

is to develop academic programs that have "personal relevance and economic utility for diverse populations under different conditions." The need is to recast some existing institutions and to develop new ones in such a way as to foster comprehensive, utilitarian, and socially contributive education. Willingham admits to the incompatibility of "teaching a currently useful skill while emphasizing a liberal education to protect the individual from intellectual obsolescence." He does not underestimate, either, the conflict between the "academic-professional" and the "sociopolitical" interpretation of the role and function of higher education. There is no doubt, however, that a societal rather than a purely scholastic philosophy must prevail in more higher institutions of the free-access type, if the accelerated public expectation of equal educational opportunity is to be satisfied.

No one will be surprised to learn that a massive increase in the public funding of higher education will be necessary if the nation is to have more free-access colleges offering programs of optimal relevance to a diverse and ever-growing student population. Since there will certainly be limitations in such funding, should the choices that have to be made emphasize the egalitarian or the meritocratic? There is no doubt that developing public institutions, in their successful emulation of the disciplines-oriented "prestige" colleges and universities, do not serve adequately the needs of their primary and tremendously diverse constituencies, many of which see no relevance in the liberal arts. These institutions must be encouraged and aided to do so, in short, to become more egalitarian. Surely, however, it is not in the public interest to deprive the able and highly motivated student, and the institution *he* chooses, of the opportunities that merit has earned, in order to extend opportunity instead to young people who have no apparent motivation or potential for higher education. When choices must be made in the use of public funds for higher education, first priority must go to subsidy of the individual student on the basis of demonstrable need and demonstrable merit. The real barometer of equal opportunity in higher education is the availability of financial aid rather than the accessibility of colleges.

*Free-Access Higher Education* affords, to the reasonably informed and sophisticated reader, an eminently useful reference and resource for an understanding of the current status of educational op-

portunity. The author and his publisher, the College Entrance Examination Board, have made a significant contribution to the long-range planning, both state and federal, that must continue to support new levels of achievement in higher education.

BERNARD S. ADAMS  
*Ripon College, Ripon, Wisconsin*

## Unhysterical Antipollution

**Advances in Water Pollution Research.** Proceedings of the Fourth International Conference, Prague, April 1969. S. H. JENKINS, Ed. Pergamon, New York, 1969. xii, 936 pp., illus. \$48.

This is the official record of the fourth conference of the international sanitary-engineering—waste-water-treatment—stream-improvement, and water-quality specialist jet set. It is an earnest and dutiful account and a monument to the determination of its instigators. It can't be guessed what the account would have been like if the original plans for the conference had been carried through and the rebellion of August 1968 had not occurred. As it turned out, the get-together was delayed about eight months, international hostelry and organized transportation prevailed, and nearly everybody that could be spared from the shop during the following spring turned up.

Engineering conferences tend to be hyperorganized, but this accounting indicates a degree of control that probably did not prevail at the Prague meetings. The proceedings represents a massive editorial effort to be fair to 102 authors of 55 papers from 18 countries—delivered and transmitted. Because of the international nature of the conference about a third of the authors represented American institutions and organizations, but everybody pitched in with formal discussions, roughly four discussers per paper. So the treatment was thorough. The edited version indicates that it was also orderly and polite.

Reorganizing and bringing on schedule a disrupted scientific program of this kind requires firmness. Generally, this can be regarded as an improving force since the papers have been pruned to the limit, translations brought into uniformly clear English, and discussions kept to pertinent matters. But the net effect is that of a long trip with all meals at the same chain of restaurants. Only the British seem to have been allowed their identities.

The papers have been arranged somewhat arbitrarily into sections on stream pollution (18 items), wastewater treatment (18 items), and lakes, reservoirs, and the marine environment (19 items). But study interests mix and overlap to make this separation a fiction—the biologists concerned with ocean disposal are as likely to break out with mathematical models as are the engineers working on the treatment of refinery wastes.

There are no breakthroughs in this series—there is the same search for improvement, measurement, and control of waste-water treatment processes and concern with the loading, management, and administration of receiving streams, more efficient aeration, biological and process indicators of success and grief, tracing of waste-waters, bits of eutrophication and effects of runoff-borne nutrients, and heat dispersion. All very sober and completely free of hysteria—not an inspiring political document.

The conference itself was undoubtedly worthwhile in bringing people of comparable interests and responsibilities together under amiable conditions. And the record completes a moral commitment. But it is a bit difficult for one who did not get to Prague to use this record as a professional book. He can only read every word and underline. There is no index and no abstracts. This is a minor matter. But a research man or engineer looking for ideas and information beyond that reported would have to do a great deal of international searching to reach the authors. A roster of the principals with their organization addresses would have been very useful—telephone numbers would be dandy, too.

CHARLES E. RENN  
*Department of Environmental  
Engineering Science, Johns Hopkins  
University, Baltimore, Maryland*

## Food and Numbers

**Animal Populations in Relation to Their Food Resources.** A symposium, Aberdeen, Scotland, March 1969. ADAM WATSON, Ed. Blackwell, Oxford, 1970. xx, 478 pp. + plates. \$17.50. British Ecological Society Symposium No. 18.

This symposium considered the influence of quantity, quality, and availability of food on the regulation of animal numbers, and it tried to relate behavioral interactions to these effects.