

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Science serves its readers as a forum for the presentation and discussion of important issues related to the advancement of science, including the presentation of minority or conflicting points of view, rather than by publishing only material on which a consensus has been reached. Accordingly, all articles published in *Science*—including editorials, news and comment, and book reviews—are signed and reflect the individual views of the authors and not official points of view adopted by the AAAS or the institutions with which the authors are affiliated.

Editorial Board

1970

GUSTAF O. ARRHENIUS	RICHARD C. LEWONTIN
FRED R. EGGAN	ALFRED O. C. NIER
HARRY F. HARLOW	FRANK W. PUTNAM
MILTON HARRIS	

1971

THOMAS EISNER	NEAL MILLER
AMITAI ETZIONI	BRUCE MURRAY
EMIL HAURY	JOHN R. PIERCE
DANIEL KOSHLAND, JR.	

Editorial Staff

Editor

PHILIP H. ABELSON

Publisher

WILLIAM BEVAN

Business Manager

HANS NUSSBAUM

Managing Editor: ROBERT V. ORMES

Assistant Editors: ELLEN E. MURPHY, JOHN E. RINGLE

Assistant to the Editor: NANCY TEIMOURIAN

News Editor: DANIEL S. GREENBERG

Foreign Editor: JOHN WALSH

News and Comment: LUTHER J. CARTER, PHILIP M. BOFFEY, CONSTANCE HOLDEN, ROBERT J. BAZELL, SCHERRAINE MACK

Research Topics: ALLEN L. HAMMOND

Book Reviews: SYLVIA EBERHART, KATHERINE LIVINGSTON, ANN BARKDOLL

Cover Editor: GRAYCE FINGER

Editorial Assistants: JOANNE BELK, ISABELLA BOULDIN, ELEANORE BUTZ, CORRINE HARRIS, OLIVER HEATWOLE, ANNE HOLDSWORTH, ELEANOR JOHNSON, MARSHALL KATHAN, MARGARET LLOYD, DANIEL RABOVSKY, PATRICIA ROWE, LEAH RYAN, LOIS SCHMITT, BARBARA SHEFFER, RICHARD SOMMER, YA LI SWIGART, ALICE THEILE, MARIE WEBNER

Membership Recruitment: LEONARD WRAY; *Subscriptions:* BETT SEEMUND; *Addressing:* THOMAS BAZAN

Advertising Staff

Director

EARL J. SCHERAGO

Production Manager

BONNIE SEMEL

Advertising Sales Manager: RICHARD L. CHARLES

Sales: NEW YORK, N.Y. 10036: Robert S. Bugbee, 11 W. 42 St. (212-PE-6-1858); SCOTCH PLAINS, N.J. 07076: C. Richard Callis, 12 Unami Lane (201-889-4873); MEDFIELD, MASS. 02052: Richard M. Ezequille, 4 Rolling Lane (617-444-1439); CHICAGO, ILL. 60611: Herbert L. Burkland, Room 2107, 919 N. Michigan Ave. (312-DE-7-4973); BEVERLY HILLS, CALIF. 90211: Winn Nance, 111 N. La Cienega Blvd. (213-657-2772)

EDITORIAL CORRESPONDENCE: 1515 Massachusetts Ave., NW, Washington, D.C. 20005. Phone: 202-387-7171. Cable: Advancesci, Washington. Copies of "Instructions for Contributors" can be obtained from the editorial office. See also page xv, *Science*, 25 September 1970. ADVERTISING CORRESPONDENCE: Room 1740, 11 W. 42 St., New York, N.Y. 10036. Phone: 212-PE-6-1858.

Educational Obsolescence

The obsolescence of education in rapidly developing fields of knowledge has become about equal in rate to the obsolescence of an automobile. In 5 to 7 years it is due for a complete replacement. Consequently, our times, to a degree generally quite unrecognized, demand a major reconstitution of the educational process, which must become one of lifelong renewal. Perhaps a month out of every year, or 3 months every third year, might be an acceptable new pattern. Indeed, instead of cramming the educational years of life into adolescence and early maturity, a more efficient plan might be to interrupt education with work periods after elementary school, high school, and college. In any case, programs of continuing education for all professional people must become mandatory, and the educational effort and expenditures must be expanded by at least a third to permit adequate retraining and reeducation.

The obsolescence of education differs only in degree in the several sciences, and even in the humanities. . . . I recently heard a distinguished historian, who had been in university administration for only 5 years, say that his field had advanced so much in the interim that it would take him a year of concentrated study just to catch up with its development. In spite of a very general recognition of these hard facts, little is done to alter our pattern of education to cope with them. Physicians continue to practice medicine, although 50 years have elapsed since their youthful preparation. Dentists do the same. Lawyers and engineers live comfortably on their antiquated stock in trade. Teachers slide steadily downhill through failure to grasp new developments in their own subjects. Perhaps worse is the virtually universal ignorance, on the part of educated men and women, of any advancement of knowledge outside their own professional specialties. Surely we need a complete and thoroughgoing change in attitude toward "adult education," a careful planning of programs and courses appropriately designed for the intelligent adult who has become out of touch with his new world, and a mandatory, cyclic renewal of training for the professional specialist.

The cry of the student throughout the land is for "relevance" in the curriculum. What does he mean? Change has become the major feature of human civilization, driven by an increasingly rapid development of enormous powers to modify and control raw nature; and the advance of science is the principal factor in this technological revolution. Education must prepare each person to cope with changes that are unpredictable. As Heraclitus wisely said, "No man steps into the same river twice." The river flows, and the man ages. All is change. Yet the life of an ancient Greek was not so different from the life of Thomas Jefferson as Jefferson's life is from ours today. The content of the curriculum should therefore embrace both the timely and the timeless, for topical and social relevance and timeless natural law alike deepen our perspective and assist us to adapt ourselves to altered circumstances. Unfortunately, the timely and the timeless are both often displaced by the trivial, or the significance of the two former is left obscure, so that to the young mind they seem to be trivial. This must not be!—BENTLEY GLASS, *Vice President for Academic Affairs, State University of New York, Stony Brook*

Adapted from *The Timely and the Timeless* (Basic Books, New York, 1970).