

AMERICAN ASSOCIATION  
FOR THE  
ADVANCEMENT OF SCIENCE

**Board of Directors**

CHAUNCEY D. LEAKE, *President*  
THOMAS PARK, *President Elect*  
PAUL E. KLOPSTEG, *Retiring President*  
HARRISON BROWN  
H. BENTLEY GLASS  
MARGARET MEAD  
DON K. PRICE  
MINA REES  
ALFRED S. ROMER  
WILLIAM W. RUBEY  
ALAN T. WATERMAN  
PAUL A. SCHERER, *Treasurer*  
DAEL WOLFFLE, *Executive Officer*

**Editorial Board**

KONRAD B. KRAUSKOPF H. BURR STEINBACH  
EDWIN M. LERNER WILLIAM L. STRAUS, JR.  
PHILIP M. MORSE EDWARD L. TATUM

**Editorial Staff**

DAEL WOLFFLE, *Executive Officer*  
GRAHAM DUSHANE, *Editor*  
JOSEPH TURNER, *Assistant Editor*  
ROBERT V. ORMES, *Assistant Editor*

BETHSABE ASENJO, CHARLOTTE F. CHAMBERS, SARAH  
S. DEES, NANCY S. HAMILTON, OLIVER W. HEAT-  
WOLE, YUKIE KOZAI, HOWARD MARGOLIS, ELLEN  
E. MURPHY, ELEANOR D. O'HARA, NANCY TEL-  
MOURIAN, DAVID A. TEMELES, LOIS W. WOOD-  
WORTH

EARL J. SCHERAGO, *Advertising Representative*



SCIENCE, which is now combined with THE SCIENTIFIC MONTHLY, is published each Friday by the American Association for the Advancement of Science at National Publishing Company, Washington, D.C. The joint journal is published in the SCIENCE format. SCIENCE is indexed in the *Reader's Guide to Periodical Literature*.

**Editorial and personnel-placement correspondence** should be addressed to SCIENCE, 1515 Massachusetts Ave., NW, Washington 5, D.C. Manuscripts should be typed with double spacing and submitted in duplicate. The AAAS assumes no responsibility for the safety of manuscripts or for the opinions expressed by contributors. For detailed suggestions on the preparation of manuscripts and illustrations, see *Science* 125, 16 (4 Jan. 1957).

**Display-advertising correspondence** should be addressed to SCIENCE, Room 740, 11 West 42 St., New York 36, N.Y.

**Change of address notification** should be sent to 1515 Massachusetts Ave., NW, Washington 5, D.C., 4 weeks in advance. If possible, furnish an address label from a recent issue. Give both old and new addresses, including zone numbers, if any.

**Annual subscriptions:** \$8.50; foreign postage, \$1.50; Canadian postage, 75¢. Single copies, 35¢. Cable address: Advancesci, Washington.

Copyright 1960 by the American Association for the Advancement of Science.

## Dreams and Visions

What is to be the future of science? Extrapolation of history is impossible, perhaps in principle, certainly in practice. The equations of the present allow three possible types of solution for the future. Decline and catastrophe have been predicted on one ground or another, in spite of science, by overpopulation and starvation, or, through the agency of science, by wholesale destruction in nuclear warfare. Continued and accelerated progress have been confidently foretold, the curve sweeping upward faster and faster as each advance in knowledge multiplies the possibilities of further discovery, and as man more consciously assumes control of his own further evolution. Between lies the third and less spectacular solution, that the curve will level out or gently undulate. But the equations are insoluble, at least by any means we know. The uncertainty afflicts and inhibits some people, but their timidity is hardly justified or useful. There has seldom if ever in the world's history been a time when existence was not in some degree precarious, yet the right response to danger lies in action. Faith in the future has indeed a very great survival value. The better equipped are certainly more likely to survive than the worse equipped, and not only to save themselves but to save others.

The task of the men of science is therefore clear. It is to go ahead undeterred by any of the uncertainties. Faith in science is not incompatible with or exclusive of any other kind of faith. Indeed there would seem to be no inconsistency in believing that scientific knowledge is itself one of the great instruments of higher ends. However that may be, duty, expediency, and the zest of living unite their voices in calling for unremitting effort, not in the certainty but in the hope and faith that knowledge may advance, mastery over environment increase, drudgery be abolished, sickness healed, the people fed and life made happier. If social and moral problems are raised they are not essentially new but part of an age-old drama, and should neither be allowed to cause despondency nor to justify obstruction or abstention. The ancient choice between good and evil is in principle unchanged by the scale or fulness of existence. Men have always had to struggle with their environment, with one another and with themselves. Not exemption from danger, hostility or temptation but the power to sustain their impact has made men what they are. The great weapons have been the things of the mind, and among the greatest of these is knowledge. While the old men dream dreams and the young men see visions we should go forward undeterred, that the dreams may become reality and the visions be fulfilled.—CYRIL HINSHELWOOD

[*Excerpt from the tercentenary address presented at the formal opening ceremony of the tercentenary celebrations of the Royal Society, London, 19 July, by Sir Cyril Hinshelwood, president of the society.*]