

authors. In my opinion the author, not the reviewer, is responsible for the presentation. In extreme cases, repeated failure to correct faulty presentation is a valid reason for rejection. I welcome correction of the English by the reviewer but consider it an act of kindness, not an obligation.

The report should be written like a short term paper. The first few sentences should summarize the reviewer's opinion of the manuscript and the recommendation as to its disposition. The rest of the report should give arguments in support and, for manuscripts not rejected, suggest improvements. The report should be as brief as is consistent with completeness. Cute style should be avoided. Sometimes it is convenient for the reviewer to mark corrections on the manuscript; otherwise, some days can be saved by sending the report alone via fax or e-mail. Next to quality, promptness is the characteristic most desired; it is better to send a manuscript back without review by return mail than to hold on to it for months.

STEVEN J. ROTHMAN

Journal of Applied Physics
Argonne, Illinois

Name that Reviewer

The system of having articles refereed before publication by experts in the field has served the sciences and other scholarly fields well. However, it can be improved, and we would like to make a proposal that we trust will do so. We suggest that the journals of the American Institute of Physics adopt a policy of publishing on the front page of each article the names of the reviewers who recommended publication. If publication has been denied, the name of the reviewers will remain unknown to all but the editor.

If a manuscript has been recommended for publication, one can hardly fear hard feelings from the authors. If a reviewer is not willing to have his or her name associated with an article, that is, is not proud to have recommended its publication, the paper does not have the necessary support of that reviewer to warrant publication.

We believe such a simple change will go a long way toward improving the refereeing of journal articles. For most individuals, having a colleague point out obvious errors in papers that he or she reviewed will be sufficiently embarrassing for that person to cause him or her to try hard not to repeat the experience. We therefore

predict that the standards for publication will rise significantly. On occasion, a reviewer will recommend publication of a flawed article, because, for example, the experimental results are unexpected and need to be considered by the community, even if the reviewer has grave doubts about the explanation offered by the authors. In those cases the reviewer can write a short comment giving his or her reservations. If the editor and authors want to go ahead with publication despite these objections, then the reviewer's signed comments should appear along with the published article.

This change will mean more work for the editors of journals. More articles will be rejected, which certainly will lead to more appeals and perhaps rancor. Reviewers will more often return manuscripts unreviewed, either for lack of time to do a careful job or because they do not have confidence in their own expertise in the field of the manuscript. It will be obvious when editors overuse a handful of reviewers or, worse, consistently give special treatment to some individuals. But such changes will result in an improvement in journals. Consistent with our proposal for increased accountability, in journals with multiple editors, the accepting editor should be acknowledged in the publication as well.

We have heard from several senior (and busy) colleagues that our proposed change would be impractical because too many potential referees would refuse to review the manuscripts sent to them. We have the following replies. First, journals are not well served by hasty reviews that their own authors are ashamed to be publicly associated with. Second, if the cost of increasing the quality of published articles is that the volume of published material is somewhat reduced, we believe that to be a price well worth the cost. Lastly, individuals who consistently refuse to referee submissions, even those clearly in their fields, should simply be told by editors that their own manuscripts are no longer welcome.

KEVIN K. LEHMANN

GIACINTO SCOLES
Princeton University
Princeton, New Jersey

A Glass of Wine, a Garden Walk—Virtually?

Long inured against media hype and election campaign pledges, I did not feel overly worried when, in the early 1990s, the first breathless

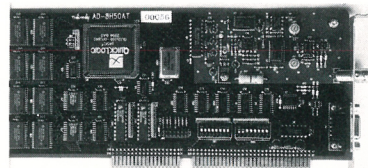
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news reached us concerning the "information superhighway" and the wonderful miracles that it would bring. But I really got scared upon reading in *PHYSICS TODAY* (December 1994, page 51) the news story about an address to the National Academy of Engineering by John S. Mayo, then president of AT&T Bell Laboratories. It is frightening to hear a man with deep knowledge and much experience proclaiming, "The last step [in the development of electronics and information technology], and the one that may go on forever, is the *reengineering of society*" (my emphasis). As if "social engineering," invented in the turbulent 1960s, would not already be too much for humans with sense and dignity, our society will now get a dose of reengineering! Worse, this reengineering may go on "forever."

Now, to the details of the promised land:

▷ "The information revolution will change education through distance learning and school at home," Mayo told his audience. What kind of education would that be, sitting in front of a screen instead of sharing the human ambience of flesh-and-blood teachers and fellow pupils? Education is not the same as gathering and

collecting (and perhaps manipulating) data and information: Education is the edification of the soul. No push-button operation will ever do that.

▷ The information revolution "will change work life through virtual offices and work at home," we get next. What kind of work would that be, reduced to manipulating switches instead of sharing the exhilarating experience of working together, in almost bodily contact with fellow human beings all striving for a common goal?

▷ Then we learn that the information revolution "will diminish the need to transport our bodies for work or routine tasks such as visiting and shopping." So, are we to enjoy the privilege of sitting most of the day in an armchair and letting our limbs degenerate, instead of moving our bodies for some purposeful goal? What kind of joy and partnership would ensue from seeing and hearing my friend on a supercommunication device instead of walking into his garden on a fine summer day or sitting down with him over a glass of wine in front of his fireplace on a frosty winter night? And shall we appease our shopping needs by selecting code numbers and pressing buttons instead of touching a fabric, smelling the fragrance of a

fruit, talking to salespeople, enjoying the nearness of other shoppers?

▷ I would not object to what your reporter describes as "experiencing an event such as a voyage to Mars" via "virtual reality" (provided I have read already all the books I ever wanted to study and my phonograph has broken down . . .). But I angrily reject the idea of using some telecom gadget to play "a bridge game with friends in different cities." The purpose of playing games with friends is not to solve a mathematical problem or to demonstrate our cleverness but to enjoy human contact with people, seeing and hearing or sensing their little reactions to this or that as it takes place. Socializing cannot be mechanized. And I feel cheated and offended when I am offered a telecommunicated (not real) "drive along the Upper Corniche of the French Riviera." (Besides, where would that leave all the fine food and wine of Provence, and the friendliness of the natives—stored for later use in some memory cell or in an electronically composed cookbook?)

▷ I also question whether the information-superhighway-mediated "collaboration with scientists working . . . at CERN and Fermilab" is really

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pure bliss. Would not a lab visit be a more fruitful and certainly more pleasing form of interaction? True, one's research would be accelerated by instant plugging in to data, but research is much more than receiving and manipulating data. Less haste may even generate new and good ideas. And if we have not found the Higgs particle in the past few thousand years of human civilization, its discovery may just as well wait another week or two.

It is time to wonder who intends to drive us with neck-breaking speed along the information superhighway. Is it scientists, technocrats, politicians or big business? And what awaits us at the last exit? To me, it seems, the end of our humanity.

PAUL ROMAN
Ludenhansen, Germany

Life in the Fallowed Halls of Academe

It is hardly necessary to restate the severe employment situation and the associated surplus of physicists. I would like, however, to pose a solution to the problem. The idea is not original; it is tried and true, and borrowed from the agricultural community. For decades the government has subsidized farmers, guaranteeing price minima and direct payment for land *not used*. I think this system should be used in physics.

For example, consider research. Let us suppose that a physicist decides *not* to perform research for n years. For example, the physicist might propose to make no attempt at developing a quantized theory of gravity and apply for a Federal subsidy. This could be a great boon to physics and the country. For example, it would give many other physicists an opportunity to work in this area without the threat of overproduction—that is, too many theories to sort out. It also would remove the terrible consequences of a successful theory, which would wipe out entire new crops of physicists who would have wished to develop such a theory. In addition, the physicist's brain would not become barren from overuse. With a year or two of its lying fallow, we should expect a great harvest of new-grown theories or experiments in years to come.

Of course it would still be necessary to write proposals for all this nonwork, although perhaps they should be called antiproposals. For example, physicists would outline what research they plan to avoid and

what methods they will stay away from, cite how many graduate students they won't need and so on. Antiproposals would be submitted to the National Subsidies Foundation and be peer reviewed, and if they were successful, the funding would be used, as salaries and other items, to prevent the specified physics from being accomplished.

With enough antiproposal funding, physics production will be severely curtailed, and the country will cry out for physicists who are paid to *do* physics. At that point there will be a great demand for physicists, and the employment problem will be solved.

Obviously this is a radical suggestion, and it might be considered incautious to implement such a system without further study. For this reason, I hereby volunteer to act as a test case. If the government is willing to provide adequate funds, I will outline precisely what physics I will avoid and list all the things I won't need. I may even request funding for a workstation that I won't buy.

RICHARD HAMMOND
*North Dakota State University
Fargo*

More Physics of Baseball

One thing missing from Robert Adair's article, "The Physics of Baseball" (May, page 26), an extension of his excellent book of the same name, was a reference to a similar work by Terry Bahill and Robert Watts, *Keep Your Eye on the Ball: The Science & Folklore of Baseball* (Freeman, 1991), in which the authors demonstrate that you *can't* keep your eye on the ball, that *Life* magazine published the first photographic proof of the existence of the curveball (while stating that the photos disproved its existence) and that Wade Boggs is, in fact, the greatest hitter of all time. In order that I be protected from vengeful Ty Cobb fans, I ask that my name and address be withheld. :)

DAVID P. NORWOOD
*Tulane University
New Orleans, Louisiana*

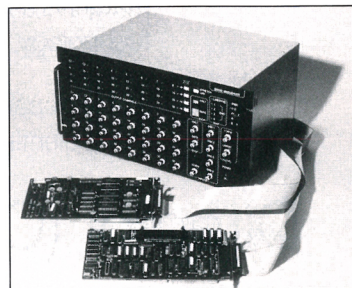
Correction

July, page 63—The scanning tunneling-scanning electron microscope from Omicron is an ultrahigh-vacuum model. ■

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