

EDITORIAL

Climbing aboard

David A. Eisner 

The beginning of the year is traditionally a time for resolutions, and beginning a term as a new Editor-in-Chief is an added stimulus to take stock. I assume the position of Editor-in-Chief with considerable pleasure and pride but also a certain amount of trepidation. It seems only yesterday that I was an undergraduate studying physiology and reading papers published in the *Journal of General Physiology*. It is also no easy task to succeed Sharona Gordon, who has done an outstanding job.

In the 100 years since *JGP* was founded, its development has paralleled that of the subject of cell and membrane physiology (Hille, 2018). In his fascinating history of the journal, Olaf Andersen, a previous Editor-in-Chief, reminded us that the term “general physiology” was first coined by Claude Bernard in 1885 (Andersen, 2005). The first paper published in *JGP* (Osterhout and Haas, 1918) studied photosynthesis in algae and used an optical indicator (phenolphthalein) to measure rates. This paper set a theme for *JGP* by comparing experimental observations with the predictions of mathematical models (Jennings, 2018). 100 years later, optical methods are very much still part of the exciting and cutting edge techniques used by many biologists and championed in articles published in *JGP*. The 100th anniversary of *JGP* was marked by the publication of a collection of historical and retrospective articles. If you have not read them already, I strongly recommend them. There are too many riches to mention all and so I only refer to those that particularly appeal to my personal interests.

Some areas of science underpin so much of modern physiology that it is important to be reminded of their development, and I note a few areas where articles in *JGP* have been drivers of the development of the fields with Milestones that summarize *JGP*’s contributions: regulation of cell volume (Kay and Blaustein, 2019); the constant field equation and its link to the membrane potential (Alvarez and Latorre, 2017); the physiology of Na and K channels (Bezanilla, 2018a); calcium and muscle contraction (Ríos, 2018); and photoreception (Pugh, 2018). Another theme that runs through *JGP* is the link between structure and function (Franzini-Armstrong, 2018). Today, this is not only important at the level of the cell but also at the level of the molecule (Robertson, 2018).

In general physiology, as in all other areas of science, advances depend on many factors, including conceptual breakthroughs and the development of new techniques. No less important,

however, is the academic environment in which the work is done. The success of modern general physiology can be traced back to institutions as far apart as Chile (Bezanilla, 2018b), Russia (Sobolevsky, 2018), and New Haven (Aldrich, 2018), as well as my alma mater (Hodgkin, 1976). As scientists, we take it for granted that research depends on international collaboration. There have been many occasions over the last 100 years when this has been impossible and, even today, the ability of scientists to travel between certain countries is limited. I think it is essential that scientific journals and societies stand up for the international nature of science. Another important factor is the level of support that students and junior scientists receive from their laboratory heads. Many of the most successful scientists of today have benefited greatly from committed mentoring (Clapham, 2018; Miller, 2018; Carrasco, 2019). But we all know that many junior scientists (students, fellows, and junior faculty) do not receive the mentoring they need, and I thank Sharona Gordon for her initiative to establish the Junior Faculty Networking Cohort system (Gordon, 2017), which has made *JGP* an active participant in the development of the next generation of general physiologists. This is a clear example of how a journal can add value, which, together with Sharona’s unstinting efforts to further increase the scientific stature of *JGP*, sets the path for moving forward.

Colleagues ask me what I want to achieve in the next three years with *JGP*. One obvious answer is, “It ain’t broke, so don’t fix it.” That said, I would like to expand the influence of *JGP* beyond its current core community. While *JGP* is appreciated by those whose primary interest is in the fundamental properties of channels, transporters, and other properties of membranes, it is less recognized by others who are primarily concerned with the effects of these proteins on organ function. This is despite the fact that recent issues of *JGP* contain many articles with direct relevance to these broad communities; we need to be better at highlighting *JGP*’s contributions and our wish to publish papers that make important contributions to a wide range of problems. To paraphrase from our Aims and Scope, if your work elucidates mechanisms of broad physiological significance, then come to us!

Finally, please feel free to contact me with suggestions for *JGP*. Let me know what you like and, equally important, what you don’t.

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