

Editorial

A new 'Atoms for Peace' program

On May 1-2, the American Physical Society (APS) had its annual meeting in Baltimore, Maryland. In past years they have vented their spleen on President Reagan's Strategic Defense Initiative, but this year they apparently considered the SDI sufficiently dormant to broaden the field of attack. Cold fusion was the target.

Many scientists who were there were infuriated by the vehemence with which the APS discounted the work of Martin Fleischmann and Stanley Pons, and the many international laboratories that claim to have substantiated their results.

The main report to the conference on cold fusion was prepared by a team from the California Institute of Technology, which claimed that they replicated the Fleischmann-Pons experiment, without, they said, any evidence of fusion having taken place. The claim of the Caltech team is that the measurements taken by Fleischmann, Pons, et al. were in fact faulty.

It may be that the Caltech researchers are right, but if they are, they are certainly right for the wrong reasons. And despite the arrogance of the APS "mafia," the jury is not yet in. Scientists from Stanford University are refusing to back down from their conclusions. They had performed a controlled experiment, to the specifications of Fleischmann and Pons, in which they contrasted the results when heavy water—deuterium oxide—was used, to those when ordinary water was substituted. Only in the case where the hydrogen oxide, deuterium, was used, were there any "fusion" results.

Were there only a chemical reaction taking place, then one should have the same results whether ordinary or heavy water were used. Only in the case of a fusion reaction should the nature of the isotope of the element involved be crucial. An isotope of a chemical element has the same number of charged particles—protons and electrons—but varies in the number of neutrons in its nucleus. It is the electrons without the neutrons which interact in a chemical reaction; a fusion reaction takes place within the nucleus.

The APS has a dismal record. Their "scientific"

appraisals of the feasibility of the SDI have been proven not only to be incompetent, but deliberately false. In other words, they have had an axe to grind. We would hazard the guess that the same is true in this instance. We would point to the role of the Union of Concerned Scientists in shaping an anti-nuclear, anti-SDI, anti-science lobby in the United States.

This grouping was dismayed at the political implications of cold fusion, not only for the potentials located in the particular experiment itself, but in the excitement generated by the reported results. For the first time in years, the popular media were reporting on the potentials of fusion power for solving any foreseeable energy shortages, with a virtually unlimited, non-polluting source.

Jeremy Rifkin was one of a number of scientists who were quoted in a *Los Angeles Times* article on April 19, warning that the cold fusion experiment is threatening to discredit malthusianism. Said Rifkin: "Fusion energy is an expedient short-lived diversion to the real problem. It gives some people the false hope that there are no limits to growth and no environmental price to be paid by having unlimited sources of energy."

In contrast to this insanity, at a conference held on April 28-29 in Washington, D.C., former Manhattan Project scientist and Atomic Energy Commission director Dr. Glenn T. Seaborg and Adm. Elmo Zumwalt called for launching a new "Atoms for Peace" policy for world development. At the Second International Symposium on Aneutronic Power, they called for a program to produce third-generation modular nuclear plants, particularly for use in the developing sector, and for rapid development of emerging fusion energy systems.

Such a proposal by no means depends upon whether the conclusions of Fleischmann and Pons are borne out. Indeed, the major contribution of these two scientists, whatever is ultimately determined about their own work, may well be the spirit of scientific optimism which it has generated among scientists and laymen alike.