

AMERICAN ASSOCIATION
FOR THE
ADVANCEMENT OF SCIENCE

Board of Directors

CHAUNCEY D. LEAKE, *Retiring President, Chairman*
THOMAS PARK, *President*
PAUL M. GROSS, *President Elect*
HARRISON BROWN DON K. PRICE
HENRY EYRING ALFRED S. ROMER
H. BENTLEY GLASS WILLIAM W. RUBEY
MARGARET MEAD ALAN T. WATERMAN
PAUL A. SCHERER, *Treasurer*
DAEL WOLFLE, *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 WOLFLE HANS NUSSBAUM
Publisher *Business Manager*

GRAHAM DUSHANE
Editor

JOSEPH TURNER ROBERT V. ORMES
Associate Editor *Managing Editor*

ELLEN E. MURPHY, *Assistant Editor*

NANCY TEIMOURIAN, *Assistant to the Editor*

News: HOWARD MARGOLIS, LILLIAN LEVY, PATRICIA D. PADDOCK

Book Reviews: SARAH S. DEES

Editorial Assistants: NANCY S. HAMILTON, OLIVER W. HEATWOLE, EDGAR C. RICH, JOHN E. RINGLE, BARBARA SUTHERLAND, CONRAD YUNG-KWAI

Staff Assistants: GENEVIEVE M. KIRBY, JEAN P. D. PIEKNIK

Advertising Staff

EARL J. SCHERAGO, *Director*

BERNICE SCHWARTZ, *Production Manager*

Sales: RICHARD L. CHARLES (New York, N.Y., PE 6-1858); C. RICHARD CALLIS (Old Bridge, N.J., CL 4-3680); HERBERT BURKLUND (Chicago, Ill., DE 7-4973); DILLENBECK-GALAVAN (Los Angeles, Calif., DU 5-3991)

SCIENCE, 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. SCIENCE is indexed in the *Reader's Guide to Periodical Literature*.

Editorial 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. Opinions expressed by authors are their own and do not necessarily reflect the opinions of the AAAS or the institutions with which the authors are affiliated. For detailed suggestions on the preparation of manuscripts, see *Science* 125, 16 (4 Jan. 1957).

Advertising correspondence should be addressed to SCIENCE, Room 1740, 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. Furnish an address label from a recent issue. Give both old and new addresses, including zone numbers.

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

Copyright © 1961 by the American Association for the Advancement of Science.

The Jinni in the Bottle

J. R. Wiggins, editor of the *Washington Post and Times Herald*, has been asking some of his scientist friends: If you could put the jinni back into the bottle, would you do it? Would you, if you had the choice, undo the work that led to the release of atomic energy? The question is not historical, for obviously the past cannot be undone. Neither is it a strictly scientific question, for if Otto Hahn, Lise Meitner, Enrico Fermi, and their collaborators had not released the atomic jinni, others would have. The point of the question is its social significance, not only for atomic energy itself, but also as a forewarning of problems that may lie ahead. Consider the moral, social, and political dilemmas that would follow upon ability to control the weather on a world-wide scale, to control genetic material, or to control human behavior.

Warren Weaver posed essentially the same question, in a somewhat more manageable form, in asking C. P. Snow, after his address at the 1960 AAAS annual meeting: If a scientist can see with reasonable clarity that continuing a particular line of research is likely to produce information that might be turned to evil ends, should he continue, or should he stop? When phrased in this way, the question poses a personal choice, but only a personal one. A particular scientist can avoid personal responsibility for findings that may be used for evil purposes. But he cannot prevent those findings from being made. If he stops, someone else will continue.

Among the several answers made to these questions is the statement that the scientist plays two roles, one as scientist and the other as citizen, and that he can and should keep the two roles separate. The distinction goes beyond saying that scientists should be concerned with the social implications of their work to say that the scientist, acting as a scientist, can press on wherever and as far as his curiosity and ability lead and permit, and that the same person, now acting as a citizen, can forget his scientific interests in helping to make decisions concerning science and its applications and its control. This is a comforting doctrine, but is it any more realistic than to expect the scientist to open all the bottles to see what they contain while the same person, as citizen, leaves firmly stoppered any that contains an ugly jinni?

Quite aside from the impossibility of undoing the past, and quite aside from the impossibility of preventing others from doing what a particular person refrains from doing, can we expect the scientist—not an idealized abstraction but the human being in the next office—to differentiate his role as a scientist from his role as a citizen? We do not expect the clergyman to forget his cloth when he goes to vote. Nor do we ask the member of another profession to stop and ask himself: Am I acting as a member of my profession or as a citizen of my country? What can we fairly ask of a scientist?

Would you put the jinni back into the bottle if you could? The question can start a lively discussion. It can also lead to a perplexing consideration of whether or not the scientist can separate his roles.—D.W.

Science

The Jinni in the Bottle

D. W.

Science **134** (3476), 359.
DOI: 10.1126/science.134.3476.359

ARTICLE TOOLS

<http://science.sciencemag.org/content/134/3476/359.citation>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. The title *Science* is a registered trademark of AAAS.

1961 by the American Association for the Advancement of Science