

## 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

1981: PETER BELL, BRYCE CRAWFORD, JR., E. PETER GEIDUSCHEK, EMIL W. HAURY, SALLY GREGORY KOHLSTEDT, MANCUR OLSON, PETER H. RAVEN, WILLIAM P. SLICHTER, FREDERIC G. WORDEN

1982: WILLIAM ESTES, CLEMENT L. MARKERT, JOHN R. PIERCE, BRYANT W. ROSSITER, VERA C. RUBIN, MAXINE F. SINGER, PAUL E. WAGGONER, ALEXANDER ZUCKER

### Publisher

WILLIAM D. CAREY  
Associate Publisher: ROBERT V. ORMES

### Editor

PHILIP H. ABELSON

### Editorial Staff

Assistant Managing Editor: JOHN E. RINGLE  
Production Editor: ELLEN E. MURPHY  
Business Manager: HANS NUSSBAUM  
News Editor: BARBARA J. CULLITON

News and Comment: WILLIAM J. BROAD, LUTHER J. CARTER, CONSTANCE HOLDEN, ELIOT MARSHALL, COLIN NORMAN, R. JEFFREY SMITH, MARJORIE SUN, NICHOLAS WADE, JOHN WALSH

Research News: RICHARD A. KERR, GINA BARI KOLATA, ROGER LEWIN, JEAN L. MARK, THOMAS H. MAUGH II, ARTHUR L. ROBINSON, M. MITCHELL WALDROP

Administrative Assistant, News: SCHERRAINE MACK;  
Editorial Assistants, News: FANNIE GROOM, CASSANDRA WATTS

Senior Editors: ELEANORE BUTZ, MARY DORFMAN, RUTH KULSTAD

Associate Editors: SYLVIA EBERHART, CAITILIN GORDON, LOIS SCHMITT

Assistant Editors: MARTHA COLLINS, STEPHEN KEPPLE, EDITH MEYERS

Book Reviews: KATHERINE LIVINGSTON, Editor; LINDA HEISERMAN, JANET KEGG

Letters: CHRISTINE GILBERT  
Copy Editor: ISABELLA BOULDIN

Production: NANCY HARTNAGEL, JOHN BAKER; ROSE LOWERY; HOLLY BISHOP, ELEANOR WARNER; JEAN ROCKWOOD, LEAH RYAN, SHARON RYAN, ROBIN WHYTE

Covers, Reprints, and Permissions: GRAYCE FINGER, Editor; GERALDINE CRUMP, CORINNE HARRIS

Guide to Scientific Instruments: RICHARD G. SOMMER  
Assistants to the Editors: SUSAN ELLIOTT, DIANE HOLLAND

Membership Recruitment: GWENDOLYN HUDDLE

Member and Subscription Records: ANN RAGLAND  
EDITORIAL CORRESPONDENCE: 1515 Massachusetts Ave., NW, Washington, D.C. 20005. Area code 202. General Editorial Office, 467-4350; Book Reviews, 467-4367; Guide to Scientific Instruments, 467-4480; News and Comment, 467-4430; Reprints and Permissions, 467-4483; Research News, 467-4321. Cable: Advancesci, Washington. For "Information for Contributors," write to the editorial office or see page xi, *Science*, 27 March 1981.

BUSINESS CORRESPONDENCE: Area Code 202. Membership and Subscriptions: 467-4417.

### Advertising Representatives

Director: EARL J. SCHERAGO  
Production Manager: GINA REILLY  
Advertising Sales Manager: RICHARD L. CHARLES  
Marketing Manager: HERBERT L. BURKLUND

Sales: NEW YORK, N.Y. 10036: Steve Hamburger, 1515 Broadway (212-730-1050); 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. (312-337-4973); BEVERLY HILLS, CALIF. 90211: Winn Nance, 111 N. La Cienega Blvd. (213-657-2772); DORSET, VT. 05251: Fred W. Dieffenbach, Kent Hill Rd. (802-867-5581).

ADVERTISING CORRESPONDENCE: Tenth floor, 1515 Broadway, New York, N.Y. 10036. Phone: 212-730-1050.

## Industrial Recruiting on Campus

Engineers and some scientists are in short supply, and their recruitment by industry has been intense. This has led to large differentials in the salaries offered to graduating seniors in the various disciplines and to departures from campus of graduate students and professors. The demand is likely to continue throughout this decade. The current shortage is especially acute for chemical, electrical, mechanical, and petroleum engineers. It also affects computer scientists, solid state physicists, geologists and geophysicists, and chemists. An imbalance between supply and demand came about as the result of a number of factors. For nearly a decade centered around the early 1970's, the number of engineers produced was at a cyclical low. Daniel Drucker, dean of engineering at the University of Illinois, attributes part of the low to attitudes induced in precollege students by the Vietnam war. These effects have worn off and many top students are opting for engineering, but a substantial deficit in graduates remains at a time when many new positions are being created.

Today, much of the capital stock of this country is obsolete. It is energy inefficient or does not utilize advances in electronics and computers. Although there is now a petroleum glut, the excess supply is temporary. Great synthetic fuels complexes will be created. Replacements for present petrochemical processes will be devised and built. Computers will have a vastly expanded role in design and manufacturing. This will contribute to better quality control—a function that will itself absorb a large force of engineers. Applications of computers and electronics will become ubiquitous and will require the talents of many engineers.

Through conversations with people on campuses and in industry, much anecdotal evidence can be obtained about the extent and nature of the unsatisfied demand for engineers and scientists. One can encounter talk of some companies being able to fill less than one-fifth of their openings. However, one of the best kinds of semiquantitative evidence is the salary survey report issued by the College Placement Council.\* The most recent report covers the period 1 September 1980 to 12 June 1981, and includes 62,835 bachelor's offers submitted by the 184 placement officers at the 161 participating institutions. Engineers, who constituted about 8 percent of the graduating class, received 65 percent of the bids. In contrast, graduates in the humanities and social sciences, although more numerous than the engineers, received only 4 percent of the total. Examples of average monthly salary offers to bachelor's degree candidates in July 1981 are: petroleum engineers, \$2221; chemical engineers, \$2030; electrical engineers, \$1882; computer scientists, \$1726; chemists, \$1637; and humanists, \$1204. Offers to the most desired new baccalaureate engineers amounted to \$2500 a month or more. In many instances, these salaries have been larger than those of some of their professors. Assistant professors at leading universities typically receive \$20,000 to \$22,000 for 9 months; only about half of them manage to obtain an additional 2 months' salary from other sources. Industrial salaries for new Ph.D.'s are in the vicinity of \$35,000 a year and above. Professors are also being recruited at large salaries and occasionally extra benefits in the form of equity participation. Some 2000 faculty positions are unfilled in engineering schools. They will not be readily filled without distortion of campus salaries.

The current efforts to recruit engineering talent are not a short-term phenomenon. The time constant of the educational system is more than 4 years. Shortages are now being partially met by hiring chemists, geologists, and physicists for positions formerly filled by engineers. This is increasing their salaries and causing many to forgo graduate school. Professors complain about the lack of quality of the comparatively few U.S. citizens who now choose to go on for higher degrees. We are only witnessing the beginning of a complex set of problems and interrelationships for which no quick cure will avail.—PHILIP H. ABELSON

\*CPC Salary Survey, College Placement Council, Bethlehem, Pennsylvania, July 1981.

p. 1251-4 in.

# Science

## Industrial Recruiting on Campus

PHILIP H. ABELSON

*Science* **213** (4515), 1455.

DOI: 10.1126/science.213.4515.1455

### ARTICLE TOOLS

<http://science.sciencemag.org/content/213/4515/1455.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.