Fifty Years of the Journal of Applied Physiology

This semicentenary issue marks a proud occasion for the Journal—its 50th birthday. The occasion provides an opportunity to reflect on the Journal’s mission, history, and current status. Mission and history are taken up in the historical vignettes by Robert Forster and Arthur Otis, appearing in this issue. Both writers point out that the original rationale for the Journal was to provide a vehicle for research related to thermal stress, hypoxia, muscular exercise, and metabolism. These “applied” topics were of relevance to the war effort and they are also of general relevance to human well-being, i.e., to human health and performance. While Wallace Fenn, President of the American Physiological Society (APS) in 1948, and his associates were aware of the immediate need for a journal that would publish the results of research engendered by World War II, they undoubtedly foresaw the long-term need for a publication that provided an outlet for physiological research related to human health and disease. And so it happened—the Journal of Applied Physiology received a strong initial push from World War II research and then evolved naturally into a home for physiological studies related to normal and abnormal human function. In fact, the contents of the Journal have largely come to define “applied physiology.” Many important respiratory, thermoregulatory, cardiovascular, and muscular exercise studies appeared in the first volume. Some of these studies stand as landmark advances in physiology. For example, a key contribution to the understanding and quantitation of heat transfer by Pennes appeared in Volume I (see the reproduction of the Pennes’ article, p. 6). An original article by Wissler appearing in this issue of the Journal revisits the important paper of Pennes, and an Invited Editorial by Nelson reviews both papers.

The evolution of the Journal has been fostered by wise decisions of the Publications Committee. Whereas the American Journal of Physiology devolved into organ system-specific journals, the Society has stayed the course of this Journal. Nonetheless, the Society created additional journals the scope of which overlaps with that of the Journal of Applied Physiology. For instance, AJ P: Regulatory, Integrative and Comparative Physiology provides a home for some publications that might also have appeared in the Journal of Applied Physiology. Also, airway and circulatory physiology published in AJ P: Lung Cellular and Molecular Physiology might formerly have been published in the Journal of Applied Physiology. In some sense, the creation of these new journals has allowed the Journal to maintain the mission and scope originally envisioned by its founders. In fact, one of the remarkable features of the Journal’s history is that it has proven to be successful while adhering to this original mission. The creation of new and related journals, reductions in government funding of biomedical research, and a shift in interest of scientists away from integrative and/or systems physiology and toward cell and molecular biology have all had their impact on the Journal. One manifestation of this has been a declining manuscript submission rate (~5% per year for the past 5 years). However, submission rate appears to have stabilized recently. The Journal has maintained high standards, as reflected by its excellent Associate Editors and Editorial Board, by a high rejection rate of submitted manuscripts, and by the quality of its papers. The Journal remains well received, having one of the highest subscription rates of all APS journals. Finally, one might take heart in the appearance of powerful noninvasive experimental tools and of computational techniques for system modeling and analysis of complex systems, which provide new capabilities for the “applied” physiologist.

The semicentennial of the Journal finds this Editor near the end of his term. The past five years as Editor have been challenging and enriching. The Journal’s success derives fundamentally from the excellence of reviewers and Editorial Board members. Their sterling efforts have been channeled by an outstanding assembly of Associate Editors whose diligence and scientific standards set the tone for the Journal. To all who have participated in creating and maintaining the scientific standards of the Journal, I wish to express gratitude and appreciation. I especially acknowledge the key role of Consulting Editor Don Bartlett, who has solicited and edited all invited contributions. Through his efforts, the Journal has had attractive, informative, well-edited pieces at the front of each issue. On behalf of readers and the Society, I express thanks to Don for his extraordinary contribution.

Almost 40 years ago, I shared an office with Nick Anthonisen, a postdoctoral fellow who, like me, aspired to a career in respiratory physiology. His approach to beginning research in the area was simple but remarkably efficient and successful. He dosed himself for 3 months while he read and assimilated every article on respiratory physiology in the first 10 volumes of the Journal. He then entered the laboratory and began to carry out important experiments, having learned virtually all the respiratory physiology he needed to know. We shall continue to be inspired by the Journal’s excellence and traditions. May the next 50 years of the Journal be as successful as were the past 50.

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