DR. TOBY APPEL EMPHASIZED in her article "One hundred years of journal publication" that the goal of the publishing program of the American Physiological Society (APS) has been to serve physiology in general and the members of the Society in particular. That goal continues today. The sectionalization of the American Journal of Physiology (AJP) in 1977 occurred in response to the increasing specialization of physiological research and satisfied the desire on the part of most members to publish their work in journals readily identified with their fields. It was anticipated that sectionalization could lead to some increase in the number of submitted and published manuscripts, but in fact the response was overwhelming. In 1977, 1,392 papers were submitted to AJP and 644 were published. In 1996, the twentieth year of sectionalization, these figures were 4,627 and 2,517, respectively. The AJP, however, accounted for only 21,000 pages of the total 34,000 pages published by the Society's journals. Submissions to the journals are sent to over 80 editors and associate editors; the editorial boards consist of nearly 1,200 scientists. This expansion, however, has led to two concerns: maintaining excellence and maintaining financial viability. The Publications Committee and the Society spend a major portion of their time on these two areas while still trying to fulfill the original goal of the program—to satisfy the publishing needs of physiologists.

Since sectionalization, several policies have been instituted to ensure the excellence of the journals. In 1982 the Publications Committee began using a search committee approach to fill vacant editorships. In addition to advertising the positions, recommendations are sought from the leadership of the sections of the Society and from all of the associate editors. At one of its meetings or through a conference call, the Publications Committee selects three to five applicants to be interviewed. An editor is chosen following these interviews, which usually take place at Society headquarters. Near the end of an editor's three-year term the journal is evaluated by the Publications Committee after gathering input from the appropriate sections of the Society, the associate editors, and the editor. Following this evaluation, by mutual consent the editor may be reappointed for a final three-year term. Efforts to improve the journals are ongoing, and the Society sponsors numerous meetings of the editors and their associate editors. Before the start of a new term each editor holds an organizational meeting with his/her associates, followed a year later by a retreat to evaluate the journal's progress. At the annual spring meeting of the Publications Committee, an extra day is devoted to a session with the editors of all the journals. Each editor describes progress, points out problems, and discusses solutions. This valuable exchange provides input from other editors as well as members of the Publications Committee to any problems that may have arisen. The Publications Committee also provides feedback to the editors concerning the progress of their journals and discusses policies established by the Publications Committee and/or Council.

Significant changes have been made to attract the best science to the journals and at the same time to enhance the service provided to the membership. In 1982 rapid communications were added to all AJP journals. Beginning in 1984 the Publications Committee expanded from three to five members to better represent the field of physiology. In 1993 citation statistics were obtained from the Institute of Scientific Information for all individual AJP journals and were provided to the editors and membership. This process will be repeated every five years. The Publications Committee and the editors began an ongoing process of evaluating the reviewing sheets, which has resulted in numerous revisions over the past few years. The journal program entered the age of electronic publishing with APStracts, established in 1994. This electronic journal publishes with permission of the authors the abstracts of accepted manuscripts several months before the printed journals appear. Recognizing the increasing importance of color in displaying some types of data (e.g., immunocytochemistry) and the sometimes prohibitive cost to authors, the Council accepted the Publications Committee's recommendation to subsidize color figures beginning in 1997. The subsidized charge of only $250 per figure should make our journals more attractive to scientists who don't normally publish in them and assist those who do. If subsidized color proves to be financially feasible, the Society would eventually like to offer free color to all members who are first or last authors of papers in the journals. An experiment offering free color to such members began in the Journal of Neurophysiology the first of this year.

The expansion of publications and the changing times have impacted our ability to maintain the integrity and therefore the excellence of our journals. We have moved to combat these problems in a variety of ways. Beginning in 1994 authors were asked to acknowledge any conflict of interests that could affect the work reported in their papers. A signed, mandatory submission form must now be included with every manuscript before it is sent out for review. This has solved a
number of problems. Foremost among these was the difficulty in obtaining a proper letter acknowledging all of the authors’ responsibilities. Now each author must sign, assuming full responsibility for the work and attesting to its originality. The submission form is convenient for the author as well, since it contains the copyright transfer and conflict of interest statement. This also has benefited the Society financially, because we no longer need to spend time obtaining copyright transfers and letters of originality. The increasing frequency of ethical problems forced the Publications Committee to develop a formal ethics policy and guidelines for handling violations that were approved by Council and put into use in 1996.

Unlike most scientific Societies, the APS does not impose page limits on its journals, and the tremendous increase in the number of articles and pages published has resulted in financial pressures. We have controlled costs by printing more material on a page by reducing type size and eliminating white space. We have changed printers, resulting in much more favorable contractual arrangements. Manuscripts must now be submitted on disks, which leads to a reduction in composition costs. The editors and associate editors are carefully examining manuscripts for unnecessary figures, tables, and text, and our Art Department prepares figures for maximum space efficiency. We have advised our editors to increase rejection rates (most are over 50% and several are above 60%). Beginning this year we are instituting a manuscript submission fee of $50 for papers submitted to the American Journal of Physiology and the Journal of Neurophysiology. Because of the rapid increase in size of these journals, this fee should discourage resubmissions of rejected manuscripts and help offset the cost of the reviewing process (the cost to the Society of reviewing a single manuscript is slightly over $200). One result of our attempts to control expenses has been our ability to keep the subscription rate for our journals low. Compared with other scientific journals, the journals published by the APS are a real bargain.

We are noting two other significant anniversaries in 1998: 60 years for the Journal of Neurophysiology and 50 years for the Journal of Applied Physiology. The editors of these journals are also celebrating their anniversaries by special articles and commentaries. Both of these journals are now online. In 1998 the journals of the American Journal of Physiology will join them on the web, followed soon after by Physiological Reviews and News in Physiological Sciences, and the Society will be fully involved in a technical revolution that eventually may lead to the demise of the printed journal as we know it.

The challenges of the electronic revolution that face the publications program are both stimulating and a cause for concern to the Council, Publications Committee, and staff as they struggle with the problems that online publication brings, such as developing an economic model for print and online subscriptions, dealing with the effect on copyright protection, archiving, maintaining the integrity of our database, and subscription and reprint income loss. Also, technical problems occur in moving highly detailed material online in tandem with producing the print journals. The biomedical publishing community, both commercial and nonprofit, is concerned with these problems and at the same time excited by the possibilities of offering such wonderful value-added services to the scientific community.

Initially the Society has chosen an economic model that provides online access with the print subscription. We are providing browsability and searchability features that include Medline access to abstracts from the reference list and access to a whole article if the journal is one of ours or one handled by our vendor (High Wire Press) and if a reciprocal agreement has been made. Members of the APS have the opportunity to subscribe to all APS journals online for a very low annual access fee of $49.50.

Although the challenge of disseminating published material in the electronic age is enormous, an even greater challenge is to be able to predict the direction of future physiological research and capture that area for our journals. We feel we’ve been successful in attracting papers containing the cellular and molecular components of physiology while still emphasizing the importance of integration. However, the current revolution in research is being driven by the rapidly accumulating knowledge of genomes. This information must be related to the whole animal to establish its significance. Currently we are preparing for publication of a new journal named Physiological Genomics and considering online publication of the articles prior to print.

In concerning ourselves with these new challenges, however, we must not forget our primary purpose—to meet the needs of research investigators by providing them with rigorously reviewed articles of the highest significance, presented with the long-standing tradition of quality that has been maintained for a century by the American Physiological Society. Whether producing print and/or online journals, the Publications Committee and staff remain dedicated to this excellence.

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