

This parameter is a product of the density of the plasma fuel, times the amount of time it is confined in a small area, so the fusion reactions can occur.

In high-temperature fusion, the objective, Fleischmann stated, is to raise the energy of the particles in the plasma to the order of 10 to 100 kilo electron-volts, or at least 100 million degrees Centigrade. "Our experiment is really radically different from that," Fleischmann explained.

"First of all, the energy scale is not measured in kilo electron-volts," he stated, but in single electron-volts. The regime of one electron-volt is "the province of the chemist," he said. The characteristic temperature is about 10,000°, which is considered high-energy chemistry.

What makes up for this low temperature, the scientists believe, is the astronomical confinement parameter, or the amount of time the hydrogen ions are held close to each other in the palladium lattice, according to the way they explain it. In their cold fusion experiment, this "confinement time" is a billion billion times greater than that of a high-temperature plasma, because the deuterium ions continue to accumulate and are apparently trapped inside the electrode, and are not charging off in different directions, as they do in high-temperature fusion.

Dr. Fleischmann warned the committee members that it is a difficult matter to quantify all of these parameters and products at this early stage. "These experiments take quite a

long time. They require months and not days to carry out," he said.

Dr. Pons announced at the hearing that 19 new experiments on their cold fusion approach are being set up. "One of those is a demonstration of a previously run experiment, for Los Alamos National Laboratory." The Los Alamos scientists, "will come up [to Utah], make the measurements they want to make on our own system, bring their electrochemists, and . . . go through our method of measuring the thermal output. And when they are satisfied with what they see, then they will take that experiment away" to Los Alamos.

Dr. Pons described the new science that may come to explain their experimental results as a "gray area between chemistry and physics." But he also warned that caution should be taken, and that "theories must be used to explain experimental data, not to criticize experimental data," and that scientists should not be saying "your data must be wrong because the theory doesn't predict that."

The Fleischmann-Pons experiment certainly does throw down the gauntlet to the scientific community. Serious scientists are trying to do experiments, and think about how such an unexplained result can be explained. Unfortunately, the science mafia in the media and prestigious institutions, such as the American Institute of Physics, are not rising to the occasion.

## Not science, subterfuge

No literate person would be surprised to find out that the *New York Times* and other major national press are presenting one-sided, negative reporting on the experimental results in cold fusion. Over the decades of this century, the *Times*, in particular, has editorialized against the development of electricity and airplanes, and against going to the Moon or building the Space Shuttle.

On Saturday, April 29, *Times* reporter Malcolm Browne reported that scientists at New York's Brookhaven National Laboratory and at Yale University "failed to confirm the findings" of the Fleischmann-Pons experiment. The "evidence" cited: The scientists surrounded four electrolytic cells they had built with six neutron detectors, but could "see no neutrons." The *Times* gladly omits the fact that Fleischmann and Pons did not find the production of neutrons that would be theoretically predicted from fusion either, which is one of the results that has made their experiment so intriguing.

A similar fallacy of composition has been perpetrated by Dr. Steven E. Koonin and others at the California Institute of Technology, such as Nathan Lewis, who have been ringleaders of the line that "cold fusion can't work." This group has insisted that only "experimental errors" could account for the cold fusion results.

The *Times* has led their coverage with editorials such as, "The Utah Fusion Circus," and actually said, "As for the University of Utah, it may now claim credit for the artificial-heart horror show and the cold-fusion circus, two milestones at least in the history of entertainment, if not of science."

In response to the lynch-mob atmosphere that was created at the spring meeting of the American Physical Society in Baltimore at the beginning of May, Dr. James Brophy, director of research at the University of Utah, responded, "It is difficult to believe that after five years of experiments, Dr. Pons and Dr. Fleischmann could have made some of the errors I've heard have been alleged at the APS meeting."

It is clearly easier to blame new and currently inexplicable results on "errors" than to do the serious work, over a period of months if necessary, to discover what this new phenomenon might indeed be.