

Announcing the 6th Annual AAAS Colloquium on R&D Policy

25-26 June 1981

The Shoreham Hotel
Washington, DC

This highly successful Colloquium, sponsored by the AAAS Committee on Science, Engineering, and Public Policy, will bring together leaders in government, industry, and the scientific and technical communities to address issues relating to R&D and public policy-making in the new administration. Topics will include:

- *Federal R&D* • R&D issues in the FY 1982 budget • Outlook for FY 1983 and the future;
- *Defense R&D* • R&D issues in the defense budget • Current policies and program content • Trends and future projections • Alternative perspectives on defense R&D;
- *Agency perspectives* • Question and answer sessions with officials of key federal agencies on R&D programs in their agencies;
- *R&D Outlook in the Scientific and Engineering Community* • Impacts of new R&D budgets and policies on engineering; physical, social, and biomedical sciences; science and engineering education • Short- and long-range outlook for health of U.S. science and technology.

Research and Development: AAAS Report VI, by Willis H. Shapley, Albert H. Teich, and Gail J. Breslow, will be provided in advance to colloquium registrants. The Report covers R&D in the federal budget for FY 1982, a review of the federal budget process as it relates to R&D, and other topics on R&D and public policy. Registrants will also receive the published proceedings of the conference.

For program and registration information, write:

R&D Colloquium • AAAS Office
of Public Sector Programs
1776 Massachusetts Avenue, NW
Washington, DC 20036
or call (202) 467-4310

LETTERS

Least Publishable Unit

Recent comments on the Least Publishable Unit (News and Comment, 13 Mar., p. 1137) in biomedical research were appropriate but I feel the phenomenon is much more widespread and has both effects and causes not touched upon in the original article.

The increase in gratuitous multiple authorship has tended to discredit genuine collaboration. I have served on several academic personnel committees where it has been seriously argued that coauthored papers should be devalued or disregarded in evaluating a candidate's suitability for hiring or promotion. Science by committee is often pedestrian and opportunistic bibliography trading is reprehensible, but research needs more rather than less of the synergism that arises from genuine peer collaboration. A publication ethic that provides further disincentives for such work is dangerous to the health and integrity of scientific research.

Journals with lenient review and editorial policies offer rapid and convenient publication and thus attract so many papers at all levels of quality that the journals themselves are not indicators of research quality. The more demanding, high-quality journals cease to be a forum for discussion of rapidly developing fields.

There are several reasons for the Least Publishable Unit phenomenon in addition to those mentioned in the article. Among them are

1) *"Micromanagement" techniques.* Agencies that fund applied research have increasingly dictated not only the problem to be solved but also the nature and detailed time schedule of the solution. There is a strong incentive to get publication mileage out of both interim and final reports with a minimum of rewriting or interpretation.

2) *Reader accessibility.* As papers and journals proliferate, researchers are able to read a smaller fraction of the total and tend to concentrate on those dealing with their primary disciplines or specialties.

3) *The sociopolitics of funding.* National Science Foundation reviewers are specifically asked to comment on the research record of the principal investigator and on institutional capabilities. An obvious form of insurance is to have as many relevant titles as possible in the investigator's bibliography and as many of the references as possible from the same group, institution, or interinstitutional research clique.

I agree that one of the best ways to deal with the problem is to pay more careful attention to the review process, but preparing a good review is a demanding and time-consuming process and is often more difficult for a short, fragmented paper than for a complete and integrated account. Perhaps the most readily implemented suggestion would be to abandon the total bibliography as an evaluation tool and require applicants to list some specific number of their most significant publications and provide a brief narrative outlining the importance of the work and the nature of the applicant's contribution. This approach would emphasize quality rather than quantity.

ROBERT W. BUDDEMEIER
*Lawrence Livermore National
Laboratory,
Livermore, California 94550*

It is surprising if *Science* (and the *New England Journal of Medicine*) place the blame for multiple short papers on the authors. Both journals typically impose very harsh space limitations as a condition for publication, which is often independent of the true size of the scholarly work. Journal editors demand that we cut the baby in half and then lament the fragments that are produced!

JESSE ROTH
*National Institute of Arthritis,
Metabolism and Digestive Diseases,
Bethesda, Maryland 20205*

Startling !Punctuation

Gina Bari Kolata (Research News, 6 Feb., p. 562) writes of the anthropologists' quandary over whether or not to protect the !Kung Bushmen of the Kalahari Desert in southern Africa. From the title on ("!Kung Bushmen join South African Army"), the article is peppered with startling punctuation: "Botswana !Kung," "Namibian !Kung," "!Kung" or "!Kung's" about 30 times, "Chum !Kwe," a place name, six times. Plainly, the ! is no misprint.

The nonanthropologist reader, wishing to understand, asks, what does ! mean? Why not write "Masai" or "Kikuyu"? Is the ! equivalent to the ! of English? Are we English speakers missing a chance to express partisanship, enmity, favor, disapproval, love, or hate when we fail to use our ! in analogous ways, as in "Republican," "Philadelphia !Phil-lies," "Des!Moines," "Dayton !Ohio," "bacteriophage," or "nonpuerperal !galactorrhea"?