

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

1975

H. S. GUTOWSKY	DONALD LINDSLEY
N. BRUCE HANNAY	RUTH PATRICK
DONALD KENNEDY	RAYMOND H. THOMPSON
DANIEL E. KOSHLAND, JR.	

1976

ALFRED E. BROWN	FRANK PRESS
JAMES F. CROW	FRANK W. PUTNAM
HANS LANDSBERG	MAXINE SINGER
EDWARD NEY	ARTHUR M. SQUIRES

Editorial Staff

Editor

PHILIP H. ABELSON

Publisher

WILLIAM D. CAREY

Business Manager

HANS NUSSBAUM

Managing Editor: ROBERT V. ORMES

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

Assistant to the Editors: PATRICIA ROWE

News and Comment: JOHN WALSH, LUTHER J. CARTER, DEBORAH SHAPLEY, ROBERT GILLETTE, NICHOLAS WADE, CONSTANCE HOLDEN, BARBARA J. CULLITON, SCHERRAINE MACK

Research News: ALLEN L. HAMMOND, WILLIAM D. METZ, THOMAS H. MAUGH II, JEAN L. MARK, ARTHUR L. ROBINSON, GINA BARI KOLATA, FANNIE GROOM

Book Reviews: KATHERINE LIVINGSTON, LYNN MANFIELD, JANET KEGG

Cover Editor: GRAYCE FINGER

Editorial Assistants: MARGARET ALLEN, ISABELLA BOULDIN, ELEANORE BUTZ, MARY DORFMAN, SYLVIA EBERHART, JUDITH GIVELBER, CORRINE HARRIS, NANCY HARTNAGEL, OLIVER HEATWOLE, CHRISTINE KARLIK, MARGARET LLOYD, ERIC POGGENPOHL, JEAN ROCKWOOD, LEAH RYAN, LOIS SCHMITT, RICHARD SEMIKLOSE, YA LI SWIGART, ELEANOR WARNER

Guide to Scientific Instruments: RICHARD SOMMER

Membership Recruitment: GWENDOLYN HUDDLE;
Subscription Records and Member Records: ANN RAGLAND

Advertising Staff

Director

EARL J. SCHERAGO

Production Manager

MARGARET STERLING

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); CHICAGO, ILL. 60611: Jack Ryan, Room 2107, 919 N. Michigan Ave. (312-DE-7-4973); BEVERLY HILLS, CALIF. 90211: Winn Nance, 111 N. La Cienga Blvd. (213-657-2772); DORSET, VT. 05251: Fred W. Dieffenbach, Kent Hill Rd. (802-867-5581)

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 News: 467-4321; Reviewing: 467-4440. Cable: Advancesci. Washington. Copies of "Instructions for Contributors" can be obtained from the editorial office. See also page xv, *Science*, 28 June 1974. ADVERTISING CORRESPONDENCE: Room 1740, 11 W. 42 St., New York, N.Y. 10036. Phone: 212-PE-6-1858.

Women, Men, and the Doctorate

The proportion of women who receive doctorates is increasing—from approximately 12 percent in the 1960's to 16 percent in 1972 and 18 percent in 1973. In the physical sciences, the proportion remains under 4 percent.

Women and men with doctorates differ in almost every career characteristic except ability, and the contrasts in the physical sciences are generally broader than in other fields. A new study by John Centra* compares matched sets of Ph.D.'s from the classes of 1950, 1960, and 1968 as to marital status, employment, publications, income, and attitudes.

Nearly 40 percent of the women from the two earlier classes and 30 percent from the 1968 class never married, compared to 5 and 8 percent of the men. Among those who married, a fourth of the women and a tenth of the men are currently divorced or separated.

Employment opportunities for women with doctorates have been severely limited in private corporations, especially in the physical sciences, where 39 percent of the men but only 9.5 percent of the women are employed. In academic employment more men are at universities; more women at 2- and 4-year colleges. More women are teaching; more men are in administration and management. Men have higher academic rank, and more are presidents, deans, and department heads; while more women with comparable years of experience are instructors, lecturers, and assistant professors, or hold research appointments without faculty status. However, men publish more than women, regardless of field or employment setting.

Income is the area of greatest difference between men and women with doctorates. In all fields, disparity of income is fairly large for those with the least experience and becomes even larger for those with more experience. Men's income varies from an average \$18,700 for 5 to 6 years of experience to \$27,100 for 22 to 23 years of experience. For the same experience levels, women's average income is \$16,400 to \$21,800. Similar patterns exist in all fields, with the greatest disparity in the physical sciences, where the comparable figures are \$17,800 to \$29,100 for men and \$14,700 to \$21,300 for women. For university-employed Ph.D.'s and for Ph.D.'s from all employment settings combined, women with the most postdoctoral experience have incomes farthest below those of men with equal years of experience. At every academic rank at both colleges and universities (where two-thirds of the men and 70 percent of the women are employed) men's income exceeds that of women with equal years of full-time experience. In private companies, men average \$27,000 and women \$22,000. In the federal government, the disparity is least. Women with 5 to 6 years of experience earn 5 percent less than men, while those with 22 to 23 years of experience earn 3 percent less.

There are some signs of improvement. Younger graduates have benefited most from changing anti-nepotism rules and recent salary increases for women. Relative to earlier graduates, more women with recent doctorates are finding employment at universities, but the academic job market will not expand much over the next decade for either sex.

Cultural tradition, sex role expectations, and discriminatory practices have played a large role in the training and work history of women with doctorates who have not reaped the rewards enjoyed by many of their male colleagues. It is time that ability, hard work, and personal choice became the dominant factors in determining the careers of both men and women.—BETTY M. VETTER, *Scientific Manpower Commission, 1776 Massachusetts Avenue, NW, Washington, D.C. 20036*

* *Women, Men and the Doctorate*, John A. Centra (Educational Testing Service, Princeton, N.J. 08540).