As a practical matter: Anyone who applies for funds for a research project submits a prospectus describing the proposed method of conducting it and the results that are expected. Perhaps the agency that is granting the funds should make copies of this proposal available to all; and in addition, anyone who desires an intermediate report, if such is not available, should be able to obtain it from the research organization.

In summary, I would hope that Wolfle's suggestion never becomes effective, for it could extend to all phases of governmental activity.

A. C. BLACKMAN
American Society of Safety Engineers, 5 North Wabash Avenue, Chicago

Fellowships from Federal Funds

Abelson's editorial in the 5 June issue (p. 1181) is mistakenly titled "Predoctoral and postdoctoral fellowships." He is not talking about predoctoral and postdoctoral fellowships at all but about research assistantships. A fellowship, as everybody—including the Internal Revenue Service—knows, is a free and unrestricted grant to help a student attain his educational objective. It requires no service and, in fact, some fellowship programs specifically prohibit service. The type of student support described in the editorial is the research assistantship, which does involve service for a specific purpose, a fact which IRS is quick to recognize.

The editorial obscures the fact that very large numbers of both predoctoral and postdoctoral students are supported by true fellowships, completely free and unrestricted. Not only in the interests of objectivity but also in fairness to the agencies whose educational judgment is impugned by the editorial, this fact should be taken into account.

There is, however, another equally unfortunate half-truth underlying Abelson's argument. He says, "Today a large proportion of these fellows receive their stipends in connection with grants given by federal agencies for specific objectives." We must ask, "Whose specific objectives?" If he means the federal agency's specific objectives, he is talking not about a grant but about a contract. In spite of the present tendency to convert a grant into a contract purely for the purpose of getting a more favorable indirect-cost allowance for the university, there is still a great difference between the two. The contract frequently is for a specific objective of a federal agency; the grant grows out of a research proposal made by a scholar and approved by a committee of his peers.

There is, unfortunately, just enough truth in the comments about "entrepreneurs of science" and "empire-builders" to be embarrassing. There are, indeed, such persons, happily not many, and they are so well marked in their departments, in their universities, and in their professions at large that they constitute a negligible danger to students, predoctoral or postdoctoral. Students are not as naïve as Abelson pictures them. They will hold still for just so much exploitation on a research team, and then they will find other means of support—if they are worth their salt. And other means of support are plentiful.

Finally, I am surprised to learn that the National Aeronautics and Space Administration has set a "valuable precedent" by awarding funds to institutions and not to individuals. I find on page 68 of the National Science Foundation's Eleventh Annual Report (1961) that "NSF created, in July 1960, an institutional grants program, conducted through Office of Institutional Grants, to assist institutions to strengthen their general research and training functions without specifying the precise research or related scientific activity to be undertaken. Its purpose is to provide optimum flexibility and simplicity of administration. . . ."

GUSTAVE O. ARLT
Council of Graduate Schools in the United States, 1785 Massachusetts Avenue, NW, Washington, D.C.

I would like to call attention to a class of predoctoral and postdoctoral fellowships which Abelson does not mention or which he inadvertently lumps with fellowships supported by individual research grants. This is the fellowship awarded to the individual working under an academic sponsor toward research objectives stated in the application. Both NSF and NIH award postdoctoral fellowships of this type.

I have had the opportunity to work as an NIH postdoctoral fellow for the past three years, the first two spent at the University of Wisconsin. It has been my experience that this type of fellowship puts the burden of organization of research objectives on the applicant, albeit with the cooperation and general approval of the sponsor. Since an informed applicant will choose a sponsor who is working in the general research area that he himself is interested in, I think this type of fellowship fulfills the goals of creative scientific development of which Abelson speaks—perhaps to a greater extent than either the research grant or institution-sponsored fellowship.

DONALD E. SLAGEL
University of Göteborg, Sweden

The editorial on pre- and postdoctoral fellowships expressed an opinion shared by me and many other recent graduates. Many of our graduate programs place emphasis on the simple mastering of knowledge and techniques, failing to stimulate the processes which lead to scientific confidence. Thus in the immediate postdoctoral years the individual may not be eager for a personal scientific challenge. His immaturity can be easily encouraged by an "entrepreneur of science."

Few institutions or granting agencies welcome new research programs without supporting data or convincing preliminary results. The young Ph.D. must therefore fit into an already existing program; and the realization of any new approaches he may propose must therefore lie within the responsibility of the postdoctoral employer.

The editorial failed to cite the beneficial impact of the direct predoctoral and postdoctoral fellowship programs (as opposed to those administered by individuals—"empire builders"). These, as well as the NASA-type institutional award, encourage early scientific maturity and the development of an increased number of qualified research centers.

WILLIAM MARSHALL
Veterans Hospital, University of Minnesota, Minneapolis 55417

Arlt is correct when he emphasizes the legal distinction between fellowships and assistantships. In practice the difference is not very real: predoctoral and postdoctoral fellows often function as research assistants.

The fellowship program of the National Aeronautics and Space Agency has a combination of features which make it attractive. Funds for the fellowships are distributed to 110 universities, with no more than ten awards per institution. The NASA program thus contributes toward increasing the number of centers of excellence. In contrast, policies of some other agencies lead to concentration of the best fellows in a few institutions.—P.H.A.