

ity of *jail* to *gaol*..."—it is hardly necessary to pursue the argumentation in detail. Referring now to Webster's dictionary, one finds that the silent *e* at the end of a word is dropped before a suffixal vowel. There are, however, eight exceptions (in the seventh edition of the *New Collegiate*). The first concerns proper names, and cites *Shakespearean* and *European* as correct spellings! Should the majority of American physicists persist in writing *Lagran-gian*, we can look forward to an exception to the first exception in future editions of Webster, but in my opinion physicists should stick to physics and let Webster, Mencken and their colleagues set the standards for language. In practice, of course, it is often the secretaries who do the dictating, but I always write *Lagrangean*. JOHN K. DIENES  
6/88 Los Alamos, New Mexico

David Mermin's anguish over *La-grangian* vs *Lagrangean* reminded me of my own experience with "Boolean" algebra. When I saw it recently in print I was startled, as *Boolean* was so familiar it seemed sacrosanct. A check of texts and journals within easy reach verified that *Boolean* was indeed customary. I had previously seen *Boolian* only in the work of students who confused the spellings of *to*, *too* and *two* also. (I resisted saying *too* in place of *also* to keep ballet and the good bishop out of it!) *Boolian* affects me like the scraping of a fork on a frying pan. *Lagrangean* seems a tiny bit odd but doesn't offend me. *Laplacean* seems about as good as *Laplacian*. From *Proteus* we get *pro-tean*, and from *Hercules*, *herculean*. On the other hand, from *Jove* we get *Jovian* (cf. *jovial*); from *Mars*, *Martian*. Maybe Greek likes *e*, Latin *i*. With *Dante* it is surely *Dantean* rather than *Dantian*, which would sound awful. If Venus could support life, would its denizens be *Venusians*, *Venereans* or *Venerians*? For *Kant*, *Newton*, *Hamilton* and many other names ending in consonants, *-ian* surely wins. *Socrates* is a puzzler: Are his disciples *Socratians*, *Socrateans* or maybe *Socratesians* (by analogy to *Descartes*—*Cartesian*)? (I vote for the second.) *Jacobi* and *Wronski* have given us *Jacobians* and *Wronskians*; the final *i* of the names killed *-ean*. From *Ares* I deduce *Arean*; an *Arian* is a follower of Arius. From *Galilee* came the *Galilean*, but what is a follower of Galileo? Presumably a *Galileian*! We know *Edwardian*, *Victorian* and *Georgian*, but Shakespeare was surely not an *Elizabethian*. We know *Washingtonian*, *Jeffersonian*,

*Jacksonian*, but I vote for *Coolidgean* (if it should ever be needed) over *Coolidgean*, which looks Armenian. Where does it all end up? Mostly in a very confused state, especially if one includes oddball items like *Oxonian* instead of *Oxfordian*! What a can of worms Mermin opened!

Maybe *Lagrangian* comes from *Lagrangia*, leaving *Lagrangean* to come from *Lagrange*. Usage will have the final word, as it always does. Maybe both will survive, as both clearly have a lot going for them.

JEROME ROTHSTEIN  
Ohio State University  
Columbus, Ohio

5/88

MERMIN REPLIES: Mindful of the wanton destruction of forests, I have nothing further to say.

N. DAVID MERMIN  
Cornell University  
Ithaca, New York

9/88

## Outsiders' Views of *Phys. Rev. Letters*

*Nunc dimittis*. I have seen the promised land. Finally I realized that The American Physical Society has produced a fashion journal, *Physical Review Letters*, with fashion editors, and fashion consultants, called in the old tradition "reviewers."

Laurence Passell in his article "Getting Out the Word: An Insider's View of *Physical Review Letters*" (March 1988, page 32) amplifies the statement I received some time ago from George Basbas, editor of *Physical Review Letters*, who said: "Referees are asked to provide subjective judgments.... Negative judgments are considered sufficient cause to return a manuscript, even in the absence of scientific criticism." What a marvelous way to amplify fashions in physics, insure a forum for one's own wares and enhance the formation of cliques, since no rational counterargument can be advanced against a subjective opinion. Let subjective judgments reign: You dislike Karl Lagerfeld's bouffant skirts, I like superstrings; you like miniskirts, I dislike quantum chaos. There is, however, one difference. In fashion I know who is proffering his wares, and whose clique is discouraging a shop from buying stock from the opposition. With luck, I can even distinguish between designers and the international coffee society of camp followers. The *Physical Review Letters* method allows them to be the same.

May I make then two suggestions?  
▷ Let the scientific review be anony-



<  
GB220  
1w@10K  
4w@20K



>  
GB37  
7.5w@10K  
30w@20K



<  
AL01  
5w@30K  
20w@77K

## Greatest Variety in Cryorefrigerators— and Customized Cryostats

*Cryomech manufactures a full line of standard single- and two-stage cryorefrigerators for temperatures down to 7K. Customized and standard cryostats are available for each unit. All cold heads can be adapted for UHV applications. Application assistance—for any capacity, at any temperature—is our specialty.*

**CRYOMECH**  
Cryogenics since 1963

For Information Call or Write:  
CRYOMECH, INC.  
1630 Erie Blvd. East  
Syracuse, New York 13210  
(315) 475-9692  
FAX (315) 422-1202

Germany/Switzerland Benelex  
Meili Kryotech ARSTEC  
Tel 41-56-454145 Tel 31-2990-28908

MRS Show - Booth #110  
Circle number 14 on Reader Service Card



# Another high voltage power supply cut in half...



## The WH Series... 500 watts, $\frac{1}{2}$ the space, $\frac{1}{2}$ the weight, and we even cut the price!

When Glassman packed 500 Watts @ 80kV into 10 $\frac{1}{2}$ " of rack space a few years ago, it was a pretty impressive feat.

Although that may seem commonplace today, the next step, which we've just taken, isn't. We've packed 500 watts @ up to 75kV in half that space... 5 $\frac{1}{4}$ ". The WH Series is one half the size and weight of the PG Series models it replaces. In it, you get more regulated high voltage in less space than any other supply we know of.

To accomplish this, we've developed some new circuitry that we believe has increased the reliability of our already sound, field proven switch-mode technology.

If light weight, compactness, tight regulation, and high reliability are major factors in your high voltage power supply requirements, then call John Belden at 201-534-9007 for complete details on the new WH Series.

*Innovations in high voltage power supply technology.*

**GLASSMAN HIGH VOLTAGE INC.**

Route #22 (East), Salem Industrial Park, P.O. Box 551, Whitehouse Station, N.J. 08889  
(201) 534-9007 • TWX 710-480-2839

Circle number 15 on Reader Service Card





mous, but the fashion review signed; let us see whose taste is decisive.

▷ In the event of a superabundance of scientifically acceptable notes let the editor decide by honest lottery which one will be published, while the overflow is listed only by title and author.

Otherwise the instability and rancor built into the present editorial stance will continue. After all, didn't (in *The Ideal Husband*) Oscar Wilde's protagonist Lord Goring say to his valet: "Boulting, fashion is what one wears oneself. What is unfashionable is what other people wear."

N. L. BALAZS

State University of New York  
at Stony Brook

3/88

**BASBAS REPLIES:** The basic acceptance criteria for *Physical Review Letters* are "validity, importance and interest." These are elaborated in our "Advice to Referees." The criterion of "validity" is in principle an objective one. The criteria of "importance" and "interest" are necessarily subjective. This does not mean they are arbitrary. Reviewers are asked to justify their judgments on these criteria. These criteria, subjective and sometimes difficult to apply, exist by mandate of The American Physical Society and define, via the community of readers, researchers and reviewers, the nature of *Physical Review Letters*.

GEORGE BASBAS

*Physical Review Letters*  
Ridge, New York

9/88

One of the obligations of membership in any scientific community, as Laurence Passell points out in his article "Getting Out the Word: An Insider's View of *Physical Review Letters*," is suffering service on and slings and arrows from an editorial board. It is hard to say which role causes the greatest suffering. And this pertains to most journals as well as society meetings, not only to *Physical Review Letters*.

The source of the problem is suggested in his second-to-last paragraph, where he points out the relentless increase in submissions, which, in turn, clogs the machinery. It is lamentably true that this trend can lead to paralysis and collapse.

However, forbearance with the *status quo* will not get us anywhere. I think it's time to examine the nature of the problem and to seek out alternatives before our journals and meetings are reduced to parodies of their former robust selves.

Many of us supplement our channels of communication with a variety of facilities that have evolved over the past two decades: ARPANET, BITNET, PI-NET, and a whole panoply of electronic information services, communications utilities and bulletin boards. And whereas these computer-based media were originally intended to complement the distribution of information by means such as abstract services, the electronic mail and conferencing utilities have increased in importance. The question we face is whether or not it is possible to incorporate these evolving technologies into the publication process. Interestingly, the small-systems journal, *Byte*, does utilize a rather active electronic conferencing and bulletin service to supplement its magazine publication. It is worth examining whether this is a worthy model for our own communities.

Whether or not a journal is primarily an archive or a report publication, its original function as a communications channel is jeopardized if it fails to be a serious source of original information for its community. Smaller communities often rely on a single journal for both archiving and reporting.

By their nature, journals function as communications bottlenecks. This has both a positive and a negative impact. The system of peer review provides some degree of quality assurance and currency. However, as the ratio of submissions to publications increases, there is a concomitant decline in the relative participation within the community. This slow implosion of core activity stratifies the society, imposes hierarchies and stifles innovation. This runs counter to the dynamics of any growing community, which should be enriched by increasing diversity and enlarged pools of talent.

Journals were never meant to inhibit the exchange of information or to establish orthodoxies. But this is precisely what happens when a relative few are called upon to operate machinery designed for a simpler age when most of the names on the membership rolls rang a bell, the number of research categories could be counted on the digits of a pair of hands, and the idea of parallel sessions at an annual meeting was considered a disgrace.

It's time for the AIP to convene a publications committee with a view to examining what means can be brought to bear on the problem. And each of the member societies should set up its own committee to examine

*continued on page 149*

## Quick & Easy Superconductivity Measurements



### LR-400

## Four Wire AC Resistance & Mutual Inductance Bridge

Ideal for direct four wire contact resistance measurements with 1 micro-ohm resolution

Ideal for non-contact transformer method measurements where superconducting sample is placed between primary & secondary coils and flux exclusion causes a change in mutual inductance

Direct reading  
Low noise/low power  
Double phase detection  
Lock-in's built in

LR-4PC accessory unit available for complete IBM-PC computer interfacing

Proven reliability & performance. In use world wide.

### LINEAR RESEARCH INC.

5231 Cushman Place, Suite 21  
San Diego, CA 92110 U.S.A.  
Phone: 619-299-0719  
Telex: 6503322534 MCI UW

Circle number 16 on Reader Service Card



continued from page 15

the dimensions of the difficulties faced by its own journals.

IRVING A. LERCH

New York University Medical Center  
3/88 New York, New York

Laurence Passell is unduly modest in assessing the impact of *Physical Review Letters* on the US physics community. *Phys. Rev. Letters* not only "tends to focus on what's currently fashionable . . . at the expense of work that isn't as 'flashy,'" but rather plays a fundamental role in initiating and propagating these fads and fashions, many of which in retrospect turn out to have been lots of "sound and fury signifying nothing." The response of the referees should be to deliberately limit the number of papers that are accepted in areas that are currently fashionable, so that there will be room for important papers in nonfashionable areas.

It is naive to maintain that some individuals and institutions do not receive favored treatment. In the absence of concrete evidence to the contrary, common sense would conclude that the *same paper* submitted by John Q. Laureate, Nobel Prize winner at Harvard, would receive a quite different reception by the referees were it submitted by Jack Nobody, visiting assistant professor at Sleazy State Teachers' College (not to mention Albert Unknown, clerk at the Patent Office). It is also easy to deny that publication of papers in *Physical Review Letters* figures in tenure, promotion and salary decisions. Nevertheless we must recognize that this does occur.

ROBERT JOEL YAES

University of Kentucky  
Lexington, Kentucky

3/88

PASSELL REPLIES: Robert Yaes and N. L. Balazs raise an important issue: how to maintain equal access to a journal that can publish only about half the papers it receives. It's no secret that referees tend to be suspicious of manuscripts from unknown authors and are inclined to take a skeptical view of ideas that fall well outside the scientific mainstream. What do we do to protect objectivity at *Physical Review Letters*? Well, sometimes the tone of a referee's remarks leads us to suspect that he is viewing the paper from too narrow a focus. When this happens we will, on our own initiative, seek further—and more objective—advice. But what more often occurs is that the author sees himself, rightly or wrongly, as a victim of the establishment and says so (often very emphatically) in his

letter of resubmittal. When we get such a letter, we try to weigh the evidence pro and con. If we think his arguments have merit we send his manuscript out for another round of (independent) refereeing. Practically speaking, however, the best defense the prospective author has against subjective refereeing is—as I noted in my article—to give the journal a list of eight or ten people who are experts in his field and who are, in his opinion, capable of making objective judgments irrespective of what their personal views might be.

Irving Lerch addresses an extremely vexing question: How can we maintain the written word as a viable means of scientific communication in the face of what can only be described as a veritable avalanche of published information? I don't think it will surprise him to learn that APS publications committees have been grappling with this problem in one guise or another for years and, despite much learned debate, have yet to reach a consensus on what can—or ought to be—done. My own opinion, for what it's worth, is that the new communications technology is not entirely to blame for the information overload nor should it be viewed as the only possible hope for a solution. True, word processors are a lot easier to use than quill pens. But the real question is not, How can we deal with the literature glut? but, Why are we doing all of this writing in the first place? The answer, I suspect, is that scientific administrators, funding agencies and tenure review committees equate large publication lists with superior scientific performance. We write not just to inform but to survive. And as long as this is the case, we're going to have a problem.

LAURENCE PASSELL

Brookhaven National Laboratory  
8/88 Upton, New York

## SSC Might Not Be Money in the Bank

In a letter in *PHYSICS TODAY* (May, page 9) Edwin L. Goldwasser of the SSC Central Design Group rejected the doubts of those who question the appropriateness of the multi-billion-dollar cost of the SSC. He admitted that "several billion dollars is a substantial investment" and that "this nation has many gnawing problems that beg for investments of that magnitude." But, he said, "the long-term, fundamental solutions to most of those problems rest on our regaining the leadership we have lost. . . . The national debt and deficits are almost

irrelevant in that context."

This is essentially the argument of every other beneficiary of government subsidy: Namely, while granting that US debt accumulation and overconsumption should be halted—usually it is recommended that this be done by eliminating the "unnecessary expenses" or the "waste"—one's own project or subsidy is of course too important for deferral. I propose the converse of the Goldwasser logic that "regaining the leadership we have lost" can be bought by pursuing more megabuck projects while postponing the irrelevant debt problem. I suggest that the debt is now the central, most urgent and highest-priority problem and in fact is a contributory if not the primary cause of most of those problems that more debt is supposed to solve, in particular that of the lost leadership.

Our economy and society are afflicted with two fundamental and entrenched imbalances:

- ▷ US overconsumption, that is, consuming more than we produce, with the excess being financed by an ever-mounting public and private debt
- ▷ productivity shortfall vis-à-vis our international competitors.

These are really two facets of the same problem, because the inflation necessary to fund the debt is what has eroded productivity, thus pricing many US goods out of world markets, discouraged saving and investment, and devalued our currency to the point where most of the US—like a peso bazaar—can be bought by the Asians, Germans or Arabs.

US overconsumption and the resulting productivity lag are not just temporary fluctuations, as some politicians would have us believe, but are now ingrained in our economy and have been building for over 20 years, in particular since the Great Society got rolling in the mid-1960s. But no one is willing to deal with the problems directly, by lowering consumption or accepting reduction in one's own government benefit or subsidy. Indeed typically, one claims, as does Goldwasser, that spending for one's own project, and so more debt, is a solution to the problems that in fact the debt has caused.

I do not oppose the SSC *per se*, just as I do not oppose more space science, environmental research or any of the other needs of our society: more health care, better education, urban development, mass transit, more Social Security or bigger food stamps. But I believe that more borrowing now for any of those worthy efforts only continues the treadmill of the last 30 years of eventually bringing