

Letters

Fraud Allegations

We were distressed by Constance Holden's article about the recent congressional hearings regarding fraud in science (News & Comment, 22 Apr., p. 386). The article merely repeated the allegations made at the hearings by Margot O'Toole, Charles Maplethorpe, Ned Feder, and Walter Stewart, regarding the paper by D. Weaver *et al.* [*Cell* 45, 247 (1986)].

As the three scientists who, at the request of O'Toole, reviewed the data on which the *Cell* article was based, we feel that other views should have been aired, not just the charges. The failure to do this perpetuates the injustice generated by hearings in which none of the scientists who performed the relevant experiments or participated in the reviews were asked to testify. The result is that a one-sided version of events has been put before the public.

O'Toole initially turned to us as friends to seek our help and judgement on what seemed to her evidence of fraud involving the article in *Cell*. Her accusations were not based on her own work at the Massachusetts Institute of Technology, but on some notebook data that she had come across by chance. After reviewing the data and consulting with the involved parties we unanimously concluded that there was (i) no sign of fraud; (ii) no evidence of misrepresentation; and (iii) no error that undermined the article's basic conclusion. Contrary to O'Toole's statement at the hearings, we did not concede that her criticism was sound.

It was suggested at the hearings that the whistle-blowers in this case have sacrificed their careers by questioning the science of senior investigators. We know of nothing that was done to impede O'Toole in making an official complaint to MIT or to *Cell*. To the contrary, she testified that she was encouraged to ask for an official inquiry but chose not to do so. We know of no steps that she has taken to continue her career, nor have we, or anyone to our knowledge, made any attempt to block her in this endeavor. Furthermore, the other individual who raised charges of fraud, Charles Maplethorpe, is still in science.

Up to the present, the scientific issues have not been put before the public. We thus welcome the independent scientific investigation that the National Institutes of Health is organizing. However, we believe a picture depicting the authors of the *Cell* article as guilty has been created and we fear that, no matter what results from the official inquiry, an afterimage will remain.

It has always been our belief that the most important test of a scientific claim is independent experimental verification, not judicial review. We hope that the editors and readers of *Science* share this view.

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PRC Students Abroad

Dorothy Zinberg's Perspective "PRC science students and scholars abroad" (25 Mar., p. 1475) touches on an ever-sensitive issue on my mind. As a student from the People's Republic of China studying in the United States, I have constantly been asked the question, "Do you want to go home?" Unwillingly, I have come to the conclusion that I do not have an answer, despite my deep love of China. A famous and well-respected Chinese physicist who studied and worked in Europe in the 1930s once said, responding to the inquiry as to why he had returned, that one did not need a reason to return; on the contrary, one needed reasons not to do so. I quite agree with him; therefore, it is painful for me to think about the reasons why one may not want to go back.

The availability (or lack) of professional opportunities is a major factor. I think that China's current science and technology (S&T) reform policy, which overemphasizes the commercialization of research activities and tries to use administrative measures to coerce scientists into playing the role of businessman, is extremely short-sighted and will do profound damage to the nation's S&T base. For instance, as part of the plan, in 5 years the government will stop funding institutes that do applied research; they are to find partners in the industrial sector to support them, so that their research activities will be directly tied to economic benefits. The definition of development and the appraisal of science in purely economic terms are unjustifiably narrow. Needless to say, there are many drawbacks and problems in the past "government-cover-it-all" type of funding for research. It is debatable, however, whether the apparently slow diffusion of new technologies from the research community to industry can be attributed solely to government support of research. Among other possible explanations, administrative barriers between the two sectors and lack of interest on the part of industry might be

cited. Current reform should focus on eliminating barriers to collaboration between industry and the scientific community rather than imposing new bureaucratic measures to push something that will not happen otherwise. The new policy has already met with strong opposition from concerned scientists in China, but different opinions have been ignored. That the policy-makers can carry out such a policy, which has a broad and profound impact on the future of China's development, is disheartening to me. Under this policy, research opportunities for both domestic- and overseas-trained scientists and engineers will diminish rather than flourish, because relinquishing the sole responsibility of applied research to industry will result in the neglect of research that has no immediate commercial payoff.

Among other things, such an S&T policy inevitably causes students abroad to be concerned about whether they will have appropriate career opportunities at home and therefore influences their decision to return or not. Applying governmental power to ensure that students abroad go home, an action that could be viewed as trying to save the current regime from political embarrassment, will only produce the opposite effect.

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Zinberg's Perspective calls for further comment. The problem of whether students sent abroad return to the PRC after completion of their studies is quite confusing, partly because of how the PRC defines a nonreturnee. This definition includes anyone who does not return at the time that his or her original study plan stipulated. Thus, a student who, upon finishing a Ph.D., stays an extra year or two to conduct postdoctoral research is classified as a nonreturnee, although such a student may well return to China after the postdoctoral research. Similarly, students who originally go abroad for a master's degree and stay to do the Ph.D. are classified as nonreturnees. For this reason, the very high nonreturn rates that have been publicized may be spurious.

Second, the Chinese perception certainly is that this is a serious problem. As Zinberg indicates, steps are being taken in the PRC to deal with it. For example, government-sponsored students now have to name a guarantor (or hostage) before leaving, who may be held financially accountable if the traveler fails to return. Within the past few weeks, a court in Shanghai levied an extremely large fine on the wife of a student who did not return to China after taking a language course in Japan. Also, the State Education Commission of the PRC is now pursuing the establishment of programs in