, the "biggest scientific scandal" of modern times is that scientists and commentators with views similar to those of Seife, have helped destroy science

with their pessimism and Aristotelian empiricism. Seife ventures to say at the end of his book that fusion "might be the energy source of the future." Yet, on his website, Seife predicts: "In the year 2050, there will not be an operating fusion power plant—a device that generates net energy via a nuclear fusion reaction and transmits it to the electrical grid—anywhere in the world," and he offers \$1,000 to those who disagree and are proven right.

A Comprehensive Review of Ancient Underwater Cities

by Charles Hughes

Sunken Realms: A Survey of Underwater Ruins from Around the World and a Complete Catalog of Underwater Ruins

by Karen Mutton

Kempton, Ill.: Adventures Unlimited Press, 2009

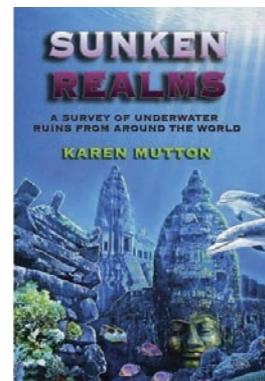
Paperback, 282 pp., \$20.00

This is a book that truly lives to its claims! Its 282 pages feature descriptions of virtually every major construction discovered on the submerged continental shelves of the Americas, Europe, Africa, and Asia, as well as sunken cities under seas, and even rivers. The author, an Australian researcher with an interest in ancient history, has accurately de-

scribed her work in the book's subtitle.

Each item, such as the controversial underwater constructions in the Bahamas, is complete with Internet references, so that the reader can obtain more material and even photos of the ruins.

My particular interest has been the constructions consisting of large walls and docks, made of gigantic stone blocks, and found in the Bahamas on the islands of Andros and Bimini, which were first reported in 1968. It is almost certain that a construction as large as a football field in 20 feet of water on the bottom of Nicholstown harbor, was a quay for loading cargo ships when the area was above sea, in about 8000 B.C.

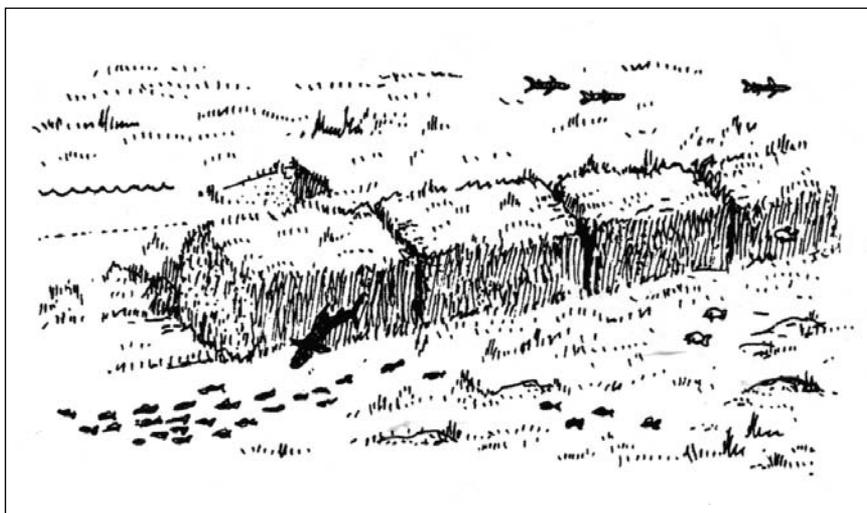


This is proof that an unknown civilization of sea people was located in the Caribbean, before a time that mainstream establishment science acknowledges that such a civilization existed anywhere in the world. So the science establishment refuses to examine such sites, or reports that they are unusual natural rock formations!

Another singularity is the coast of Spain, on the continental shelf between Morocco and Cadiz, Spain. Numerous sunken ruins have been reported in this area, such as a large stone wall off the coast of Morocco that is said to be nine miles long.

It is believed that ocean levels were about 400 feet lower during the Ice Age, which lasted for about 100,000 years and began its long melt back about 18,000 years ago. And so, if a city were built on the then-dry continental shelf, which is now under water, that construction or ruin is much older than established science dares admit, in order to hold onto its mistaken axioms concerning human civilization.

I recommend this book for anyone interested in a field of archaeology that is now demolishing the old worn-out and uncreative ideas concerning civilization's great age.



Sunken Realms

Sketch of an underwater wall off the coast of Morocco, which is reported to be 9 miles long. (From William Corliss, *the Sourcebook Project*.)