

The Legacy of Olaf Sparre Andersen and Future Directions of the *Journal of General Physiology*

Olaf Andersen stepped down from the editorship of the *JGP* on June 30th. As his successor, I take this opportunity to thank Olaf for his tireless dedication to the Journal and to present some thoughts on how we can build on his legacy.

Olaf Sparre Andersen was recruited to the editorial board of the *Journal of General Physiology* in 1981 by the then editor, Paul F. Cranefield. Olaf became associate editor in 1984 and assumed the editorship in 1995. Olaf's tenure has been a period of remarkable health and stability for the Journal. Olaf's knowledge of and passionate devotion to the field of general physiology and membrane biophysics in particular is vast, and he has applied this knowledge and passion daily to managing the scientific mission of the Journal. Thanks to his steady and insightful leadership, *JGP* has become a brand name that conveys scientific rigor, quality, and integrity and commands universal respect among physiologists.

Olaf came from Denmark to the U.S. in 1971 on a post-doctoral fellowship. In 1973 he began his academic career at Cornell University Medical College as an assistant professor of Physiology and Biophysics and rose rapidly in rank, achieving that of Professor in 1982. Olaf focused early on the biophysics of lipid membranes and ion channels. In 1981 he published his first paper on the gramicidin A channel, a topic that has been a touchstone for a highly productive and still very active research career. With the liberation of some of the energy that he has devoted to the Journal, a burst of interesting and important scientific contributions by Olaf can be eagerly anticipated.

In addition to his leadership at the Journal and his productive scientific career, Olaf is also a redoubtable citizen who contributes generously and unassumingly to every institution to which he belongs. This larger perspective has inspired his management of the Journal and has informed many deliberations and decisions regarding the Journal.

Stepping away from the editorial helm of the Journal, Olaf leaves behind shoes too large for any individual to fill. Despite my misgivings—and with admiration for Olaf's principled management style—when asked to serve as his successor, I agreed in hopes of continuing in his footsteps, if not in his shoes. Nonetheless for this commitment, you, the authors, reviewers, and readers of the Journal's articles have right and reason for inquiring how the Journal will be managed during my tenure. And so, in the remainder of this editorial I will

present some thoughts on three critical matters, to be followed in due time by more thorough statements.

Continuity: Integrity of the Review Process and Quality of the Publication

“The mission of the *Journal of General Physiology* is to publish original work of the highest quality that elucidates basic biological, chemical, or physical mechanisms of broad physiological significance” (Andersen, 2008a).

To all who have published in the Journal, and to all who may consider it as a venue for their work, be assured that during the years ahead the Journal will pursue this mission, with an absolute commitment to quality and integrity. Of course, the quality of a publication owes most to the scientific acumen and disciplined effort of the investigators who author the work. However, policies, procedures, and practices in the review and production stages do contribute to the quality of a publication in important ways.

First, competent, fair, and thorough peer review serves to enhance quality, as well as inform the scientific community that the work in a publication is meritorious and properly executed. Reviewers of submissions to the Journal generally do their job with exceptional care and attention, and your opinions will continue to be highly valued and respected as a submission proceeds through review. In addition, the board of associate editors will continue to meet weekly to “review every review” and ensure that reviews are impartial and productive (Andersen, 2008a).

Second, the Journal will contribute to quality by maintaining its focus on the content of articles, rather than on matters of form. We will not set arbitrary limits to manuscripts; although such limits may be “economical” and give a semblance of egalitarianism, they can detract from quality. While prizing succinctness, the primary goal for a publication will remain clarity and completeness of exposition: the Journal will always be more interested in publishing a definitive study than a hurried and self-styled “first.”

Third, the Journal will contribute through a policy of appreciating, not depreciating, methodology and modeling (Pugh and Anderson, 2008). It is hard to avoid mentioning here the irony of “scientific” journals shrinking their methods sections or relegating them to supplementary text—at a time when much of the progress in science is due to methodological innovation in experiments, in data analysis and in theory. Novelty is to be prized, but should not be in conflict for journal space with rigor; any publication worth its salt should

add something new *and* definitive to the body of physiological science.

Fourth, the Journal will serve increasingly, we hope, as a cyberspace locus for debate and discussion of the science that it and related journals publish. At a meeting last summer I had occasion to remark that a particular problem in the visual retinoid cycle that had been billed as settled in high profile publications seemed unresolved, and that settling the problem definitively would require a certain type of experiment that had yet to be done. After the session a number of individuals came to me to say that they too had had similar doubts but had been reluctant to express them. Doubt and questioning, not blind acceptance that “because it’s published it must be true” are core principles of science. The Journal’s editors recognize that even an outstanding submission may sometimes be in conflict with other published work, and thus that the need for open though refereed debate may continue after publication. The *Perspectives* series (Andersen, 2008b) introduced by Olaf was designed to serve this function, as are commentaries (see for example, Accardi, 2008). As part of a series of new initiatives at the Rockefeller University Press, we hope to make this interactive aspect of science a staple (see below).

Back to the Future: The Scope of “General Physiology”

A useful perspective for reflections on the future of the Journal can be had from consideration of its history (Andersen, 2005). Over the past 15 to 20 years, with the development of the methods of patch clamping and molecular biological tools for cloning, expressing, and sequence manipulation, ion channels became an ideal subject for physiology, and the Journal earned a well-deserved reputation as one of the best venues for research on this incredibly rich topic. But thanks to the great body of science that has employed these methods, and to the more recent advances in channel crystallography, the classical questions of selectivity and gating are becoming resolved. Can the Journal maintain its stature in the face of such advances? The answer, of course, is “Yes”; while continuing to publish outstanding research on channels and transporters (increasingly incorporating structural information), the Journal can also flourish in other traditional areas of strength, and in new areas that call on the expertise of its readers, reviewers, and authors.

The Journal has, for example, a rich tradition in muscle physiology and sensory physiology. These areas typically involve electrophysiology of individual cells with complex biological structures (such as the SR of muscle fibers or the outer segment of photoreceptors) where a multiplicity of molecules function as an ensemble to create physiological functions, such as EC-coupling and phototransduction. The Journal will make strong efforts to recruit high quality publications in these areas.

A natural direction of growth for the Journal is the physiology of ion channels in living cells, and in particu-

lar, in their native tissues, as they undergo functional modulation and contribute to cellular processes. Calcium “sparks,” which originate in brief openings of ryanodine receptors of the muscle sarcoplasmic reticulum into the myoplasm, are an apt example, and are discussed in a recent editorial (Pugh and Andersen, 2008). In such areas, the Journal faces competition with specialty (e.g., tissue-specific) journals. However, we hope that our history of high standards, user friendliness, and efficiency¹ (thanks to the continuing efficient management of the Journal’s managing editor, David Greene) will keep the Journal at or near the top of the list for all manner of research involving the electrophysiology of living cells.

A panoply of powerful tools has become available for general physiologists with the creation of molecularly programmable, optical methods for interrogating the location, movement, and interactions of tagged proteins in living cells. The expertise of our authors and readership puts the Journal in an excellent position to contribute to quantitative cellular physiology using such methodology, and the scope of fundamental physiological questions to be addressed seems almost unlimited.

Attracting Talented Young Scientists to Read the Journal and Publish in it

Perhaps the most important task facing the Journal is to earn the allegiance of the next generation of general physiologists, inspiring them to appreciate and pursue the goals embodied in its mission statement. In discussing with a distinguished colleague the possibility of a submission, the reply was given that while he greatly respected the Journal it wasn’t his choice not to publish in it. Rather, he said, his post-docs were of the opinion that their careers depended critically on having their work published in certain high profile journals, and he could hardly go against their wishes.

While this discussion was disappointing, it served to underscore the work that we have to do as a community to ensure a future for the style of science represented in the Journal’s pages. One way we hope to help young scientists appreciate the virtues of this style is to facilitate communication and connectedness as, for example, they read and analyze publications in journal clubs. Under the leadership of its executive director, Mike Rossner, The Rockefeller Press, our parent publishing house, is undertaking a series of changes in our online presentation that we believe will make the Journal (and its sister journals) more attractive, interactive, and accessible to the next generation. Stay tuned!

In closing, I would like also to thank David Gadsby for his outstanding service as associate editor since 1984, to

¹In 1996 and 1997, prior to the introduction of online submission, the turnaround time from acceptance of a manuscript by the Journal to its publication was two to three months. In 2000, the median time from acceptance to online publication was 35 days, and in 2007, it was 26 days.

welcome Paul De Weer who has generously agreed to serve for a time in David's place, and once more to thank Olaf for the remarkable leadership he has provided as editor of the Journal. With the ideals he embodied in mind, let us continue to work together to keep the Journal a venue for outstanding and enduring science.

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Editor
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