

The most visible of the scientists

Listed below are the names of 39 scientists judged most visible by the panel of 24 science writers that Goodell consulted while preparing her dissertation. Each name is followed by the number of panel members who mentioned it. Goodell did the survey during August 1972, before White and Leakey died.

Barry Commoner	19	William Shockley	5
Paul Ehrlich	14	Ralph Lapp	5
Margaret Mead	10	Carl Sagan	4
Linus Pauling	10	Philip Abelson	3
Edward Teller	9	Christiaan Barnard	3
Joshua Lederberg	9	Noam Chomsky	3
Wernher von Braun	8	Denton A. Cooley	3
George Wald	8	Edward E. David Jr	3
Glenn Seaborg	7	John Foster	3
James Watson	6	John Gofman	3
Paul Dudley White	6	Fred Hoyle	3
Isaac Asimov	6	Daniel P. Moynihan	3
Michael DeBaakey	6	Frank J. Rauscher Jr	3
René Dubos	6	Admiral Hyman G. V. Rickover	3
B. F. Skinner	6	Albert Sabin	3
		Jonas Salk	3
		Benjamin Spock	3
		Harold Urey	3
		Jerome B. Wiesner	3
		Philip Handler	2
		Edwin Land	2
		Jean Mayer	2
		Karl Menninger	2
		Louis S. B. Leakey	2

technology was beginning to hit science in the pocketbook. In 1971 Wolfgang K. H. Panofsky (SLAC), in an interview with Goodell, described science as caught between forces demanding a better economic return from research and forces demanding more social relevance. Simultaneously there was the ever-present eagerness of the media for exciting stories and the cooperation of accurate, fluent sources.

When the Federation of American Scientists was formed in 1946, nearly all of the founders and members were physicists; now, 25% are physicists. Goodell believes that physics, "formerly at the top of the pecking order," faded into the background as national priorities shifted from space exploration and the arms race to biological and social problems. As she sees it, the public wants "pollution solutions, not particle physics," but she does consider it reasonable to speculate that physics may return to the forefront as solutions to energy, ozone depletion and reactor-safety questions are sought.

Consequences. The visibility game has an impact on everyone involved. Popular science heroes risk ostracism by their colleagues for abandoning their laboratories, speaking outside their areas of expertise or circumventing the referees of technical journals by taking their messages right to the public. Goodell maintains that the referee system protects scientific quality control, noting that "*Physical Review Letters* set a precedent in 1960 by announcing that it would reject papers whose main contents had already appeared in the daily press." The lay press cannot provide such rigorous screening of technical material. It is also important to re-

alize that domination of the news by a small proportion of scientists is conducive to distortion of the issues. What about the views of *invisible* scientists?

On the positive side, visible scientists are reaching out to the public, arousing its enthusiasm and maybe enlivening science's image. Goodell advocates a dual remedy for the flaws in the visibility system: More scientists must become involved, and when they speak out on science-related issues they must indicate whether they are doing so as scientific authorities or as concerned citizens. Using one's professional reputation as a springboard to publicize unrelated personal views raises sticky ethical questions.

It is interesting and perhaps ironic to note that Rae Goodell's analysis of the criteria for visibility has—unintentionally—met those very same criteria. *The Visible Scientists* is due to be published in book form in the Spring and has already been the subject of an article in *The New York Times* as well as features in several magazines. Goodell describes her situation as "a case of the biter getting bitten." —DG

Richard Roberts moves to ERDA nuclear post

The Energy Research and Development Administration has a new assistant administrator—Richard W. Roberts, former director of the National Bureau of Standards. Roberts will oversee nuclear-energy research, which is the largest share of energy R&D at ERDA.

He comes to his new position after more than two years at NBS. Before serving in government posts, he was

manager of Materials Science and Engineering at General Electric's Research and Development Center. While there, he was involved in a number of nuclear programs relating to both boiling water and breeder reactors.

Guidelines issued for solar-energy institute

An interim report to the Energy Research and Development Administration recommends formation of a Solar Energy Research Institute at a single site and operated under contract by one or more universities. The institute must be independent and have its own director and mission. The National Research Council prepared the report to help determine the nature of the institute that must be established because of the Solar Energy R&D Act of 1974.

NRC notes in the report that a broad range of talent should be assembled to address both short- and long-range problems. Also, the cost of a particular solar-energy technology must be compared with other energy sources using the same level of technology.

A final report to ERDA is expected in September. In preparation for this, a workshop is scheduled for 28 July to 8 August; participants include members of the committee that produced the interim report and representatives of appropriate governmental agencies, industry, educational institutions and other organizations.

Ten nations reorganize European space efforts

Europe now has a unified civilian space agency. Ceremonies on 30 May marked the beginning of the European Space Agency, which takes over the functions of the European Launcher Development Organization (disbanded last year) and the European Space Research Organization. The new agency is designed to pool the efforts of ten countries—Belgium, Denmark, France, West Germany, Italy, The Netherlands, Spain, Sweden, Switzerland and Great Britain—for such projects as Spacelab, a launcher and several satellites. There are also nonmember countries, including Norway, Austria and Canada, that will act as observers and participate in certain of the projects.

Heading ESA as director-general is Roy Gibson of Great Britain, who joined the European Space Research Organization in 1967; he was formerly an administrator in the UK Atomic Energy Authority. The 1976 budget for ESA is expected to be \$450 million.

One of the most ambitious of the projects underway is Spacelab—a fully reusable set of research modules that will be launched by NASA's Space

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