Letters

Should College Applicants Be Selected by Lottery?

Alexander W. Astin (Letters, 21 Nov.) indicates that his critics have not taken the trouble to inform themselves of his research goals. Not being an educationalist, I readily confess to total ignorance not only of the goals but of the entire research project. Consequently, I would be fascinated to learn what "convincing evidence" his research has uncovered leading him to the incredible suggestion that it might be possible "to consider abandoning altogether the use of grades and tests in admissions, and instituting instead a *lottery system* (italics supplied) for choosing among their applicants."

There already is tremendous pressure being brought to bear on the universities to abandon grading in favor of pass-fail (with emphasis on pass, of course). In fact, this College of Medicine has just gone over to a pass-fail system, which may work as long as applicants are carefully screened. The abandonment of grading in the college admittance process, however, would inevitably hasten the demise of grading throughout the universities, since if there were no need for considering grades in admitttance there would certainly be no need for grading subsequent course work. Thus, Astin's implied prediction that applicants chosen by lottery would do as well (from the point of view of dropout rate) as applicants chosen by currently accepted practices would no doubt be fulfilled. In fact, in the absence of grading, dropout rates could surely be reduced. Students could then successfully evade being judged until they left the academic shelter and had to demonstrate their competence in the real world.

A more fundamental objection to Astin's proposal is that it would be a perfect example of reverse discrimination. Selecting applicants by lottery would clearly discriminate against those serious students who are talented, who are interested in being educated and can profit from education, and who also somehow manage to get good grades.

Our goal must be to admit to our colleges and universities all those interested in, and capable of benefiting from, higher education. This must, of course, be without discrimination against any minority group—black, white, or intelligent. "Equality of educational opportunity" means an equal right to be *considered* for admittance to an educational institution; it does not mean equal right to be admitted. Granted that grades and tests are but imperfect measures of admittability, they have proved at least serviceable over the years. Any system offered as a replacement should be carefully worked out and thoroughly tested on a comparatitve basis before being adopted. The proposed lottery would, in my view, lead to utter chaos.

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My comment about a lottery system has provoked reactions not only from Gray but also from several friends and colleagues, primarily because it presents a seemingly outlandish conclusion without providing any of the premises. Most of the empirical data that led me to this conclusion are reported in two forthcoming books: *The Campus and the Racial Crisis* (American Council on Education) and *Predicting Success in College* (Free Press).

While there is not enough space here to adequately summarize the findings and related arguments as set forth in these books, it should be pointed out that the "educational" justifications for selective admissions simply are not supported by the data: (i) Highly selective institutions do not appear to enhance the student's intellectual development; (ii) the few average or below-average students who manage to get into highly selective colleges do not have high dropout rates; and (iii) the intellectual development of the highly able student does not appear to be retarded if he attends an unselective institution. In other words, the "track" system that we have developed in American higher education simply does not seem to have its intended effects.

A more basic difficulty with current admissions practices is that they seem to be modeled along the lines more of a business than of an educational institution: Instead of searching for students who can be maximally benefited educationally, colleges simply compete for talent. If admissions were designed instead along the lines of, say, a hospital, then the whole procedure might be inverted—the poorest-performing students would be given the greatest opportunity. The basic problem here is that we know a lot about *predicting* performance, but very little about how to *influence* performance.

It is important to point out that as the concept of "universal higher education" gains currency, the admissions process will become less a question of exclusion and more a matter of differential *sorting* of students among institutions. Consequently, the use of a lottery to adjudicate supply-demand imbalances at specific institutions will probably be much easier within large state and city *systems* of institutions that have "open" admissions than at individual private colleges. Nevertheless, there are already a few private institutions that are seriously considering the use of a random selection procedure, at least for a portion of their vacancies.

Gray has reiterated one of the fallacies that tends to perpetuate selective admissions: that *academic* standards are somehow determined by *admissions* standards. Not only is this not true, but if it were, colleges would have no *educational* function; they would simply be talent scouts and certification agencies for business, industry, and the graduate and professional schools. In my opinion, the sympathies to adopt pass-fail or to abandon grading altogether are generated by the selective

admissions process itself: Some colleges employ such high standards of admissions that even the poorest performers do not "deserve" low grades. (A much better solution to this problem, it seems to me, would be for colleges to abandon the use of local, relative grading schemes and to employ comparable, absolute standards of performance.) In short, rather than obviating the need for evaluation, the use of an open or lottery system in admissions should create a need for more elaborate and improved methods of measuring the student's performance.

The surest way for colleges to avoid any responsibility for *educating* the student is to employ selective admissions: If only the brightest students are admitted at one end, then the high quality of the final product at the other end is virtually guaranteed. What happens in between—the quality of the educational experience itself—need not be of concern since the secondary schools are suitably impressed with the college's high admissions standards, and the employers and graduate schools are suitably impressed with the "high quality of the graduate."

My impression is that professors support selective admissions because they feel that bright kids are more fun (and easier?) to teach. Alumni, legislators, faculty, administrators, and probably many students support it because having only bright students enhances the prestige of the institution. Furthermore, the secondary schools support the track system that results from selective admissions because they see it as a reward or incentive system for motivating their students: "study hard so you can get into a 'good' college." While each of these arguments may have merit, none really has much to do with the *educational* mission of the college. If the principal function of the college is to educate, then the admissions process ought to be designed to sort the students so as to maximize their educational development. Currently, we are woefully ignorant as to how best to do this sorting. If nothing else, even a partial lottery would permit us as scientists to explore the possible advantages of many student-environment combinations other than those that result from current selective admissions policies.

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Element 104: What's in a Name?

In regard to the reported hassle between Berkeley and Dubna physicists over the discovery and nomenclature of element 104 (5 Dec., p. 1254), it seems to me that the Berkeley group would have been wiser and more mature in suggesting that element 104's name remain kurchatovium, the Soviet choice, and in congratulating the Dubna group for *envisioning,* albeit mistily, the element and in turn allowing themselves to be congratulated for *proving the element's existence.*

Arguments over nomenclature are often children's arguments, colored with pettiness, jealousy, or politics. To solve the patronymics problem among the nuclear physicists, I would suggest that each reputable nuclear physics group around the world throw into a world hat the names of two persons deserving the honor of having an element named after them, have a supervised drawing (after eliminating duplicates), and thereby determine the name and the order of naming of any newly discovered element.

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Civil Defense

I wish to protest against the political tone of the review (28 Nov., p. 1131) of the book *Survival and the Bomb—Methods of Civil Defense.* As its title indicates, the book is mainly concerned with the possibilities and methods of civil defense, and these subjects—the ones which justify the review of the book in *Science*—are dealt with very cursorily by the reviewer. As a matter of fact, he disclaims being an expert on them. Instead, the reviewer devotes more than half his discussion to the first chapter, dealing with the rationale of civil defense. The purpose of the review seems to be to demolish the conclusions of this chapter.

It would be inappropriate to attempt, in *Science*, a detailed refutation of the reviewer's objections to the first chapter (written by the undersigned). I may be permitted, though, to make two points, the first general and the second specific. The first point is that practically all of the reviewer's objections to civil defense apply equally well to all defense measures. In fact, if we listen