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LETTERS

Success in Science

I read with much interest James D. Watson's playful "Succeeding in science: Some rules of thumb" (Careers in Science, 24 Sept., p. 1812). His first rule is that you have to avoid dumb people. His fifth and final one is that if you can't stand to be with your real peers, get out of science.

While somewhat tongue in cheek, his rules are right on target, although they are not very helpful. For example, if you can't stand your real peers and get out of science, how can you succeed? It could be, "If you wish to succeed at science, you may have to overcome, circumvent, outlive, persuade, or otherwise learn to deal with your peers." My personal response to this rule reaffirms me as a scientist.

More important, you cannot avoid dumb people, because it is inevitable that in peer review you will encounter them—frequently. If you really are good at your science then, sooner or later, you may think of something that no one else knows or suspects. Furthermore, even after you explain your discovery it will not be readily understood or accepted. Under these circumstances everyone is "dumber" than you are, at least on this one point.

Good reviewers expect to judge contributions from people who are "smarter." And, while they can detect some errors and unoriginal work, and even good new ideas in their realm of knowledge, they recognize when they cannot reject foreign ideas with confidence. Relinquishing control and, if necessary, suspending their convictions, they step aside to let the general community evaluate these ideas.

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Nationality of Engineering Students

In Constance Holden's article "Foreign nationals change the face of U.S. science" (Careers in Science, 24 Sept., p. 1769), I am quoted as saying, "Our mechanical engineering department [which turns out about five Ph.D.'s a year] hasn't had an American Ph.D. for some years now."

The data I gave are wrong. For the last year (1992–1993) at Northwestern University, 3 and 11 Ph.D.'s in mechanical engineering were granted to U.S. and foreign-born students, respectively. For the past 3 years, 9 and 31 Ph.D.'s were granted to U.S. and foreign-born students, respectively. For the 1993–1994 academic year, 3 foreign-born and 16 U.S.-born graduate students were admitted to the mechanical engineering program. A new trend may be starting.

We need to think more about how to attract U.S. advanced science and engineering degree students and worry less about foreign students. After all, we should consider our advanced science and engineering education for the foreign-born as one of our "exports" to help our balance of payments!

For the longer run, we could do more to create a higher industrial value and demand, particularly for the engineering Ph.D., if more thesis problems were directly related to and ideally done in an industrial setting. While this may be dismissed by some in academia, such Ph.D. work can be as valuable academically as an "in-house" thesis, and the industrial company would learn more directly the value of a Ph.D. I have had my students do this a number of times. They were assured of a job and continued to be paid by their employers while they worked on their thesis. In a case or two, they also moved rapidly after finishing their degree.

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M.D.-Ph.D. Degrees

The discussion by Elizabeth Culotta of M.D.-Ph.D. degrees (Careers in Science, 24 Sept., p. 1784) is right on the mark. A fuller treatment of the important issues associated with seeking such training can be found in a newly published book on M.D.-Ph.D. programs and other pathways to scholarship in medicine (*1*).

Culotta's article focuses on M.D.-Ph.D.s in the biomedical sciences, which are the fields traditionally associated with medical research. There is also a great need for M.D.-Ph.D.'s in the physical and engineering sciences, the social sciences, and the humanities. Many of the important