Editorial

Scientific optimism vindicated

When, on March 23, the scientists Martin Fleischmann and Stanley Pons first announced that they were able to produce a fusion reaction with a table-top apparatus, and at room temperature, the news was so exciting that even the man on the street was following daily press bulletins on the experiment. Los Alamos National Laboratory has now tentatively confirmed these results.

While the *New York Times*, in its June 27 science section, gave an extremely glum report on this major breakthrough, scientists are jubilant. True, the laboratory has so far been successful in only one of several experiments, but there is still every reason for joy.

The *Times* report says: "Cautioning that the finding may prove incorrect, scientists at the Los Alamos National Laboratory in New Mexico said yesterday that they had found evidence of tritium, a fusion byproduct." Similar results found by researchers at Texas A&M had been discounted by the scientific community. John O. Bockris, a professor of chemistry at Texas A&M, made a statement to the *Desert News* with which we can entirely concur. "This result is of fantastic importance," he said.

In early spring, a number of laboratories whose experiments appeared to corroborate aspects of the results reported by Fleischmann and Pons were first headline news, but then there came an apparent denouement. MIT physicists reported that the extraordinary heat produced by the experiment, and the appearance of fusion byproducts, were the result of errors of measurement. Overnight, Fleischmann and Pons were transformed from heroes into objects of opprobrium, roundly castigated by the American Physical Society for leading their peers and the public astray.

In fact, there was no basis for the extraordinary media hype which greeted the first reports, nor for the backlash which followed. Clearly, Fleischmann and Pons had at the least an extremely interesting experiment, from a scientific standpoint, and possibly they had hit upon a way of producing fusion which would have important technological applications as well.

The Fleischmann-Pons experiment appeared deceptively simple. An electric current was passed through heavy water and palladium rods, and after about a week, a sudden burst of high heat and a flux of neutrons would occur. This could not be accounted for as a chemical reaction; therefore, fusion was supposed to have occurred. One possible explanation for the failure of many labs to replicate the original results, was the significance of how the palladium was treated, and the presence or absence of impurities.

Los Alamos now reports that they have found 100 times the amount of tritium than what would would otherwise have been present as a result of background radiation. If this is borne out by repeated experiments, then the claims of mere measurement error will be disproven. (Tritium is an isotope of hydrogen which is produced as a byproduct of the fusion of the hydrogen isotope deuterium. Water with a signficant admixture of deuterium or tritium dioxide is known as heavy water, because these isotopes have two and three extra neutrons respectively.)

We are approaching the 20th anniversary of the landing of the first American on the Moon. What better way to celebrate this event, than with the confirmation that cold fusion is indeed possible!

Let us hope that one of the first spinoffs from the Los Alamos experiment will be to discredit environmentalists and the malthusians who are not only conspiring to return us to some new Dark Age, but who are trying to foster irrationality and superstition in the public at large. One possibility for why so much hysteria has been generated around the mere possiblity that fusion power may be realized cheaply and easily, is the realization by environmentalists like Paul Ehrlich, who have publicly bemoaned the fact that revived interest in the potentials of fusion power would rekindle optimism that there simply are no limits to growth.

We used to be a "can-do" people. Perhaps the best contribution which Fleischmann and Pons will have made, will be to reawaken confidence—especially in our young people—that we can continually create new frontiers and successfully master new challenges.