

LETTER TO THE EDITOR



TWO PROPOSALS CONCERNING COLD FUSION

I would like to make two proposals concerning cold fusion. The first is related to the criteria on which cold fusion papers submitted to *Fusion Technology (FT)* should be reviewed for publication. First, I would like to summarize some points about the history of the cold fusion debate.

Since the anomalous effects now termed "cold fusion" were first announced by Pons, Fleischmann, and Jones, many experiments to prove or disprove the effects have been carried out. However, there were very few scientific journals that would accept papers on the topic of cold fusion. Under these circumstances, the courageous policy of G. H. Miley, editor of *FT*, of allowing such papers to be reviewed for possible inclusion in *FT* was significant. His policy should be highly regarded in the history of this new field. Of course, the discovery of cold fusion itself was very wonderful, and many researchers have made great contributions to the development of this field. However, we must not forget that *FT* was really the only major scientific journal in which papers presenting extraordinary phenomena related to cold fusion could be published. Indeed, other journals routinely returned such papers without any review by editors. Despite this closed-door attitude, however, the extraordinary phenomena uncovered in this work are now opening the door to a new science. At the beginning, there was no existing database of experimental or theoretical work for reviewers to rely on; thus, the editorial criterion established for *FT* reviewers was that such papers could be accepted for publication unless experimental data or methods could be shown to be in error, even if the results could not be explained by conventional theories. This policy overcame the biases forced on reviewers by the negative publicity given cold fusion and the controversy that developed around the Pons-Fleischmann experiment.

However, now that an extensive database of cold fusion results exists, this preliminary criterion has been superseded, and reviewers are now instructed to apply the same rigorous standards of peer review to cold fusion papers as they would to any other paper considered for publication in *FT*. In keeping with this change, cold fusion papers are no longer segregated in a separate category and published only as technical notes but appear as any other paper.

At the Maui cold fusion conference,¹ I presented the observation of a tiny ball-lightning-like phenomenon in some cold fusion experiments. In nature, ball lightning seems to occur frequently. Although I have never personally observed this phenomenon, one attendee at the Maui conference told me that he had seen it in his youth. Extraordinary phenomena associated with ball lightning have not been fully understood. Since in my view, some type of cold fusion is involved in the production of tiny ball lightning, it is not surprising that this extraordinary phenomenon has not been explained

by conventional theories. We should be ready to confront such confusion. If we continue to reject frank discussions and proposed theories without testing or trying to improve them, we will never be able to fully understand or explain the mechanisms now known as cold fusion.

The first proposal that I would like to make is to return to the initial criteria for publication in *FT* of extraordinary phenomena related to cold fusion. Of course, the conventional measurements such as heat, neutron emission, and production of tritium and helium now have an extensive experimental database and should undergo the normal rigorous review. However, other aspects, ball lightning being an example, are still in the very preliminary stages of investigation. I believe that in the interest of allowing dissemination of new results, the earlier criteria for evaluating these papers should once again be used, and these papers should be published as Technical Notes on Cold Fusion. Thus, I propose that *FT* utilize these dual criteria until all aspects of cold fusion are cleared up.

My second proposal is to start an international project of benchmarking cold fusion experiments. I reported many extraordinary traces on nuclear emulsions in papers submitted to *FT*, and I feel that these results provide solid experimental evidence of cold fusion. Although these traces of nuclear emulsions show that a new science is involved in cold fusion, very few researchers have so far attempted to reproduce these results. This may be because nuclear emulsion techniques are unfamiliar to chemists and fusion scientists, although they are popular with nuclear physicists. Thus, I believe it is important to start an international benchmark project in which several groups in different countries will irradiate nuclear emulsions under the same conditions using identical experimental methods. The nuclear emulsions could be shipped to a common center, where the traces would be compared. We can expect that not only will traces be found that are similar to those reported in my papers, but new extraordinary traces may also be found. If readers are interested in the project, please contact me so that planning for this important international information-gathering project can begin.

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REFERENCES

1. T. MATSUMOTO, "Cold Fusion Experiments by Using Electrical Discharge in Water," presented at 4th Int. Conf. Cold Fusion, Lahaina, Hawaii, December 6-9, 1993.