

science as a scapegoat for many of our social problems will extend. But the gravity of the threat may be underscored by recalling that another politically based attack on science, Lysenkoism, utterly destroyed genetics in the Soviet Union and seriously crippled agriculture, from 1935 to 1965 (13). [This development illustrates ironically the unstable relation between political and scientific ideas: for Karl Marx had unsuccessfully requested permission to dedicate the second volume of *Das Kapital* to Charles Darwin (14)!] Moreover, the current attacks on genetics from the New Left can build on, and have no doubt contributed to, widespread public anxiety concerning gene technology. Thus while a recent report prepared for the American Friends Service Committee (15) presents an open and thoughtful view on such questions as contraception, abortion, and prolongation of the period of

dying, it is altogether opposed to any attempted genetic intervention, including the cure of hereditary disease.

Genetics will surely survive the current attacks, just as it survived attacks from the Communist Party in Moscow and from fundamentalists in Tennessee. But meanwhile if we wish to avert the danger of some degree of Lysenkoism in our country we may have to defend vigorously the value of objective and verifiable knowledge, especially when it comes into conflict with political, theological, or sociological dogmas.

References and Notes

1. P. B. Medawar, *The Future of Man* (Basic Books, New York, 1960); Symposium on "Evolution and Man's Progress," *Daedalus* (Summer, 1961); G. Wolstenholme, Ed., *Man and His Future* (Little, Brown, Boston, 1963); J. Lederberg, *Nature* 198, 428 (1963); J. S. Huxley, *Essays of a Humanist* (Harper and Row, New York, 1964); T. M. Sonneborn, Ed., *The Control of Human Heredity and Evolution* (Macmillan, New York, 1965); R. D. Hotchkiss, *J. Hered.* 56, 197 (1965); J. D. Roslansky, Ed., *Genetics and the Future of Man* (Appleton-Century-Crofts, New York, 1966); N. H. Horowitz, *Perspect. Biol. Med.* 9, 349 (1966).
2. The term "genetic engineering" seemed at first to be a convenient designation for applied molecular and cellular genetics. However, I agree with J. Lederberg [*The New York Times*, Letters to the editor, 26 September (1970)] that the overtones of this phrase are undesirable.
3. Editorials, *Nature* 224, 834, 1241 (1969); J. Shapiro, L. Eron, J. Beckwith, *ibid.*, p. 1337.
4. J. Beckwith, *Bacteriol. Rev.* 34, 222 (1970).
5. P. Handler, *Fed. Proc.* 29, 1089 (1970).
6. J. Shapiro, L. MacHattie, L. Eron, G. Ihler, K. Ippen, J. Beckwith, *Nature* 224, 768 (1969).
7. K. L. Agarwal, and 12 others, *ibid.* 227, 27 (1970).
8. S. E. Luria, in *The Control of Human Heredity and Evolution*, T. M. Sonneborn, Ed. (Macmillan, New York, 1965), p. 1.
9. R. Briggs and T. J. King, in *The Cell*, J. Brachet and A. E. Mirsky, Eds. (Academic Press, New York, 1959), vol. 1; J. B. Gurdon and H. R. Woodward, *Biol. Rev.* 43, 244 (1968).
10. B. Mintz, *J. Exp. Zool.* 157, 85, 273 (1964).
11. A. Etzioni, *Science* 161, 1107 (1968).
12. J. Lederberg, *Amer. Natur.* 100, 519 (1966).
13. Z. A. Medvedev, *The Rise and Fall of T. D. Lysenko* (Columbia Univ. Press, New York, 1969).
14. T. Dobzhansky, *Mankind Evolving* (Yale Univ. Press, 1962), p. 132.
15. *Who Shall Live?* Report prepared for the American Friends Service Committee (Hill and Wang, New York, 1970).

NEWS AND COMMENT

AAAS: Seaborg Wins Election; Scientific Freedom Panel Created

Glenn T. Seaborg, chairman of the Atomic Energy Commission (AEC), has been chosen president-elect of the AAAS and has agreed to serve in that position despite the controversy which swirled around his candidacy. Seaborg apparently won the election by a substantial margin over Richard H. Bolt, chairman of the board of Bolt Beranek and Newman Inc., a Cambridge, Mass., consulting firm. Though the board of directors of the AAAS refused to release vote tallies for the various candidates on the grounds that it is traditional AAAS policy to merely announce the winners, Seaborg, when pressed by *Science*, revealed that "it was not a tight election."

The AAAS board, in an apparent effort to head off further speculation and controversy concerning this year's elections, decided to announce the winners immediately instead of waiting until the traditional time at the AAAS Council meeting late in December. In a related action, taken at its meeting on 12 and 13 December, the board also established a new Committee on Scientific Freedom and Responsibility, which will be asked, among other

things, to look into charges that Seaborg's AEC has harassed two dissident scientists. Establishment of such a committee had been under consideration for some time, according to AAAS officials, but the board decided to announce its formation now at least partly because the case of the dissident scientists had become an issue in the elections.

The board did not comment on the aims and motivations of its actions. It simply released to the press a list of the newly elected officers and committee members and the exact text of board resolutions establishing the new committee. Any interpretation of what the board actions mean was left to the discretion of individual reporters, including those working for the News and Comment section of *Science*.

The results of the mail balloting among members of the AAAS Council were as follows:

President-Elect: Seaborg defeated Bolt. However, Bolt remains a member of the board of directors until his term expires in 1972. As president-elect, Seaborg would assume the post for a year starting in January, succeed to the presidency for 1972, and then serve a fur-

ther year as chairman of the board.

Board of Directors: The two winners of vacant seats were Barry Commoner, director of the Center for the Biology of Natural Systems in St. Louis, who was reelected, and Caryl P. Haskins, retiring president of the Carnegie Institution of Washington. The two losers were Robert S. Morison, professor of biology and professor of science and society at Cornell University; and John Platt, professor of physics and associate director, Mental Health Research Institute, University of Michigan.

Committee on Council Affairs: The three winners of vacant seats were John E. Cantlon, provost of Michigan State University; Ward H. Goodenough, professor of anthropology at the University of Pennsylvania; and S. Fred Singer, deputy assistant secretary for scientific programs in the Department of the Interior. The three losers were William E. B. Benson, head of the Earth Sciences Section of the National Science Foundation; Charles G. Overberger, chairman of the department of chemistry at the University of Michigan; and Joseph A. Pechman, director of economic studies at the Brookings Institution.

Committee on Nominations and Elections: The two winners of vacant seats were S. Charles Kendeigh, professor of zoology at the University of Illinois; and Kenneth C. Spengler, executive secretary of the American Meteorological Society. The two losers were Frank W. Finger, professor of psychology, Uni-

versity of Virginia, and Mary E. Warga, executive secretary, Optical Society of America, and adjunct professor, University of Pittsburgh.

Balloting is said to have been unusually heavy among the 530 or so Council members eligible to vote. About 350 are said to have returned their ballots.

Ordinarily the results would not have been announced until the Council meeting scheduled to be held on 30 December during the annual meet-

Davis to Succeed Daddario in Committee Chairmanship

The chairmanship of the science, research, and development subcommittee of the House Science and Astronautics Committee, held for 7 years by Representative Emilio Q. Daddario (D-Conn.), will pass on to Georgia Democrat John W. Davis in January.

Davis, a former circuit court judge and 10-year veteran of the House, has served with Daddario on the subcommittee since its creation in 1963. He represents Georgia's 7th district, in the northwest corner of the state and a center of the state's textile industry. It also contains the Lockheed plant at Marietta.

The new chairman is described by a committee staff member as a "middle of the road" conservative. He has not distinguished himself in any particular area of legislative activity. His energies, he said in an interview, have been devoted to assisting his district to "attend to its growing pains."

Davis professes an "honest to gosh interest in science," and is considered to be well in tune with Daddario's philosophy on science policy. "I intend to plug science as hard as I can," he says. "We must not allow our interest to flag or wane." He believes that the National Science Foundation (NSF) will be playing an ever larger role in the nation's scientific affairs, one to which it is suited because of its popularity with both "hawks" and "doves" (Davis himself is a "not particularly outspoken hawk"). "The national mood is such that they would like to see scientific pursuits supported fully, but there's a growing feeling that it should be done through an agency such as NSF rather than one such as the Department of Defense." He is confident that NSF will find itself with a \$1 billion budget "within 3 years."

Davis said he was unprepared to comment on a bill introduced by the chairman of the full committee, George P. Miller (D-Calif.), which would, in its first year of application, put NSF in charge of administering \$400 million in institutional aid. He does, however, favor institutional aid.

High on the subcommittee's list of priorities for next year will be hearings to review the structure and functions of the National Bureau of Standards. The subcommittee's jurisdiction was recently expanded to include NBS as well as NSF (Davis previously headed an

ad hoc committee on the Bureau). NBS activities have not been examined since the full committee came into existence.

The subcommittee also plans to hold a new round of hearings centering on a topic which emerged from last summer's science policy hearings—the relationship of science and technology to the national and international economy. Last summer, says a staff member, "a surprising number of witnesses" expressed concern over the fact that the rapid technological growth in countries such as Japan, Germany, France, and Russia is stiffening competition and narrowing markets at home as well as abroad for products of United States technology. Davis finds the shift away from the United States ominous. "Many American industries are tending to establish plants overseas—there's a chance technology at home may atrophy," he says. "If you don't build a sewing machine or camera in 20 years, people are going to forget how to build them." Japan has already cornered the market in barber chairs, he notes. Davis, who supported the trade bill passed by the House on 19 November, mentions trade tariffs as one "time-honored" solution.

Under Davis the subcommittee will continue to press for recommendations it formulated out of the Daddario hearings: the establishment of a National Institute of Research and Advanced Studies (NIRAS) in the Executive Branch, and an Office of Technology Assessment (OTA) in the Legislative Branch. Proposals to strengthen the Office of Science and Technology (OST) will not be pushed until the President reveals what, if anything, he plans to do about it.

The subcommittee owes much of its present prominence to the energy and finesse of chairman Daddario, who has had the benefit of a smooth relationship with committee chairman Miller and bipartisan cooperation among the members of the subcommittee. Davis appears confident that all this harmony will persist. "Davis is more likely to have fewer irons on the fire at once than Daddario, but there's not going to be a great deal of substantive difference," says a staff member. Things may move more slowly, though, since in addition to Daddario the subcommittee is losing one of its most active members, Representative James Symington (D-Mo.), who will take another committee assignment.

Whither the departing Daddario? The congressman, who abandoned a chance for a 7th term in order to make an unsuccessful run for the Connecticut governorship, is now high and dry in the seas of Connecticut politics. Other than a lecture trip to Austria in February, he has revealed no future plans. He will continue as senior partner in his Hartford law firm, but it is not known now whether he will return to his home state.

—CONSTANCE HOLDEN



ing in Chicago. But the controversial nature of this year's election apparently led the board to announce the results early lest "leaks" of the results lead to further controversy. The board apparently also hoped to head off opposition at the annual meeting by disseminating the information as widely as possible beforehand.

As described in the 11 December issue of *Science*, the controversy over this year's election swirled around the question of whether Seaborg, the head of a much-criticized government agency, was an appropriate candidate to slate for president-elect. Some board members suggested that Seaborg would face difficult "conflicts of interest" between his roles at the AEC and at the AAAS; others saw no real conflict and argued that Seaborg's prestige would enhance the luster of AAAS. The behind-the-scenes conflict over Seaborg's candidacy ultimately came to the attention of the press and received wide public notice. Subsequently, Seaborg indicated that even if elected, he might not agree to serve. He said that he would first consult with people on both sides of the controversy and that he would then make a decision based on what seemed best for AAAS. He also indicated that his decision might be based, in part, on the size of his electoral majority. Subsequent to his election, Seaborg told *Science* he had consulted with board members who had opposed him and found that none were "personally antagonistic" while one or two indicated they were now less concerned about the conflict of interest issue than they had originally been. "My intention is to serve—I see no particular problems," Seaborg said.

One of the conflicts that Seaborg's opponents said the AAAS would face during Seaborg's tenure involves the case of two dissident scientists, John Gofman and Arthur Tamplin, who are employed at the AEC-funded laboratory in Livermore, California. The AAAS has been asked, first by Sen. Edmund S. Muskie (D-Maine), and subsequently by Sen. Mike Gravel (D-Alaska), to adjudicate charges that the AEC and the Livermore laboratory have harassed Gofman and Tamplin. Those who opposed Seaborg's candidacy expressed doubt that the AAAS could appear as an impartial judge of that dispute if the head of the AEC were in a position of leadership at the AAAS. Some of Seaborg's supporters, on the other hand, suggested that perhaps the AAAS should turn down the

Muskie-Gravel request to avoid any possible question of conflict of interest. As it turns out, the board seems to be steering a course aimed at satisfying both camps. It is establishing a Committee on Scientific Freedom and Responsibility to look into charges such as the alleged harassment of Gofman and Tamplin, but it is making efforts to insulate the committee from influence by AAAS officers.

The establishment of the committee was described by the board as follows: "At its meeting of December 12-13, the Board of Directors of the AAAS took the following three actions:

"(1) In view of the Association's concern with independent scientific inquiry and responsible scientific conduct, the Board hereby establishes a Committee on Scientific Freedom and Responsibility to (a) study and report on the general conditions required for scientific freedom and responsibility, (b) develop suitable criteria and procedures for the objective and impartial study of these problems, and (c) study and report on specific instances in which scientific freedom is alleged to have been abridged or otherwise endangered or responsible scientific conduct is alleged to have been violated.

"(2) The Committee on Scientific Freedom and Responsibility shall be composed of not more than five individuals who shall be selected by the Board for their integrity, independence, and relevant competence, and shall not include either current officers of AAAS or any parties at interest in cases under investigation by the committee.

"(3) In response to requests from Senators Muskie and Gravel that the AAAS investigate the allegation that

the scientific freedom of Dr. John Gofman and Dr. Arthur Tamplin of the University of California Livermore Laboratory has been abridged, the Board requests the Committee on Scientific Freedom and Responsibility to take this allegation under consideration."

The salient points in these board actions are that the new committee will study both general problems and specific cases; and it will be substantially independent of the board, except that the board will appoint the members. There is no requirement that the members of the committee be AAAS members or even scientists. A prominent attorney or clergyman might serve, for example. The thinking of the board is said to be that members of the committee should be of such high competence and integrity that their judgment will be widely accepted. The independence of the committee is underlined, in the board's opinion, by the fact that there is no requirement that it report to the board, and no requirement that it accept cases assigned by the board. The board has merely "requested," for example, that the committee look into the Gofman-Tamplin allegations, and it is conceivable (though unlikely) that the committee could refuse to consider the case.

Establishment of the new committee stems not only from the Gofman-Tamplin controversy, but also from the fact that AAAS has received a number of requests for help from individuals who allege that their scientific freedom has been abridged. Thus the new committee may have a backlog of cases to investigate once it begins functioning.

—PHILIP M. BOFFEY

Life Sciences: Whistling in the Dark for Another \$250 Million

"For several centuries, research in the life sciences has constituted one of the great human adventures." So begins the National Academy of Sciences report *The Life Sciences*,* which was released 3 December, and seldom in its 526 pages does it fail to represent past achievements as monumental or to consider future prospects as

* Available for \$10.50 from Printing and Publishing Office, National Academy of Sciences, 2101 Constitution Ave., NW, Washington, D.C. 20418

promising (provided that enough money is available). Concluding is the statement that "The life sciences are poised to explore the most arcane mysteries of life and . . . it is difficult to imagine more noble goals or more appropriate use of public funds."

Not surprisingly, more public funds are sought for these noble goals. The report begins with 31 pages of recommendations amounting to a request for an additional \$250 million per year in