

# The Tip of an Iceberg

When Drs. Martin Fleischmann and Stanley Pons made their seminal announcement at the University of Utah on March 23, 1989, no one could have predicted that they were truly heralding the end of the Fossil Fuel Age.

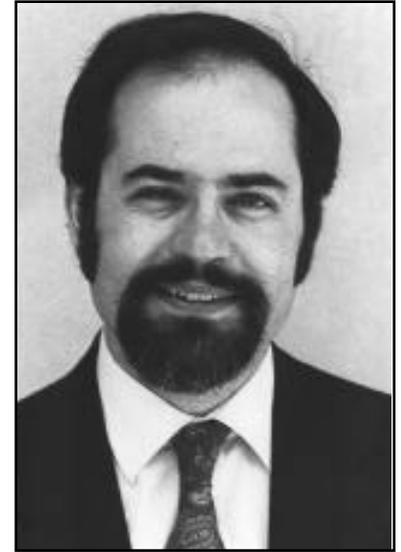
The claimed nuclear reactions at room temperature and nuclear-level “excess power” in an electrochemical cell—much more thermal power out than electric power in — was just too much to swallow on Day One. On the other hand, there was a little-noticed remarkable coincidence, a profile of the future in its synchronicity: the announcement of cold fusion came less than twelve hours before the Exxon Valdez ran aground off the coast of Alaska and spilled millions of gallons of crude oil into pristine waters. It was the ultimate symbol of the bankruptcy—and impending demise—of reliance on hydrocarbon fuels to power technological civilization.

It took many months for the reality of the astonishingly powerful and mysterious energy source within water to be confirmed by a host of other laboratories. Now, there are disbelievers only among the under-informed, those who accepted the anti-scientific propaganda of cold fusion's opponents, and members of the Flat Earth Society—the professional “skeptics” who actively wage war against cold fusion. The latter are devout Believers that there can be nothing much new under the Sun in physics, save for what is supposedly allowed by Physics' venerable “sacred texts.”

The last six years have been intensely frustrating, as the predicted agonies of a Kuhnian paradigm shift in science have been visited upon first hundreds, then thousands of cold fusion researchers and supporters world-wide. To be sure, enormous progress has been made in sharpening experiments and persuading other scientists and technologists to put aside their prejudices, but *the goal posts keep getting shifted*.

It now transpires that *no experiment*—no matter how ironclad and provocative—appears to be good enough to move the external debate off square one. The peer-reviewed published literature provides overwhelming support for both the nuclear-scale excess heat and nuclear changes in what were supposed to be exclusively *chemically* active systems. But this has not moved the reigning scientific establishment and its sheep-like acolytes in what passes today for “science journalism” in this area. That is why, for example, one has not read about cold fusion in the highly influential *New York Times* since 1992—except in occasional jokes or ill-conceived comparisons. It should be abundantly clear to the cold fusion community that only working, commercial devices capable of such feats as heating homes or running cars will force the arrogant Science Establishment to eat crow—and perhaps expire from indigestion!

Far more important than the media morass and political forces arrayed against this new science is the amazing new scientific reality that is inexorably emerging. It is an irony of scientific history that the monumental heresy of Drs. Pons and Fleischmann in 1989—which would have been heresy enough!—was truly but the *tip of an iceberg* of the much greater scientific heresy lurking below. Signs of this emerged in the spring of 1991, when Dr. Randall Mills and colleagues in Lancaster, Pennsylvania announced



that *ordinary* water could manifest the excess energy phenomenon with nickel electrodes—instead of the heavy water and palladium of the Fleischmann-Pons effect.

Soon thereafter came reports of transmutations of heavy elements in various cold fusion experiments—both in ordinary water and in heavy water systems—potassium changed to calcium, rubidium to strontium, and palladium to silver, rhodium, ruthenium, etc., etc. This alchemical “magic” complemented the roster of dozens of laboratories that had already detected the production of radioactive tritium in cold fusion, and the handful of labs that had reported solid evidence of the generation of helium-4—the “Holy Grail” of cold fusion that was angrily demanded as essential evidence by the critics. See, the Moving Goal Posts phenomenon at work! In this issue of *IE* you can read Hal Fox's report about a conference on low-energy nuclear transmutations, which was held on June 19 at Texas A&M University. Proceedings of the conference will soon be published, but already many of these experiments and theories have appeared in the scientific literature. We have no doubt that not all of these transmutation reports are of equal validity. Some may be on shaky experimental ground, but certainly not all of them! After all, a critic of cold fusion, Dr. Kevin Wolf, accidentally obtained some of the best evidence to date of low-energy transmutations (see *IE*, issue #2, May/June, 1995).

Where will it all end? The answer is that the bottom of the iceberg has not yet been reached and may be far, far below the surface. We are going deeper and deeper into cold water and finding that there is no end yet in sight to that mountain of ice—the tip of which figuratively sunk the Exxon Valdez and all that it represented. It is now clear that cavitation phenomena are capable of releasing energy from water—and perhaps from other fluids. The Hydrosonic Pump™ of Hydro Dynamics, Inc. is the paramount example of this, because that device has been rigorously tested and found to be producing substantial excess power—in the kilowatt range.

In the last issue of *Infinite Energy* we told of Dr. Potapov's commercial success in eastern Europe with his series of Thermogenerator water cavitation heaters, being sold by his Vizor Corporation of Moldova. During the past few months, testing of the heart of the Potapov device—its vortex chamber and cavitation tube—at two sites in the U.S., failed to demonstrate any excess power, although it is still possible, perhaps likely, that not all proper conditions of operation were adhered to. That is very

regrettable, since the claimed performance of these thermogenerators is at high multiples of input power. But the Moldova story continues. As this issue went to press, contributing editor Chris Tinsley was on his way to St. Petersburg, Russia, to participate with others in the testing of a full-system Yusmar-2 device in "as shipped" condition. This should give the Yusmar the best chance to prove itself, but we were certainly disheartened not to find what we had hoped to see this summer in long and exhausting verification experiments.

In the meantime, we present the results of the tests at the two U.S. sites, as well as tests done in the Republic of Belarus, which were nominally positive, plus several other reports. Continuing the cavitation saga, we offer condensations of various older test reports of the Schaeffer cavitation heater, which was the precursor to the Hydro Dynamics, Inc. device. These test reports, provided to *IE* by Michael Huffman, are highly suggestive of excess power in the Schaeffer machine. Michael Huffman's device, reported by him in *IE* issue #1, is also likely to evidence the excess energy phenomenon, in his accounting of its testing. Now he holds a U.S. patent, #5,419,306, on his device.

It could be that the answer to a lot of what is going on in this field will be found "in the bubbles." The strange phenomenon of sonoluminescence, which physics Nobel laureate Julian Schwinger had metaphorically linked with cold fusion, is getting increased attention in the scientific literature and media. We recommend reading "Bubbles Turn Sound Into Light," by Seth J. Putterman, *Scientific American*, Vol.272, February 1995, pp.46-51. Our understanding of sonoluminescence is still in its infancy, but it is a fair assumption that sonoluminescence will play a role in defining the outlines of the new energy iceberg.

The foregoing heresies aside, perhaps *nothing* could be more antithetical to accepted physics than an electrical device with magnets and coils that would (over a sustained period) put out more energy than input to it. Do such machines exist? We are not sure, though this editor is of the opinion that they might well exist. The stunning Japanese FUJI television documentary of October 1993, (see *IE* issue #1) on its face suggests that respectable scientists and companies in Japan have really created an *unthinkable* over-unity magnetic motor technology. And Bertil Werjefelt of PolyTech(USA) in Hawaii, a highly skilled engineer and industrialist, insists that he has observed these over-unity effects in his own experiments. At present he is expending large resources to make a powerful demonstration unit.

Now comes the astonishing peer-reviewed technical paper by Osamu Ide in the American Institute of Physics' *Journal of Applied Physics* (Vol.77, 1 June 1995, pp.6015-6020). This article, "Increased voltage phenomenon in a resonance circuit of unconventional magnetic configuration," reports on what appears to be a genuine electromagnetic anomaly in an electrical motor. Though the article is understated, if the data are correct, there appears to be a strong suggestion of a mechanism that could produce an over-unity electrical motor. Something in that motor is not working according to accepted physics. Energy is being recovered that shouldn't be! We find it enticing that Osamu Ide is affiliated with the Clean Energy Laboratory, Natural Group Corporation, in Shinegawa, Japan. Could this article in *AJP* be the tip of the iceberg of "hyper-efficient" electrical motor technologies in Japan? We shall see.

Could all these heresies have some common physical basis? Is there a fundamental flaw or flaws in physics— a "crack" or cracks in its foundations— that allow these things to occur? Most cold fusion people think not. They accept what might be called the "central dogma" of "mainline" cold fusion: nuclear ash commensurate with the excess energy production *will be* identified. They deny the possibility that something akin to tapping of Zero Point

Energy (ZPE)—the microcosmic quantum fluctuations of spacetime— might be the energy source at the bottom of the pyramid (iceberg?) and might even be helping to cause some of the observed nuclear reactions. There are now peer-reviewed technical papers that suggest this could be so, e.g. "Extracting energy and heat from the vacuum," by Daniel C. Cole (IBM Corporation) and Harold E. Puthoff (Institute for Advanced Studies at Austin), *Physical Review E*, August 1993, Volume 48, Number 2, pp.1562-1565.

We are satisfied to let the truth about the new source—or *sources*— of energy fall where it may. We are not going to argue with Mother Nature—that's futile. Experiments are primary; theory must take a back seat. It is appropriate to be guided by established theory—just don't get blinded by it. And let us enjoy our trip to the bottom of the iceberg—if there is a bottom!

A word about the cover of this issue, which comes near the 50th anniversary of end of World War II. The thermonuclear explosion in the night sky of July 11, 1962 (the Pamlico event) near Christmas Island in the Pacific Ocean was a "low-yield" U.S. bomb test, air-dropped, part of the "Operation Dominic" series.

Though some might argue the point, we do not consider the message on the cover to be hyperbolic. This thermonuclear power held the world on the brink of Apocalypse for the decades of the Cold War, while scientists in hot fusion laboratories around the world struggled to tame that same fusion energy for the benefit of humankind. Their long effort is now nearing an end. With massive funding cutbacks, the once noble tokamak hot fusion quest is now dying a much-deserved death in the United States; soon it will die elsewhere. Many of the hot fusioners, feeling threatened, tried to kill cold fusion. They failed. They were the front-line shock troops with bags of dirty tricks, which caused a disgraceful hiatus in cold fusion development. The job of ending the old order—abolishing fossil fuel combustion globally as soon as possible— now falls to those who are open to the new paradigms of physics and chemistry.