Letters to the Editor

AMS Fellows—Arbeit macht das Leben süss

I completely agree with Richard Laugesen's letter in the December 2011 *Notices*, "AMS Fellows—A Modest Proposal". However, I think that Richard has missed one important point that I would add as a friendly amendment. While it is clear that, as Richard states, any paper submitted by an AMS Fellow should immediately and automatically be accepted by any journal, what is to become of papers submitted by regular folks? Well, certainly we cannot have the mathematical hoi polloi refereeing and reviewing papers written by their peers (or, egads! written by Fellows!). What would happen to quality?

It seems obvious that AMS Fellows should be the only ones who are allowed to referee for journals and to review for MathSciNet. It is only in this way that the vast wisdom of AMS Fellows may be passed down, undiluted, through the generations to the common mathematical folk.

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Opportunities for Mathematicians in the Startup World

The article by Daniel Krasner in the December 2011 *Notices* was intriguing. I read it while commuting to a startup company in Washington, DC, where I worked from June until December 2011. My path to this position was somewhat different from the author's. I consulted for the firm and then was invited to join full-time, and I'll return to my position as a tenured professor at Georgetown University in August 2012. The author's description of his work is close to my own experience. I was modifying billing spreadsheets, working with heavy-tailed probability distributions, and writing R code for data cleaning, all in the same week.

Does the startup world really offer opportunities for mathematical scientists at the beginning of their career? I believe this is the case, but it surely is not for everybody. Somebody with an undergraduate or Master's degree may be better off in a larger company that has training and mentoring programs. Ph.D. holders may prefer the well-defined career paths that a government agency or a big company can offer. But somebody with a new Ph.D. may also have just the right capabilities for abstraction and problem solving that are essential in the startup world—assuming they retained breadth and flexibility during their training. To succeed, you also have to be willing to use solutions with limited rigorous foundation, to abandon interesting pursuits if they show little potential for business impact, and to pick low-hanging fruit. The goal is to make money, and your and your colleagues' jobs depend on this. Finally, a sense of adventure and a willingness to take risks are important.

Today's Ph.D. programs in the mathematical sciences mostly do not prepare their students for this kind of work. I think that some programs may find interesting opportunities, however. It will enrich our profession if more of our students and colleagues enter that world and succeed in it. Interesting new mathematical questions will be identified, new talent will be attracted to our programs, some of us may end up in the limelight or become rich. Graduate students should not be discouraged from becoming interested in this area. Rather, they should be made aware of these opportunities and be allowed to prepare for them. Consulting opportunities, courses taken outside their field of specialization, and professional contacts with mathematically trained people who are working in the tech world are good first steps.

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Response to Quinn

This is a response to the article "A revolution in mathematics? What really happened a century ago and why it matters today", by Frank Quinn, that appeared in the January, 2012 issue of the *Notices*.

My mathematics colleagues almost never think about mathematical logic (see: "The ideal mathematician", Philip J. Davis & Reuben Hersh, http://people.maths.ox.ac.uk/bui/ideal.pdf, for what is simultaneously the funniest and most profound description of mathematicians!!). Mathematical logic is almost never taught in mathematics departments—it's taught in computer science departments and philosophy departments—and, when it is, it is taught in a purely technical way with no concern for history or philosophy. Mathematicians still live in Cantor's paradise—or even Eilenberg's paradise—in spite of Russell's paradox; they simply learn not to make certain moves that lead to trouble (as long as the referee doesn't complain, what, me worry?). The various formalizations for avoiding Russell's paradox also prevent one from making certain moves which are usually safe and powerful. So mathematicians work informally and have always done so; there is almost no trace of mathematical logic in most of the history of modern mathematics!! I'm not saying that mathematicians are aware of what I just said; most are totally unaware of these issues and simply working in a successful research tradition.

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