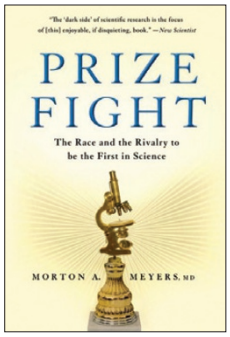
Nasty priority disputes



Prize Fight: The Race and the Rivalry to be the First in Science

Morton A. Meyers

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Reviewed by Melissa S Anderson

Scientists are only human and research is messy. That is the central message of Morton A. Meyers's *Prize Fight: The Race and the Rivalry to be the First in Science*, a lively account of scientists' striving for recognition and credit for their discoveries. Human foibles are on full display in disputes over scientific priority, particularly when Nobel prizes are involved.

Meyers tells two main stories of research teams who disagreed loudly and publicly about how credit should be allocated. The first is about Selman Waksman, his student Albert Schatz and their 1943 discovery of the antibiotic streptomycin. Waksman persistently failed to acknowledge Schatz's contributions, and Schatz unwittingly gave up his patent rights assuming that Waksman had done the same. Schatz later filed suit against Waksman, who settled out of court, agreeing that Schatz was "entitled to credit legally and scientifically as co-discoverer of streptomycin." Nonetheless, Waksman alone received the 1952 Nobel Prize in Physiology or Medicine.

The second story features Paul Lauterbur, who shared the 2003 Nobel in the same category with Peter Mansfield for discoveries related to magnetic resonance imaging (MRI). Left out was Raymond Damadian, who had detected differences between healthy and cancerous tissue through nuclear magnetic resonance and had originally conceived of doing whole-body screenings. Lauterbur's earliest notes on MRI refer to Damadian's previous work, but his publications thereafter omitted citations to Damadian. Outraged at the injustice, Damadian repeatedly argued his case, though often in vain.

Priority disputes are rife with pettiness, guile, arrogance and insistent clamoring for attention and approbation. The reader might regard this childish jockeying for recognition with indulgent amusement, except that it has serious consequences. Securing credit for a major discovery can be associated with out-of-scale rewards and prizes, compounded over time. Those whose contributions are neglected or intentionally discounted may never recover from the injustice, as Meyers makes clear. It is important, therefore, to get it right when allocating scientific priority and credit.

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The problem is that the scientific reward system often does not get it right. Meyers recounts many other stories in brief to illustrate the weaknesses of peer review, the inadequacies of processes by which prize winners are selected and the inaccuracies of merit systems that link scientific work to tenure, promotion, grants and prestige. In fact, Meyers's tales suggest that the reward system itself may be largely at fault. The scientists portrayed here showed no signs early in their careers of being motivated by glory, fame and wealth. To the contrary, they were wildly excited about their discoveries and showed little interest in external rewards. It is only when their work began to show signs of propelling them toward commercial success or consideration for major awards that the researchers' motives became more complicated. Lead scientists then took steps to secure their own priority status at the expense of others. They began interpreting the events that led to their scientific breakthroughs in ways that emphasized their own roles and minimized their collaborators' contributions, making it difficult to reconstruct the actual role each person had. For the most part, the stories in Meyers's book have played out in the spotlight of celebrity, and they illustrate how badly things can turn out under its distorting influence. Most researchers will never have to cope with attribution problems on so grand a scale. Still, as Meyers notes, many of us have had ideas or accomplishments appropriated by others. How do scientists work through such situations in more commonplace contexts? What creative, constructive and fair means have researchers devised to solve dilemmas of attribution? Meyers, caught up in his subjects' bad behavior, pays scant attention to these questions.

Meyers's concluding recommendations are not particularly compelling, except for one that strikes me as a sensible solution. Scientific discovery proceeds largely through the collaborative efforts of research teams. Sometimes a breakthrough takes collective heroism, as illustrated by Meyers's account of the construction of the first whole-body imaging scanner by Damadian and colleagues, who used surplus wire from Westinghouse and welding instructions from *Popular Science*. Prizes that reward individuals for a team effort may promote the distortion of the attribution record. Prizes that instead celebrate the actual scientific breakthrough and the researchers who contributed to it—with full recognition of all individuals involved and accounts of the difficulties that were overcome along the way, as science writer Nicholas Wade has suggested—would be more satisfying.

Scientists and lay readers alike will appreciate, as I did, this fascinating tour through some particularly unsavory aspects of science. Meyers emphasizes the contrast between his subjects' behavior and what he sees as the public's perception of scientists as altruistically committed to truth and the layperson's assumption that research is an orderly enactment of the scientific method. In fact, Meyers employs at times a rather sensationalist tone, as though he expects readers to be shocked at the shenanigans of scientists. Most of us, however, have had experience with small-scale versions of the human imperfections on display here. It's perhaps not surprising that such foibles are magnified in the higher realms of scientific achievement, where substantial prizes are at stake.

COMPETING FINANCIAL INTERESTS
The author declares no competing financial interests.