letters

Impact of referees' reports

To an outsider, physics seems to develop in a very formal and polite way. Articles in various journals always include many references to previous publications and, at the end, an almost ceremonial list of warm acknowledgements. Everything is smooth and self-contained. A nonphysicist could get the impression that neither controversies nor sharp criticisms exist in physics!

The published articles are only the visible part of the iceberg of physicists' writings. The secret unpublished physicists' writings are the referees' reports. Here only a working physicist knows from his own experience how "scientific progress" proceeds.

Very often, refinement and politeness don't exist anymore: The language is very aggressive, sharp and, sometimes, sarcastic. Obviously physicists will not advertise referees' reports but, rather, will try to deal with them to calm down the referees. Often papers will be rewritten on the basis of criticism from referees and, actually, many papers are probably read by only one person: the referee.

It could be very valuable for physicists and nonphysicists alike if a representative sample of referees' reports were published. For people who study the history of science, the value of such material might be inestimable.

This letter is a call to physicists to send the author some of their more interesting referees' reports, with brief histories of the impact of the reports on the final forms of the papers and on their dates of publication. If possible, material from the editors of various journals will also be gathered. Some of this material will then be selected and an attempt will be made to have it published.

It should be made clear that it is not the purpose of this call to criticize the system of anonymous referee reports. By making public an important part of the practice of physics, the publication of some reports could represent a substantial step towards a better understanding of the world of physics by nonscientists.

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The Mechanical Universe

9/84

The July issue of PHYSICS TODAY contained a letter from Ernest W. Kuehl Jr (page 105) that filled us with ambivalence. We agree with Kuehl's point that summer employment in physicsrelated jobs would be one way to stem the tide of teachers leaving for industry. However, those of us who are involved in the NSF-sponsored project to develop high school materials from the television series "The Mechanical Universe" wish to assure Kuehl that our summer has been most rewarding and that the California Institute of Technology has been quite generous. The \$125 per week mentioned in the letter was only a fraction of the expenses for activities and services provided.

It is true that the "good old days" of NSF-sponsored institutes have not yet returned, but exciting and rewarding summer activities like the one we are just completing at Caltech should be applauded and encouraged in the years to come.

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Earth's early atmosphere

I teach physics classes and, at the junior-high level, I also teach both meteorology (we call it "weather") and astronomy.

Our surprise at the pink to orange appearance of Mars' atmosphere has led us to wonder: What color was the Earth's primitive (reducing) atmosphere? The predominance of nitrogen then, as now, suggests it should have



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