

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

1971

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

1972

ALFRED BROWN	FRANK PRESS
JAMES F. CROW	FRANK W. PUTNAM
THOMAS KUHN	WALTER O. ROBERTS
ELLIOTT W. MONTROLL	

Editorial Staff

Editor

PHILIP H. ABELSON

Publisher	Business Manager
WILLIAM BEVAN	HANS NUSSBAUM

Managing Editor: ROBERT V. ORMES

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

Assistant to the Editor: NANCY TEIMOURIAN

News and Comment: JOHN WALSH, ROBERT J. BAZELL, DEBORAH SHAPLEY, ROBERT GILLETTE, D. PARK TETER, CONSTANCE HOLDEN, SCHERRAINE MACK

Research Topics: ALLEN L. HAMMOND

Book Reviews: SYLVIA EBERHART, KATHERINE LIVINGSTON, MARLENE GLASER

Cover Editor: GRAYCE FINGER

Editorial Assistants: MARGARET ALLEN, ISABELLA BOULDIN, BLAIR BURNS, ELEANORE BUTZ, RONNA CLINE, BARBARA GUARIN, 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	Production Manager
EARL J. SCHERAGO	BONNIE SEMEL

Advertising Sales Manager: RICHARD L. CHARLES

Sales: NEW YORK, N.Y. 10036: Herbert L. Burkland, 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: John P. Cahill, 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. Phones: (Area code 202) Central office: 467-4350; Book Reviews: 467-4367; Business Office: 467-4411; Circulation: 467-4417; Guide to Scientific Instruments: 467-4480; News and Comment: 467-4430; Reprints and Permissions: 467-4483; Research Topics: 467-4455; Reviewing: 467-4440. Cable: Advancesci, Washington. Copies of "Instructions for Contributors" can be obtained from the editorial office. See also page xv, *Science*, 26 March 1971. ADVERTISING CORRESPONDENCE: Room 1740, 11 W. 42 St., New York, N.Y. 10036. Phone: 212-PE-6-1858.

The Survival of Nations and Civilization

Is a vigorous pronatalist policy necessary for national survival in a competitive world? Over the centuries many men have thought so. In the 19th century Parson Weems (who created the legend of George Washington and the cherry tree) wrote:

My friends, 'tis population, 'tis population *alone*, that can save our bacon. List, then ye Bachelors and ye Maidens fair, if truly ye do love your dear:

O list with rapture to the decree,
Which thus in Genesis you may see:
Marry, and raise up soldiers, might and main,
Then laugh ye may, at England, France, and Spain.

If national survival depends on winning a breeding race, what is the prognosis for America? As of 1970 the United States' population was 205 million out of a world total of 3632 million. That makes us just 5.6 percent of the world's population. One person out of 18 is an American. We are decidedly in the minority.

Everyday we are a smaller minority. We are increasing at only 1 percent per year; the rest of the world increases twice as fast. By the year 2000 one person in 24 will be an American; in 100 years, only one in 46. The projected figures assume that present trends will continue. They may not; but is there any better basis for a national policy?

What should we do? In the past, we might have used these facts to justify imperialism, conquest, and the extermination of other peoples. No more. We are not saints, but we are beyond the point of adopting an explicit national policy of this sort.

Should we, then, take Parson Weems's advice seriously and try to outbreed everybody else? Merely keeping up with the rest of the world would require American women to double the number of their children. Can a government of men persuade women that it is their patriotic duty to emulate the rabbits? Or force them?

If we renounce conquest and overbreeding, our survival in a competitive world depends on what kind of world it is: One World, or a world of national territories. If the world is one great commons, in which all food is shared equally, then we are lost. Those who breed faster will replace the rest. Sharing the food from national territories is operationally equivalent to sharing territories: in both cases a commons is established, and tragedy is the ultimate result. In the absence of breeding controls, a policy of "one mouth, one meal" ultimately produces one totally miserable world.

In a less than perfect world, the allocation of rights based on territory must be defended if a ruinous breeding race is to be avoided. It is unlikely that civilization and dignity can survive everywhere; but better in a few places than in none. Fortunate minorities must act as the trustees of a civilization that is threatened by uninformed good intentions.—GARRETT HARDIN, *University of California, Santa Barbara*

Science

The Survival of Nations and Civilization

Garrett Hardin

Science **172** (3990), 1297.
DOI: 10.1126/science.172.3990.1297

ARTICLE TOOLS

<http://science.sciencemag.org/content/172/3990/1297.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. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.