

EDITORIAL

Departing the coast of dystopia

Earlier this year, on February 4, my shoulder received approximately 12 trillion molecules of a messenger RNA encoding the spike protein of the SARS/CoV-2 virus, a vaccine made by a German company, BioNTech, with the marketing rights held by the American company Pfizer. Driving home, I envisioned the intramuscular injection, *viz.* how well vascularized skeletal muscle is, and how many of these mRNAs had already reached cellular sites and were being translated into the protein that would soon be embraced by my immune cells. Thinking of how this vaccine, and another based on mRNA, came to be moistened my eyes, and as I drove on, I realized that each and every one of all the effective vaccines was an equal triumph, of course.

In the subsequent days, I noticed that I had a little more bounce in my step and shared this experience with other “vaccinees,” all of them agreeing. Many of us had been more stressed than we had realized, some seeking treatment, others just plodding along. But just as my mood began to brighten, it descended again. Every report has indicated that minority populations in the United States, already more at risk for infection and lack of testing, were also at great disadvantage for vaccination. This has been well reported in the press, and I shall not amplify the point here other than to say that when the organizers of vaccination programs fail to recognize things as simple as the fact that some >75-year-old citizens (the current Phase 2–eligible group at the time I am writing this) of our minority populations do not have a car—well, we have failed.

And yet, there is now a sense that with better distribution and sensitivity to the disparities, the vaccination tempo and breadth are improving. Many thoughtful articles in the media and op-ed pieces have emphasized that the pandemic may have handed us a microscope, through which to see better, or even in some quarters for the first time, the shocking dimension of healthcare access disequilibrium in America. There is, of course, the global scale of this same moral lack.

Turning from the broad social inequities, we in biomedical science need to soberly look at our “patients,” *viz.* the students, post-docs, and junior faculty whose career ascents have been stymied. Closed or restricted access to labs in much

of 2020 has impaired progress not only in research but on careers. As Vice Provost for Research at my institution, I have been pleased to see many policies put in place to address this, such as thesis committees accommodating a slowed tempo in students' research kinetics and reasonable stop-clocks on tenure review of faculty. On a national level, we need to recognize the damage the pandemic has wrought on an entire generation of maturing scientists. The National Academy of Sciences and other bodies are thoughtfully pondering this, for which we can be thankful. Meanwhile, in our own labs, departments, and institutions, we owe it to our mentees, students, post-docs, and junior faculty to go beyond our usual duty of care. In this era, we must do more, seeking to help in every possible way and feel the pain this generation has suffered. I came up without any obstacles other than a bad experiment or a difficult reviewer of a paper. Standard fare. What our young generation is experiencing now is not standard, and it is for those of us who profess to be mentors to step up and help them.

And now back to that bounce in my step, I felt the day of vaccination. One of Tom Stoppard's works is a trilogy of plays based on a Russian story and titled *The Coast of Utopia: Voyage, Shipwreck, Salvage*.^{1–3} It had a 9-hour running time and was thus staged in repertoire (Olivier Auditorium, Royal National Theatre, London, 2002; Vivian Beaumont Theatre, Lincoln Censcience need to soberly look atter, New York, 2006). Who knows how metaphors arise in our minds, but the title of Stoppard's play came to me when composing this editorial. I would suggest that the vaccines, including the very promising additional ones announced just at this writing, may begin to let us unfurl our emotional sails, outward bound, after a year of profound mortality, morbidity, and angst, hopefully allowing us to leave the coast of dystopia.

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3. Stoppard T. *The Coast of Utopia: Salvage*. London: Faber and Faber; 2002.