Letters

The Draft: Why Not Ph.D. Candidates?

Robert A. Gross ("Drafting of Ph.D. candidates," Letters, 18 Mar.) assumes that candidates for Ph.D.'s in science are somehow better than other men and therefore should not be subjected to the draft. That is his opinion, and he is entitled to it. It is my opinion, however, that Ph.D. candidates are no better than anyone else and should be required to fulfill the common duties of citizenship, such as the military obligation, like anyone else. In fact, the attitude exhibited by Gross infuriates me. Other men are giving up their health and their lives in the service of their country—and he complains about an interruption of career!

Gross claims that "our future scientific strength resides with the young Ph.D.'s." God help us! If this is true, then we are surely doomed. Let's face it. All that is required to be a Ph.D. candidate is good grades. And good grades are too easily obtained to be a test for anything but docile personality. . . . From what I have seen of the academic world, military service would improve it. It would expose "our young Ph.D.'s" to some facet of reality outside their classrooms and laboratories. Few graduate students are making such great discoveries that the scientific community would be severely damaged by a 2-year interruption in their careers. On the other hand, Gross's suggestion would produce an academic corps composed almost entirely of draft-dodgers. How could academics ever hope to relate to society if they never had to participate in one of the main problems that society faces?

If the only way American science can progress is by the encouragement of draft-dodging, then it doesn't deserve to survive, much less progress. Fortunately, there are plenty of scientists around who think enough of their country to serve when asked.

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Psychic Energy Quantified

Alfred Denzel ("Energy: Release, not increase," Letters, 4 Mar.) correctly objects to the use of the term "energy level" by D. H. Fuller in explaining individual differences in achievement. Denzel does, however, employ the concept of "psychic energy," which he says we can "free" but not "increase."

It is my opinion that the use of either term as other than a highly abstract (and therefore relatively meaningless) concept has no place in the behavioral sciences. Borrowed from the physical sciences, these and similar terms have been used to furnish a dynamic model of behavior for which there is little if any empirical evidence. While it is the ultimate goal of the behavioral sciences to provide quantitative statements about the organism's behavior, they cannot now do so; and one cannot help feeling that such statements as Denzel's "It is estimated that most people use only 50 percent of their potential energy and ability" suggest the existence of a fund of knowledge that cannot justifiably be assumed to exist at the present time.

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Scientists' Right of Protest

Two letter writers in the issue of 11 March protest against resolutions and petitions by scientists on such public issues as U.S. policy in Vietnam. This is surprising. The American Legion, the National Council of Churches, and other groups have no qualms about demanding consideration for their views. Labor unions and many other organizations even intervene directly in foreign policy, boycotting ships or products of certain nations. Scientists, individually or as organizations, surely are as entitled as any of these to make themselves heard. Possibly they are more so. Scientists are certainly well over average in general understanding and probably comprise the most intelligent large group in our society. As they are more devoted to knowledge and less to wealth and power, their values are humane and relatively attuned to this complex age. If they are not specially qualified in foreign affairs, it may be recalled that senators, generals, and presidents are not chosen for their ability rationally to analyze international relations but for very different and possibly contrary qualities.

If the scientific community in the Soviet Union acquires greater influence relative to the politicians, one must expect Soviet foreign policy to be more rational. Is this not true of the United States? One can make a strong argument that mankind can resolve the dangers of international conflict only as the groups least interested in conflict and best cognizant of the real needs of our age become dominant. Let the scientists speak out as loudly as possible!

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University Computer Centers

The present method of charging for computer time leads to other problems than those considered in the article concerning the NAS panel report on campus computers (News and Comment, 25 Feb., p. 969). One problem is that increased efficiency at a computer center which results in shorter running times also results in loss of income, because adjustment of rates inevitably lags behind. A second problem is that, when grant funds run short, computer time is always one of the first things to go. Every director of a computer center is familiar with the project switched from sponsored to unsponsored research because there are no more funds.

But there are possible solutions to these problems other than those mentioned in the article. The solutions all have in common that no direct charges would be made against government-sponsored research for computer time. One suggestion is that, in return for this, government agencies would give facility grants to computer centers. The National Institutes of Health does this now, with the stipulation that health-related research must receive free computer time. Another pos-

sibility would be for agencies to add a fixed percentage to each grant, similar to the overhead allowance, for direct support of computer facilities. A third possibility would be to include computing facilities directly in overhead and increase the overhead rate accordingly. For those who believe that computing centers should be considered a necessary campus-wide service, analogous to libraries, this last solution seems logical.

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Krebiozen and Faith

The Krebiozen case (News and Comment, 4 Mar., p. 1061) illustrates both the benefits and the hazards of human faith. When people in distress have a tremendous need to believe in something or somebody, then the forces of society seem powerless to effect an unmasking of the inconsistencies involved in that faith. Such vigor of faith no doubt is a necessity to many people in their times of crisis. When a truly effective anticancer agent is developed, Krebiozen will be instantly forgotten.

One of the collorary hazards of faith is that constant repetition of unsubstantiated statements eventually produces the appearance of truth. The history of science is cluttered with unsubstantiated "truths," and some professional reputations rest more upon brashness and persistence in repeating such statements than upon brains and the careful pursuit of knowledge. . . .

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Lesson of Pittsburgh

I am inclined, from *Science's* recent account of developments at the University of Pittsburgh (News and Comment, 4, 11, and 18 Feb.), to regard ex-Chancellor Litchfield with far more esteem than I did. . . . Speaking as an administrator, I should like to say that the role is an unenviable one. One is a servant to those one administers as well as to those one has to account to. One doesn't take such a job out of altruism, but perhaps the chief reward is the achievement of goals that one believes one has a particular capacity to push through. I use the verb "push," because the administrator must have and maintain authority to enable him to do his job.

The era of Litchfield may be over for Pitt. It would be well, however, for the community and the trustees to recognize the debt they owe him, as brought out in the *Science* account. One aspect of Pitt's situation not brought out in that account is the proximity of Carnegie Tech, a strong academic institution to try to compete with. Yet Litchfield did so successfully, instilling an *esprit de corps* at the university that is not easily come by.

This is my expression of thanks to him for what he tried to do to strengthen higher education in one small sector of our country. I do not view the debacle that resulted as his personal failure, but as a lesson to us all in the requirements for establishing and operating a major academic institution. May we learn and benefit from it.

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Samuel Johnson on Dermo-optical Perception

Readers of Martin Gardner's article on dermo-optical perception (11 Feb. p. 654) may be interested in how Johnson dismissed the matter. In the 19 April 1772 entry in *Boswell for the Defense* [W. K. Wimsatt, Jr., and F. A. Pottle, Eds. (Heinemann, London, 1960), p. 134], Boswell records:

> We talked of the blind being able to distinguish colours by the touch. Mr. Johnson said that the great Saunderson mentions his having attempted to do it; but that he found he was aiming at an impossibility. That, to be sure, a difference in the surface makes the difference of colours. "But that difference," observed Mr. Johnson, "is so fine that it is not sensible to the touch." The General [Pasquale de Paoli] mentioned gamesters and jugglers who could know cards by the touch. Mr. Johnson said that those cards must not have been so well polished as ours are.

The editors add in a footnote:

> Nicholas Saunderson, blinded by smallpox at the age of twelve months, became in 1711 fourth Lucasian Professor of Mathematics at Cambridge. His *Elements of Algebra*, 1740, contains the disclaimer to which Johnson refers.

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