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Letters

Dance of discovery

Lest we become too arrogant, science needs to be reminded occasionally that it does not know everything yet. The cold fusion phenomenon ("Cold Fusion: Wanted Dead and Alive," SN: 4/7/90, p.212) has become one of these reminders.

It is the duty of any scientist who discovers a new phenomenon to first prove to himself that it is real, and then, when this is done, to tell the world so that others can prove or disprove the reality. This is just what Stanley Pons and Martin Fleischmann have done. The use of the news media to alert the world, rather than the slow but accepted scientific journals, is but a detail in this age of rapid communications, especially in view of the potential importance of this discovery. On the other hand, those of us who learned of this news have a responsibility to check for errors and try to discover exactly what is happening. This process is the way the best of science is done.

There are always some scientists who can-

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Cover: Most linguists contend American Indian languages comprise more than 150 linguistic families and reveal little or nothing about the peopling of the New World. But a vocal minority claims Indian tongues fall into three fundamental groups, indicating the Americas were settled in three waves of migration beginning 12,000 years ago or more. (Painting by John Mix Stanley (1844); National Museum of American Art, gift of the Misses Henry, 1908)



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not accept change easily. This by itself is not a serious problem and is sometimes useful. However, a few of these people are too arrogant to allow the scientific method to follow its most productive course. They take the initiative in alerting the world that the proposed new idea is not only wrong but being proposed by incompetent people. In the process, they frequently distort the available information to make their case. They sow confusion and raise issues that distract from the real problem of learning how nature behaves. When they have their way, the work to uncover the reality does not even start or, if started, is not published unless the results are negative.

Now is the time for these people to stop trying to show that the cold fusion effect has a trivial explanation, and to help in the difficult search for the extraordinary explanation that fits the growing amount of supportive data.

This dance of discovery has been performed in many areas of science over many years. In some cases, the believers have been correct,

and in others the skeptics have won the day. Usually the dance is witnessed by only a few interested people; in the case of cold fusion, the world is the witness. Because some scientists still have not learned how to do the dance correctly, the world is led to some confusion about how science works and to some uncertainty about how much trust scientists should be given in the future.

It is hard enough to do the dance properly without having to be distracted by a clumsy partner. Hopefully, this newest lesson will help some scientists become more humble and more tolerant of the proper process for investigating new ideas.

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