

# AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Human-Mouse Somatic Cell Hybrids with Single Human Chromosome (Group E): Link with Thymidine Kinase Activity: <i>B. R. Migeon</i> and <i>C. S. Miller</i> .....	1005
Contraceptive Properties of <i>Stevia rebaudiana</i> : <i>G. M. Planas</i> and <i>J. Kuć</i> .....	1007
Activation of Hageman Factor by L-Homocystine: <i>O. D. Ratnoff</i> .....	1007
Brush Border Particulates of Renal Tissue: <i>F. Binkley</i> .....	1009
Morphine: Single-Dose Tolerance: <i>C. Kornetsky</i> and <i>G. Bain</i> .....	1011
Nonspecific Staining: Its Control in Immunofluorescence Examination of Soil: <i>B. B. Bohlool</i> and <i>E. L. Schmidt</i> .....	1012
MN Blood-Group Locus: Data Concerning the Possible Chromosomal Location: <i>J. German</i> et al. ....	1014
Phytochrome-Mediated Bioelectric Potentials in Mung Bean Seedlings: <i>M. J. Jaffe</i> .....	1016
Anaerobic Brain Function: Effects of Stagnant and Anoxic Anoxia on Persistence of Breathing in Reptiles: <i>D. A. Belkin</i> .....	1017
Tyrosine Aminotransferase: Enzyme Induction Independent of Adenosine 3',5'-Monophosphate: <i>D. Granner</i> et al. ....	1018
Pulmonary and Circulatory Adjustments Determining the Limits of Depths in Breathhold Diving: <i>K. E. Schaefer</i> et al. ....	1020
Basis for the Acquisition of Malignant Potential by Mouse Cells Cultivated in vitro: <i>S. A. Aaronson</i> and <i>G. J. Todaro</i> .....	1024
Pattern Perception: Integrating Information Presented in Two Modalities: <i>S. Handei</i> and <i>L. Buffardi</i> .....	1026
<i>Technical Comments</i> : Effect of Mass on Frequency: <i>R. M. Goldstein</i> ; Rotating Membrane Cell: <i>T. M. Regan</i> et al. ....	1028

**ASSOCIATION AFFAIRS**

Cellular Aspects of the Control of Color Changes: <i>R. R. Novales</i> ; The Prehistory of the Nile Valley: <i>F. Wendorf</i> .....	1029
---	------

**MEETINGS**

Bryozoology: <i>T. J. M. Schopf</i> and <i>J. S. Ryland</i> ; Fertility and Sterility: <i>E. S. E. Hafez</i> ; Fermentation Industries: Promising Future Predicted: <i>D. Perlman</i> .....	1034
---	------

**COVER**

Practice dive and ascent preparatory to actual 240-foot breathhold dive (see below). The world record dive was made by R. A. Croft, 12 August 1968. The diver wore special underwater contact lenses and saline-filled goggles. Total dive time was 2 minutes, 28 seconds. See page 1020. [Al Giddings, Bob Hollis, and Dewey Bergman, San Francisco, California]

LEONARD M. RIESER  
H. BURR STEINBACH

KENNETH V. THIMANN  
JOHN A. WHEELER

PAUL E. KLOPSTEG  
Treasurer

DAEL WOLFLE  
Executive Officer

GEOLOGY AND GEOGRAPHY (E)  
Claude C. Albritton, Jr.  
Richard H. Mahard

ZOOLOGICAL SCIENCES (F)  
Vincent Dethier  
David E. Davis

BOTANICAL SCIENCES (G)  
Warren H. Wagner, Jr.  
Arthur W. Cooper

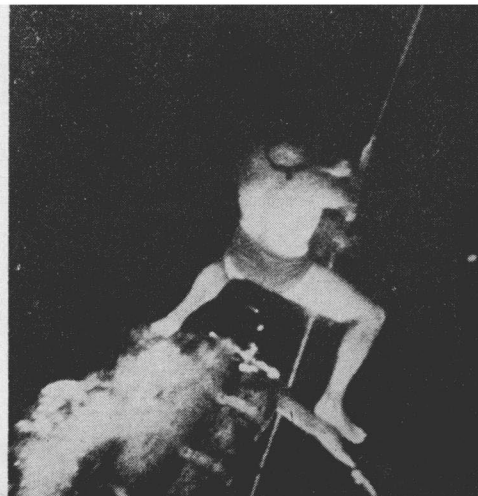
ENGINEERING (M)  
Paul Rosenberg  
Newman A. Hall

MEDICAL SCIENCES (N)  
Shields Warren

DENTISTRY (Nd)  
Barnet M. Levy  
Richard S. Manly

INFORMATION AND COMMUNICATION (T)  
J. C. R. Licklider  
Ileen E. Stewart

STATISTICS (U)  
Chester I. Bliss  
Rosedith Sitgreaves



pp 944 - 956 not hd.

357-03430  
B77

## 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

1968

ROBERT L. BOWMAN  
JOSEPH W. CHAMBERLAIN  
JOHN T. EDSALL  
ALEXANDER HOLLAENDER  
GORDON J. F. MACDONALD  
NEAL E. MILLER  
DE WITT STETTEN, JR.

1969

EMIL HAURY  
WILLARD F. LIBBY  
EVERETT I. MENDELSON  
JOHN R. PIERCE  
KENNETH S. PITZER  
ALEXANDER RICH  
CLARENCE M. ZENER

1970

GUSTAF O. ARRHENIUS  
FRED R. EGGAN  
HARRY F. HARLOW  
MILTON HARRIS

RICHARD C. LEWONTIN  
ALFRED O. C. NIER  
FRANK W. PUTNAM

### Editorial Staff

#### Editor

PHILIP H. ABELSON

#### Publisher

DAEL WOLFFLE

#### 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: JOHN WALSH

Foreign Editor: DANIEL S. GREENBERG\*

News and Comment: LUTHER J. CARTER, BRYCE NELSON, PHILIP M. BOFFEY, MARTI MUELLER, ANNE H. LARUS

Book Reviews: SYLVIA EBERHART

Editorial Assistants: SUSAN AXELRAD, JOANNE BELK, ISABELLA BOULDIN, ELEANORE BUTZ, HELEN CARTER, GRAYCE FINGER, NANCY HAMILTON, OLIVER HEATWOLE, ANNE HOLDSWORTH, PAULA LECKY, KATHERINE LIVINGSTON, LEAH RYAN, LOIS SCHMITT, BARBARA SHEFFER, RICHARD SOMMER, YA LI SWIGART, ALICE THEILE

\* European Office: 22 Mulberry Walk, London, S.W. 3, England (Telephone: 352-9749)

### Advertising Staff

#### Director

EARL J. SCHERAGO

#### Production Manager

KAY GOLDSTEIN

Advertising Sales Manager: RICHARD L. CHARLES

Sales: New York, N.Y., 11 W. 42 St. (212-PE-6-1858), ROBERT S. BUGBEE; Scotch Plains, N.J., 12 Unami Lane (201-889-4873), C. RICHARD CALLIS; Medfield, Mass. 02052, 4 Rolling Lane (617-359-2370), RICHARD M. EZEQUELLE; Chicago, Ill. 60611, 919 N. Michigan Ave., Room 426 (312-DE-7-4973), HERBERT L. BURKLUND; Los Angeles 45, Calif., 8255 Beverly Blvd. (213-653-9817), WINN NANCE.

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 1709, *Science*, 29 December 1967. ADVERTISING CORRESPONDENCE: Rm. 1740, 11 W. 42 St., New York, N.Y. 10036. Phone: 212-PE-6-1858.

## The University President

The typical president of an American university or liberal arts college is a 55-year-old man with an earned doctoral degree and substantial experience as a professor. He has held office for 6 years and has another 5 years to go to equal the tenure of his immediate predecessor. He serves as the institution's principal representative to the public, as its internal educational leader, as an officer burdened with too much routine and trivia, and as the member of the academic community most often called on for a variety of kinds of public service. He is the most overworked man on the campus and occupies the most exposed position. Students, faculty, trustees, alumni, friends, and critics are all plural. But he stands alone. For his services he is paid 82 percent more than the average full professor on the same campus, is given an expense account for official entertainment which he must supplement from his own pocket, and he and his family share with official visitors and a variety of supplicants a goldfish bowl known as the President's House.

This description is drawn from a nationwide study of the compensation and working conditions of the presidents and other administrative officers of American colleges and universities\* conducted by Mark H. Ingraham, who has not been a president himself but who has observed many from the viewpoints of a professor, a dean, and a long-time pillar and one-time president of the American Association of University Professors.

How should the current description be changed? Professor Ingraham makes several financial recommendations. Most presidents are not paid enough, but neither are the top professors; the whole salary scale has become so compressed as to decrease "the emphasis on quality which is greatly needed." Some improvement is needed in retirement funding provisions. And many presidents need better working conditions and more and better assistants, and should be encouraged to get them, for too often they have stunted themselves to use available funds elsewhere on the campus.

Ingraham also makes some recommendations that are not primarily financial. Presidents need to get away from their responsibilities more frequently and for longer periods. Vacation and leave provisions are much less generous for presidents than for faculty members, and are far from fully utilized. In the year reported, 18 percent took no vacation and 52 percent took 3 weeks or less. Leave of absence—the equivalent of a professor's sabbatical or leave for research or professional purposes—averaged only 3 days a year. The president's year does not include the breaks and the changes of pace and activity of the teaching and research faculty. His need is therefore perhaps greater than that of the professor for vacations and for occasional leave for study, travel, and intellectual refreshment.

In an institution in which authority and responsibility are as widely shared as they are in a university or college, each participant is likely to overestimate the advantages and underestimate the difficulties faced by other participants in the enterprise. Better understanding and communication of the facts has therefore been one of Ingraham's objectives. In 1965 he supplied the academic community with the definitive account of faculty benefits, other than salary.† The new volume gives faculty members an opportunity to understand better some of the working conditions, the frustrations, and the compensations of their presidents and other administrative officers.—DAEL WOLFFLE

\* M. H. Ingraham, *The Mirror of Brass* (University of Wisconsin Press, Madison, 1968).

† M. H. Ingraham, *The Outer Fringe* (University of Wisconsin Press, Madison, 1965).