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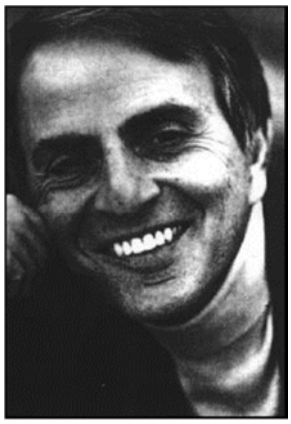
Carl Sagan and Cold Fusion

By Eugene Mallove

Astronomer and science popularizer Dr. Carl Sagan, who lost his battle against a virulent disease this year, could have been a major force for truth about cold fusion research. Unfortunately, despite my sending him scientific articles on cold fusion since 1991, plus Infinite Energy Magazine since its inception, Carl chose to remain undecided. (Carl knew me as an occasional correspondent from my work on interstellar propulsion and my published bibliographic studies of SETI —for which he was graciously supportive. The Planetary Society, which he founded, continues to sell *The Starflight Handbook*.)



Dr. Carl Sagan

In November 1989, just as the DOE was killing-off cold fusion with its rush-to-judgement travesty of a report, Carl delivered a firm warning to science journalists about their prospective coverage. It was very wise advice. ***Unfortunately, the science journalists largely ignored his wisdom and the world has been suffering ever since.***

In 1991, in *Fire from Ice: Searching for the Truth Behind the Cold Fusion Furor* (John Wiley & Sons), I published what Sagan had said to the science journalists at their annual meeting in 1989—I had recorded his dinner speech on audio tape. Here is a small part of the section from Fire from Ice that deals with the topic of science journalism coverage of cold fusion. The lead-in narrative is my own, followed by Sagan's words:

From *Fire from Ice*, pages 270-271

> The basic problem in cold fusion coverage in 1989-90 may have been that so much contemporary science is incremental and plodding in its accomplishments, that people ignore the longer historical perspective in which breakthroughs—paradigm shifts—do punctuate normal science.
>
> The most obvious shortcoming of cold fusion reporting was the general media's loss of interest following their initial few months of intensive coverage. Cold fusion, like the man with the dog that could climb a tree, had had its glorious "15 minutes of fame." After Nature magazine and the DOE panel had rendered their negative verdicts in the summer of 1989,

precious little was heard of cold fusion. Many science journalists simply bought into the Nature-DOE panel line and gave up. And why not? So thick had been the disparagement of Fleischmann and Pons and all their followers, that the mud stuck. It became “socially unacceptable” in the science journalism community to give too much weight to any of the cold fusion rumblings that continued to be heard. Few made an effort to ask what those noises might mean. Just as many good scientists had “burned out” in chasing the elusive cold fusion Genie, so had many science journalists. They were sick of the ups and downs, the lack of a clear decision after so many months, and with good reason feared ridicule if they pursued the continuing strange scientific reports.

The power vacuum was filled with the opposition viewpoint of the hot fusioneers. By late 1990 the journalistic “consensus view” had solidified to: “There is probably nothing to cold fusion, but even if cold fusion is real, it probably won't be very useful.” An example was the cautiously worded assessment that respected science writer William J. Broad of The New York Times included in his October 9, 1990, update on hot fusion: “The allure of ‘cold’ fusion was that it seemed to promise enormous energy from simple devices that worked at room temperature, in contrast to hot fusion machines, which must operate at temperatures above those on the Sun, and are vastly complicated and expensive. But after a year of intense investigation, most experts have dismissed the notion that cold fusion, if it exists, will ever be a significant energy source.”

Astronomer and noted author Carl Sagan gave his perspective on cold fusion and its coverage in the press when he responded to a question posed at a gathering of science writers at Cornell University in November 1989.

“In the case of cold fusion,” he said, “we have a contention that you do something with palladium and with some hydrogen isotopes—on a table top, at room temperature—and you can make fusion happen, or at least generate fusion products, or at least make some heat that otherwise can't be generated. That's the contention. And it may or may not have ultimate commercial applications, which is why everybody is interested in it, not because there might be some novel physical process.

"Now how do we decide that?" he continued.

“Do we decide it by polling the membership of the American Physical Society? No! Polls don't work. They might not be knowledgeable or the minority might be right; it's happened many times in science. Do we write an article saying, 'Well, there is a disagreement, but the prevalent opinion is thus and so?' No. What we do is we say, 'The scientists don't know! They can't figure it out.' Some people say this thing, some people say that thing—too early to say! Let's wait a few years. I guarantee that five years from now, this will be a dead issue. It will either be, there is such a thing or there isn't such a thing. We will not be sitting in some middle ground wondering. The stakes are too high. Either way, the definitive disproof of Fleischmann and Pons or the definitive proof. The rewards are so great that scientists— competitive, querulous lot—will decide one way or another.”

(End of Fire from Ice quote of Sagan)

As we all know, the science journalists went right out and did “poll” the physicists to reach their negative conclusions about cold fusion—exactly what Sagan warned them not to do! Jerry Bishop, formerly of The Wall Street Journal, virtually alone among journalists, continued to write objective stories about cold fusion—and he was brutally attacked for doing so. He was at the meeting in 1989 when Sagan spoke. Now he has retired from the Journal and no one there continues his work.

Shortly before his death, Carl Sagan left us one more view of cold fusion — all the more tragic, because with the information he had had in his hands he should have been able to do much better. To

be charitable, perhaps he was just too busy to study the evidence. Sagan, an enormously influential scientist, was apparently not strong enough to resist the appalling ignorance of and intolerance to cold fusion in the scientific community. Though he was still open-minded, for which he is to be praised, he really had ignored his own 1989 advice. His words are from *Billions and Billions: Thoughts on Life and Death at the Brink of the Millennium* (Random House, 1997, ISBN 0-679-41160-7) p.126:

> "What I've talked about in the last paragraph is hot fusion—so called for a good reason: You have to bring materials up to temperatures of millions of degrees or more, as in the interior of the Sun, to make fusion go. There have also been claims for something called cold fusion, which was first announced in 1989. The apparatus sits on a desk; you put in some kinds of hydrogen, some palladium metal, run an electric current, and, it is claimed, out comes more energy than you put in, as well as neutrons and other signs of nuclear reactions. If only this were true, it might be the ideal solution to global warming. Many scientific groups all over the world have looked into cold fusion. If there's any merit to the claim, the rewards, of course, would be enormous. The overwhelming judgment of the community of physicists worldwide is that cold fusion is an illusion, a melange of measurement errors, absence of proper control experiments, and a confusion of chemical with nuclear reactions. But there are a few groups of scientists in various nations that are continuing to look into cold fusion—the Japanese Government, for example, has supported such research at a low level—and each such claim should be evaluated on a case-by-case basis. Maybe some subtle, ingenious new technology— wholly unforeseen at this moment—is just around the corner that will provide tomorrow's energy. There have been surprises before, but it would be foolhardy to bet on it."

Astute readers of Infinite Energy know very well that the "surprise" is already here. You can bet on it and win!