LETTERS

Growth of Scientific Journals

In his letter "The journal glut" (4 Nov., p. 456), Edward P. Ney laments the growth of the scientific journals that are driving him out of his office, implies that the growth is due largely to young people needing to demonstrate their abilities and partly to duplicate publication, seems to say that he prefers books to journals as a form of publication, and discusses alternative forms of publication. His language is strong: "Journal Glut has become a major pollution problem." Lest some readers accept his analysis, I would like to add some comments.

The growth of the scientific journals primarily reflects the increasing numbers of scientists. In astronomy there are now about 15 times as many researchers as there were 30 years ago (2500 versus 160), and the shelf space of the *Astrophysical Journal* has grown by a factor of 12. We would be disappointed if the greatly increased funding for astronomy and the increased numbers of astronomers did not yield corresponding increases in output.

Statements about being driven out of one's office by journals are inaccurate for the following reasons.

1) If one uses floor-to-ceiling bookshelves that typically cost less than 10 percent of the cost of the journals they hold, the last 30 years of the *Astrophysical Journal* (which publishes half of the world's output at the forefront of astronomical research) will occupy 4 square feet of floor space, or 3 percent of the floor space of a typical office.

2) A survey of offices, particularly those occupied by young people, will show larger volumes of computer printout and tapes than of books and journals. Are we to abolish our computers because they are so productive?

3) The size of our literature would be just as great if researchers refrained from publishing in journals and each wrote a book every 10 or 15 years. Ney seems to imply, but does not say, that journals include more pages that he will not read initially than do suitably chosen monographs. One advantage of journals, however, is that, when one changes fields or even just changes the objects being studied, one's journal library remains complete, whereas otherwise a whole new set of books has to be purchased. And it does none of us any harm to be confronted with papers outside our narrow fields of current interest.

4) Most societies offer their journals to members at considerably below cost. For instance, the *Astrophysical Journal*'s annual budget of $1.8 million is used to provide 3900 subscriptions, or an average of $460 each, compared with annual charges of $85 to members. If individuals do not benefit from their subscriptions, they should drop them. A rough guide is to estimate the number of times a journal is used annually, multiply by the time (and frustration) one would spend trying to obtain a library copy, and multiply by one's hourly salary; if that product is less than the journal subscription, one is not benefiting from his subscription.

Ney largely blames the growth of journals on the young people who are striving for reputations and positions. However, quantitative studies (*1*) show that, on the average, senior researchers publish more pages per year than do young people. Although there are more young than older researchers, the younger ones should not be blamed for practices that are more extensive among the older ones. Also, astronomers find it very difficult to publish material that has already been published in any other major astronomical journal, except for brief abstracts of papers given at meetings.

Ney feels that the quality of papers today is low; my feeling is the opposite. One should read papers of 30 to 50 years ago to see that the information content and physical interpretations in typical astronomical papers has increased drastically. It is true that in a developing field the more obvious and basic relations tend to be discovered early, but often the understanding of them is lacking.

Persistence in obtaining publication is good if the scientists are convinced of the importance and validity of their results, just as they should not give up easily when they encounter difficulties in pursuing that research. But it is not true that persistence alone will ensure publication. The acceptance rate of about 80 percent for most astronomical and physical journals and lower rates for "Letters" journals testify to that.

Ney is correct in saying that journals printed on microfilm have been unpopular and, although 10 percent of the individual subscribers to the *Astrophysical Journal* choose the microfiche version, very few libraries do so. I have the hope that, when all major research organizations are interconnected by computer, "journals" will consist of new papers added to the central memory bank. Then for the cost of a terminal and the services required, individuals will receive in their offices the newest papers in weeks, rather than half a year, and have access to the entire published scientific literature.

In summary, we should be proud of our productivity, rather than lament it. Most of us find astronomy, with its weekly important discoveries, much more exciting now than 30 years ago. We might miss being able to read and understand almost all the published astronomical papers, miss single-session scientific meetings, and miss personally knowing all the researchers in our field; but we would not want to go back to the time when only a factor of 2 in electromagnetic wavelength was available rather than the current factor of 10^{13}; nor would we wish to return to some other similar limitations of the past. Improved technical abilities have interested many people in astronomical research, and most of us do not lament the consequent growth in scientific knowledge.

HELMUT A. ABT
Astrophysical Journal,
Kitt Peak National Observatory,
Box 26732, Tucson, Arizona 85726

References

1. H. A. Abt, *Publ. Astron. Soc. Pacific* **94**, 213 (1982).

A Long-Lived Family

The National Institute on Aging should be interested in the Venezuelan family described by Gina Kolata in the 25 November issue (Research News, p. 913). Referring to a woman with Huntington's disease, Kolata writes, "Since then [the early 1800's], the woman's ancestors have mostly stayed near Lake Maracaibo and there are now a total of more than 3000 people in her lineage."

GEORGE T. RUDKIN
Institute for Cancer Research,
7701 Burholme Avenue, Fox Chase,
Philadelphia, Pennsylvania 19111

I was amused to read, in Kolata's article on Huntington's disease, the comment about a woman whose "ancestors have mostly stayed" in a particular locality—as though that were an unusual situation. The fact is that ancestors normally do stay put. Even when burial grounds are moved, it is mostly to a fairly nearby but less congested place. Of course, for a person's *descendants* to stay mostly in a given area for nearly 200 years is a bit more remarkable.

GEORGE L. TRIGG
275 Beaver Dam Road,
Brookhaven, New York 11719