Letters

NIH Grants Cover Page Charges

There appears to be some misunderstanding concerning the policy of the National Institutes of Health regarding the use of grant funds for publication costs and, in particular, page charges for research articles that are accepted for publication in scientific journals.

The NIH position continues to be that the results of grant-supported research should be made available to the scientific public. The costs required for effective publication, including page charges imposed by scientific journals, are appropriate and expected charges to a research or training grant. Furthermore, under current policies, prior NIH approval is not required to rebudget grant funds to satisfy page charges.

In 1961 the Federal Council for Science and Technology established four criteria for honoring page charges under federal research grants and contracts. These criteria will continue to apply to NIH-supported research activities. They are:

1) The research papers report work supported by the government.

2) The charges are levied impartially on all research papers published by the journal, whether by nongovernment or by government authors.

3) Payment of such charges is in no sense a condition for acceptance of manuscripts by the journal.

4) The journals involved are not operated for profit.

During the course of recent grant budget negotiations, publication costs (including costs for page charges) have sometimes been reduced. In general, the basis for such reductions has been the consideration that the reduced amount might be sufficient to accommodate the investigator's budgetary needs or that other funds might be available for these purposes.

The National Institutes of Health wishes to reiterate that its position on publication costs, as stated above, has not been altered.

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Achievement by the Disadvantaged

I applaud the tone and intent of Nelson's report, "Education power: Talent search helps poor realize their potential" (3 Jan., p. 53), but I fear that one of its themes may mislead many readers. This is exemplified by his quoting an official of Project OPEN who said, "Colleges are just going to have to learn that you can't read a kid's intelligence or native ability off a piece of paper. . . ." There exists considerable evidence, however, that one *can* "read off" scholastic aptitude of high school students about as well for Negroes as for whites (*1*), and that high school grades greatly augment the prediction of college grades and of successful persistence in college for both races.

Admissions officers of selective colleges run serious academic risks if they ignore Scholastic Aptitude Test scores, American College Testing Program scores, high school grades, and other such evidences of readiness to succeed in a given college. Enrollees academically underqualified for the institution will need new curricula of suitable difficulty. If these are not offered voluntarily by the college, they will probably be demanded by the black students. Tutoring and remedial courses are not likely to be effective enough (*2*).

A basic principle, applicable across socioeconomic levels and races, is that students achieve their academic goals best at institutions where they are not too poorly (or well) prepared to compete academically. Students would not seem to be served best academically by being admitted to those major universities and selective colleges for which they lack even marginal readiness. The some 3000 colleges in this country provide enough variability in academic difficulty to accommodate almost every high school graduate who wishes to be a college student.

Should the relatively few selective institutions of higher education change their entrance standards considerably and provide special curricula for children of the poor? Some will feel it their duty and privilege to do so, on small-to-moderate scales. Their planners need to keep firmly in mind that principles of learning in school and predictiveness of tests apply at least as fully to the disadvantaged as to the advantaged. Therefore, really fundamental changes at the curricular level will be necessary before students hitherto academically underqualified for the college are admitted.

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References and Notes

1. J. C. Stanley and A. C. Porter, *J. Educ. Meas.* **4**, 199 (1967); T. A. Cleary, *ibid.* **5**, 115 (1968); J. R. Hills and J. C. Stanley, *Proc. 76th Annu. Conv., Amer. Psychol. Assn.* (1968), p. 241.
2. The metaphor of the disadvantaged student as an empty vessel waiting to be filled up quickly is implicit in most discussions of the probable benefits of tutoring and remediation at the college level, but I know of no rigorous evidence (though unsubstantiated anecdotes abound) that students initially low in high school grades and academic aptitude test scores "catch up." In particular, verbal scores on the Scholastic Aptitude Test of the College Entrance Examination Board do not seem coachable to any worthwhile extent. See College Entrance Examination Board, *Effects of Coaching on Scholastic Aptitude Test Scores* (CEEB, Princeton, N.J., 1965) and S. O. Roberts and D. B. Oppenheim, *The Effect of Special Instruction upon Test Performance of* [Negro] *High School Students in Tennessee: A Pilot Project* (Fisk Univ., Nashville, 1965).

Nuclear Reaction Rates in Stars

The final section of my paper "Astronomical evidence for nucleosynthesis in stars" contained a serious misconception (8 Nov., p. 625). In comparing the number of facts that need explanation with the number of hypotheses that were employed, the nuclear reaction rates were listed as hypotheses. All of the reaction rates that were used have been *measured* in the laboratory and extrapolated down to stellar energies by well confirmed theoretical methods. They should be considered as known functions or parameters. This implies that the total number of real hypotheses should be reduced to about 18, which is substantially less than the 30 or so facts that we tried to explain.

I am indebted to William A. Fowler for pointing out to me what I already knew but overlooked, namely, that the nuclear reactions relevant to stellar interiors at temperatures below about 2×10^8 °K have been studied in great detail in the laboratory.

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