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Dr. Daniel Koshland Editor,  
SCIENCE 1333 H Street N.W.  
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Dear Dr. Koshland:

To carry out research on the anomalous effects described by Fleischmann and Pons in 1989 is an endeavor needing much courage. It requires months long electrolysis at very high current densities and then only a small fraction of the electrodes give the anomalous neutron, heat and tritium bursts which some interpret as signs of fusion in solid state confinement. Partly because of the difficulties of reproducing results, and partly because the branching ratio found does not fit the expectations of plasma physics, there is a very high degree of skepticism towards, and indeed considerable hostility to, those who are trying to find the facts among some very anomalous happenings (now reported from 60 Laboratories in 12 countries).

What was the purpose, then, of Science employing a journalist who is also a Hollywood screen writer, and a past contributor to Playboy, - to write a gossip-based account which, by strong innuendo, suggests that a graduate student faked results of some of the observations made here? And why publish such a damaging account without first asking evaluatory comment on its contents by those directly concerned?

1. There might be spot contamination by tritium of some pieces of old palladium although it is difficult to understand why the metal hydroxide impurity supposed to contain T does not yield up this substance when the hydroxide decomposes thermally during the melting (1552°C) the metal undergoes on the way to becoming a wire.

If any tritium really were present, it still has to undergo the process of anodic dissolution into the solution surrounding the Pd electrode, where it is found. Attempts to find it in corresponding light water electrolysis, using Pd alleged to contain tritium, have failed. Calculations of the rate of anodic dissolution of the tritium under conditions of strong cathodic electrolysis, shows a calculated rate many orders of magnitude less than that observed when T is produced in Pd-D<sub>2</sub>O electrolysis.

Reports of T in solution after electrolysis of D<sub>2</sub>O on Pd have come from 26 laboratories, including three U.S. National Labs. Some have used the so-called fusion Pd from Johnson Matthey where the recipient is the first user. I conclude that the hypothesis that the T observed is the so-called "Cold Fusion" which comes from contaminated Pd is less likely than several other hypotheses.

Dr. Koshland  
June 29, 1990  
Page Two

## 2. Graduate Student Spiking?

Results in the  $10^5 - 10^6$  dpm ml<sup>-1</sup> have been sporadically reported from the University of Florida, Los Alamos National Lab, by eleven independent groups at the Bhabha Atomic Research Center in India and at Texas A&M. My graduate student must have done a great deal of unauthorized travel if he spiked solution of all these groups. To believe all these organizations have a secret spiker reminds one that the the author of the June 15 article is a Hollywood screen writer.

Objective tests for spiking have been devised by Storms and Talcott of the Los Alamos National Laboratory. They involve comparison between the behavior of the T activity with time after production in a purposely spiked solution and one which gets its T whilst evolving D<sub>2</sub> on Pd. The behavior we have in our cells, when they do produce T, is unmistakably consistent with the non-spiking behavior.

Had Science given us the opportunity to comment on the journalist's material before publication, these matters could have been pointed out. Science could then have told the journalist what Nature told him when he submitted his article (last April) to that journal.

Yours sincerely,

J. O'M. Bockris  
Distinguished Professor of Chemistry

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