National Academy of Sciences Elects New Members

The National Academy of Sciences has elected 60 new members and 12 new foreign associates. Those elected bring the total Academy membership to 1386 and the total of foreign associates to 209. The new members are:

Guenther Ahlers, physics, University of California, Santa Barbara; **Don L. Anderson**, Seismological Laboratory, California Institute of Technology; **John D. Axtell**, agronomy, Purdue University; **Howard L. Bachrach**, Plum Island Animal Disease Center, Greenport, N.Y.: **Robert W. Balluffi**, metallurgy, Massachusetts Institute of Technology; **Allen J. Bard**, chemistry, University of Texas, Austin; **Hyman Bass**, mathematics, Columbia University; **Gordon Baym**, physics, University of Illinois, Urbana; **Eugenio Calabi**, mathematics, University of Pennsylvania; **Allan H. Conney**, biochemistry and drug metabolism, Hoffmann-La Roche Inc.; **Clyde H. Coombs**, psychology, University of Michigan; **Erminio Costa**, Laboratory of Preclinical Pharmacology, National Institute of Mental Health, St. Elizabeth's Hospital, Washington, D.C.; **Pedro M. Cuatrecasas**, molecular biology, Burroughs Wellcome, Research Triangle Park, N.C.

James O. Davis, zoology, University of Minnesota; **Margaret B. Davis**, zoology, University of Minnesota; **Raymond Davis, Jr.**, chemistry, Brookhaven National Laboratory; **Irving T. Diamond**, psychology, Duke University; **Dean E. Eastman**, IBM fellow, Thomas J. Watson Research Center, Yorktown, Heights, N.Y.; **Edwin J. Durshpan**, neurobiology, Harvard Medical School; **Quentin H. Gibson**, biochemistry and molecular and cell biology, Cornell University; **Harold S. Ginsberg**, microbiology, Columbia University; **Bertrand I. Halperin**, physics, Harvard University; **Leonard A. Herzenberg**, genetics, Stanford University; **Robin M. Hochstrasser**, chemistry, University of Pennsylvania; **Alan J. Hoffman**, IBM fellow, Thomas J. Watson Research Center; **Leroy Hood**, biology, California Institute of Technology; **Carl B. Huffaker**, entomology, University of California, Berkeley; **Fotis C. Kafatos**, biology, Harvard University; **Ivan R. King**, astronomy, University of California, Berkeley; **Jay K. Kochi**, chemistry, Indiana University; **Stuart Kornfeld**, medicine and biochemistry, Washington University School of Medicine.

Robert W. Mann, biomedical engineering, Massachusetts Institute of Technology; **Barry C. Mazur**, mathematics, Harvard University; **Donald S. McClure**, chemistry, Princeton University; **Fred W. McLafferty**, chemistry, Cornell University; **William L. McMillan**, physics, University of Illinois, Urbana; **Harold A. Mooney**, environmental biology, Stanford University; **William S. Morgan**, geophysics, Princeton University; **Ira H. Pastan**, Laboratory of Molecular Biology, National Cancer Institute, National Institutes of Health; **William E. Paul**, Laboratory of Immunology, National Institute of Allergy and Infectious Diseases, National Institutes of Health; **Donald O. Pederson**, electrical engineering and computer sciences, University of California, Berkeley; **Edmund S. Phelps**, economics, Columbia University; **Phillips W. Robbins**, anthropology, University of Pittsburgh.

John M. Roberts, anthropology, University of Pittsburgh; **Ian M. Ross**, Bell Telephone Laboratories, Murray Hill, N.J.; **Gian-Carlo Rota**, mathematics, Massachusetts Institute of Technology; **Nicholas P. Samios**, Brookhaven National Laboratory; **Matthew D. Scharff**, cell biology, Albert Einstein College of Medicine; **John A. Schellman**, chemistry, Institute of Molecular Biology, University of Oregon; **Robert K. Selander**, zoology, University of Rochester; **Donald C. Shreffler**, genetics, Washington University School of Medicine; **Melford E. Spiro**, anthropology, University of California, San Diego; **Daniel Steinberg**, medicine, University of California, San Diego; **Gunther S. Stent**, bacteriology and molecular biology, University of California, Berkeley; **Saul Sternberg**, human information processing, Bell Telephone Laboratories; **Charles F. Stevens**, physiology, Yale University School of Medicine; **E. Donnall Thomas**, medical oncology, Fred Hutchinson Cancer Research Center, Seattle, Wash.; **Waldo Tobler**, geography, University of California, Santa Barbara; **Herbert Weissbach**, biochemistry, Roche Institute of Molecular Biology; **Robin M. Williams, Jr.**, social science, Cornell University.

The new foreign associates are: **Nicola Cabibbo**, theoretical physics, University of Rome, Italy; **Shmuel Eisenstadt**, sociology, Hebrew University of Jerusalem, Israel; **Paul Fraisse**, experimental psychology, University of Paris V, France; **Marianne Grunberg-Manago**, biochemistry, University of Paris VII, France; **Hua Luogeng**, Institute of Mathematics and Institute of Applied Mathematics, Chinese Academy of Sciences, Beijing, People's Republic of China; **Il'ya Mikhailovich Lifshitz**, Institute for Physical Problems, Moscow, U.S.S.R.; **Jacques F. A. P. Miller**, experimental pathology, The Walter and Eliza Hall Institute of Medical Research, Melbourne, Australia; **Martin J. Rees**, Institute of Theoretical Astronomy, University of Cambridge, United Kingdom; **Ralph Riley**, secretary, Agricultural Research Council of the United Kingdom, London; **John Maynard Smith**, biology, University of Sussex, United Kingdom; **Takashi Sugimura**, molecular biology, Tokyo University, Japan; **Tsuneo Tomita**, professor emeritus, School of Medicine, Keio University, Tokyo, Japan.

If either house supports the objection, the plan must be dropped.

If neither house supports the petition within 90 days, the proposal is submitted to the Nuclear Regulatory Commission (NRC). Even that is not the end of the line. The objector may continue to fight the federal plan through the NRC's administrative review and, after that, through the courts. (The House Interior Committee bill is more protective of states' rights, in that it requires a joint resolution of Congress to override a local objection.)

Another controversial section provides an interim solution to the nuclear garbage crisis by creating a federally owned and run facility called an away-from-reactor storage site (AFR). The Secretary of Energy is empowered to buy spent fuel from utilities that have exhausted all options short of closing. The government would agree to haul the waste from the reactor and keep it at an AFR until a permanent site is ready to receive it. (This is the provision that Stennis, Percy, Thurmond, and D'Amato opposed.)

In addition to this temporary storage system, the bill requires the Department of Energy to offer two kinds of long-term waste disposal. One facility would serve as a permanent repository, and the other would permit waste canisters to be monitored and recovered if necessary. A number of deadlines applying to these still rather vague entities are written into the law. For example, the Secretary of Energy would have to choose three candidate sites for a permanent repository by 1984 and an additional three sites by 1987. After exploration and study, a first site would be chosen by 1986 and a second by 1989. A site for a test waste-processing plant would have to be chosen by 1983, and the plant put into operation by 1988.

One of the most important features of the bill is the provision for long-term funding. Its purpose is to free researchers and planners from the annual appropriations process, so that work on nuclear waste will not be affected by shifts in the political climate. The bill would create a special account in the Treasury financed by a 1-mil-per-kilowatt fee on the generation of nuclear electric power and a commensurate fee on radioactive waste delivered to the government.

Even if enacted this year, a bill like this would have to be considered only a hesitant first try at solving the nuclear waste problem. It deals with none of the technical disputes and leaves the highly difficult task of site selection to the bureaucracy.—ELIOT MARSHALL

0036-8075/82/0514-0710$01.00/0