I worry about the future of my own graduate students and postdocs, I have even more worries about the implications for the country as a whole.

Doering seems to suggest that we train Ph.D.'s for three reasons. The first is to obtain cheap labor to get our science done. The implications here are beyond comment. I would hope that kind of attitude does not exist, and if it does, we should wipe it out. The second justification given for training Ph.D.'s is that we need cheap labor to instruct undergraduates. Again, the implications about the morality of the academic community are disturbing. If this is happening, we should be working to change the structure of undergraduate education. Why do we need so many graduate students to teach so many undergraduates if the market is dictating a need for fewer people trained in science? The third reason, and in my opinion, the most disturbing one of all, is that we train people so that they can take jobs. I am not convinced that this should be a major goal. People can pursue learning for many reasons, only one of which is to secure employment.

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Academic Expressways

I was taken aback by the headline "Scientists enjoy life in the not-so-fast lanes" (Karen Celia Fox, Careers '95, 6 Oct., p. 141). It is true that my colleagues do very much enjoy their lives. It is also true that they are very much in the fast lanes, but on an expressway that is different from those where faculty at research universities are found. Faculty at many undergraduate colleges must run very hard to achieve excellence in both instruction and research. Their product, their students, are the graduate students, business leaders, and educated citizens upon which our nation depends. My institution is often the leading producer of B.A./B.S. chemistry majors in the nation. In the past 10 years 11 graduates have earned one of the 50 National Science Foundation (NSF) graduate fellowships granted annually to graduates of 4-year colleges. All of my colleagues hold or have recently held peer-reviewed research grants, and most have substantial publication records. They are also excellent teachers and some are national leaders in curriculum reform. Nearly all have been awarded grants by NSF for instructional equipment or curricular development. Three members of our chemistry faculty have been awarded the Catalyst Award of the Chemical Manufacturer's Association. As the article indicates, faculty at undergraduate institutions have different goals, and they have chosen a different route; there is substantial evidence that their work in the fast lanes contributes in an important way to the nation.

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What Is Excellence?

The Careers '95 issue raises the spectre of the "versatile Ph.D." Definitely, broad experience enables a committed and restlessly curious graduate student to attack a lifelong research question from many angles. But I suspect that what is meant is conferring on those graduate students who do not have a burning curiosity the ability to provide skilled hands for any of a variety of employers. If our programs are versatile, we will still need a focused program for students who have always known they wanted to uncover mysteries. We already

have such a program: it is called the Ph.D. Versatile expertise is the provenance of the M.S.

It is perhaps not accidental that the view that excellence does not require focused self-determination arises simultaneously with the view that excellent research can be predicted and scheduled, that an effort of 5% on the part of a principal investigator on a project suffices, and that the prolonged adolescence of apprenticeship should continue into the postdoc and perhaps "captive assistant professorship." For committed graduate students wondering whether it was always this way, the answer is "no." For student or professor looking for a little insight into the requirements for excellence, I recommend Gertrude Stein's essay "What are masterpieces and why are there so few of them?"

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Resubmission of NIH Grant Proposals

I read with dismay the latest proposal by the National Institutes of Health to streamline the grant process by disallowing more than one resubmission of a grant (ScienceScope, 6 Oct., p. 19). This is ironic since it is admitted that this policy would have a small impact on reducing paperwork. As a current member of several granting agency study sections, I have observed that the review committees frequently do not fund a potentially interesting and important grant submission in part because an element has not been fully expanded or proposed. This points to the larger reason as to why grants are being repetitively submitted—there are insufficient resources to fund many fine grant proposals. In fact, there is often nothing intrinsically wrong with a proposal; rather it is the policy of support for research in this country that "limits enthusiasm." At the risk of sounding descriptive and not proposing any mechanism for change, I believe the researcher's time in preparing resubmissions is every bit as valuable as that of the reviewer and administrative apparatus. What is the alternative to resubmission, assuming that there is a relatively favorable impression of the proposal?

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Quantal Fluctuations: Correction

We have discovered misstatements in our report (*1*) "Intrinsic quantal variability due to stochastic properties of receptor-transmitter interactions" (27 Nov. 1992, p. 1494). First, the description of the Monte Carlo model incorrectly states that the diffusion constant used in the simulations was in the range of 0.5 to 1.0 $\times$ 10^{-6} cm^2 s^{-1}, when it actually was one order of magnitude greater (0.5 to 1 $\times$ 10^{-5}). Second, the time step was not 1 μs, as stated; the computer program we used automatically adjusted this variable to avoid unacceptably large transition probabilities such as would have occurred with the kinetic parameters used in those simulations. Typically, this resulted in a time step one order of magnitude smaller than what was reported. In addition, the inhibitory postsynaptic potentials illustrated in figure 3, B to D, of the report (p. 1496) were composite responses and not quantal events in the goldfish. The quantal responses are quite smaller. Further analyses of quanta isolated in tetrodotoxin (TTX) demonstrates they have a similar relationship between the mean and variance waveforms (Fig. 1). Thus, although the analysis illustrated in figure 3, B to D, is for larger responses, the results remain valid.

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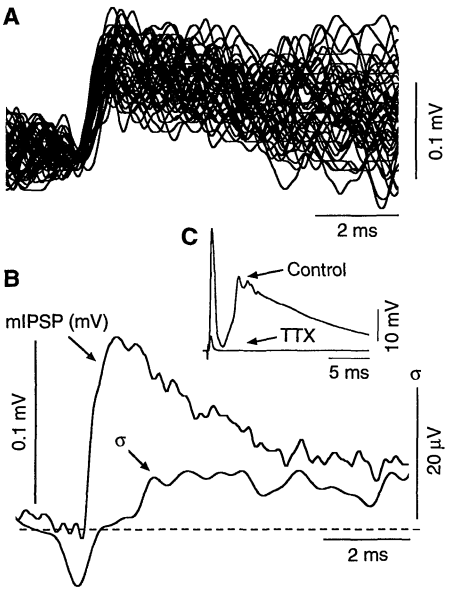

Fig. 1. Increased variance during the falling phase of quantal inhibitory responses. Intracellular recordings from the M-cell soma of adult goldfish, in the presence of TTX. (**A**) Superimposed miniature inhibitory postsynaptic potentials (mIPSPs, n = 47), demonstrating increased fluctuation in the waveforms during their decay phase. mIPSPs are depolarizing because the recordings were obtained with a KCl containing microelectrode. (**B**) The mean and standard deviation (σ) waveforms from the same data set. As responses are aligned at onset, σ at that time point is less than that of the background (dashed line), but exceeds it during the decay of the mean mIPSP. (**C**) TTX blocked medullary impulses, as demonstrated by comparing the antidromic action potential and the subsequent collateral IPSP recorded in the control condition with the same responses obtained at the time the mIPSPs were collected. Noise data were digitized with a 25 kHz sampling rate and filtered at 1 kHz with a second-order Bessel filter.

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Authorship Disputes

Jocelyn Kaiser ("Commission proposes new definition of misconduct," News, 29 Sept., p. 1811) says the Commission on Research Integrity may recommend that ORI (the Office of Research Integrity) and institutions "no longer dismiss plagiarism cases involving collaborators as mere authorship disputes." The Commission's intent is better than its logic. There are no "mere" authorship disputes.

Authorship disputes concern stealing. A complaint is made that an author has presented someone else's work as his or her own, an act of intellectual theft. Complaints may be minor—little may have been stolen—or unfounded, but with the term "mere authorship disputes," the illusion is created that no theft is involved. The Commission should not have repeated this canard.

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Letters to the Editor

Letters may be submitted by e-mail (at science_letters@aaas.org), fax (202-289-7562), or regular mail (*Science*, 1333 H Street, NW, Washington, DC 20005). Letters are not routinely acknowledged. Full addresses, signatures, and daytime phone numbers should be included. Letters should be brief (300 words or less) and may be edited for reasons of clarity or space. In October 1995, our previous policy of consulting with all letter authors before publication was discontinued.