Book Reviews

Scientists and Politicians

Science at the White House. A Political Liability. EDWARD J. BURGER, JR. Johns Hopkins University Press, Baltimore, 1980. xxii, 180 pp., illus. $14.95.

The White House Office of Science and Technology had an 11-year life prior to its abolition by President Nixon's Executive Order No. 1 in 1973 and the transfer of many of its functions to the National Science Foundation. Upon its establishment in 1962 the OST was charged with assisting the president in "the proper coordination of Federal science and technology functions." There were also hints of a broader analytical role: the "assessment of selected scientific and technical developments and programs in relation to their impact on national policies." Edward Burger's book, based on several years of service with the agency during the Nixon Administration, seeks "to compare the nominal charter for the President's science adviser and his staff with the realities of that office."

The "realities," Burger concludes, show these advisers to have been quite limited in their ability to influence federal research priorities or to bring scientific resources to bear on a broader range of policy problems. This experience, he feels, points to a problem that transcends any particular administration: a gap in goals and perspectives between scientists and politicians that generally dooms "explicit analysis and planning for domestic issues" to irrelevance. Thus, Burger argues, if such long-range analysis is to be done it "may well have to be performed not within but outside the structures of government" (p. 123).

Burger's central chapters outline the involvements of OST and other science advisers in major policy areas—national health policy, health research, environmental protection, and population and family planning. The impact of the science advisers ranged from negligible, for example in attempting to interject cost-benefit criteria into the development of a National Health Strategy, to substantial, for example in making chemical substances a focal point for environmental regulation. The case histories display a greater range of impacts than Burger's generally pessimistic conclusions would lead one to expect. In a number of instances, moreover, the fit between scientific advice and the president's political needs was a close one, providing him with a rationale for delaying or altering what Burger regards as dubious regulatory decisions.

These stories are quite crisply told, albeit at the expense of some narrative detail that might have proved illuminating. Burger sometimes displays an acute sense of the conditions of political influence, as when he describes the results of the President's Science Advisory Committee's offering a report without having identified a "patron within the political machinery" to whom the information might have been made useful and without having framed the advice to fit the concerns being voiced in public discussion (p. 66). Too often, however, he is content with explaining the failure of a given initiative in terms of a generalized tendency of policy-makers to defer to powerful interests, to blanch at the thought of national planning, to stay within the bounds of conventional wisdom. A more probing inquiry as to which actors or agencies adopted which posture toward a given initiative, why they did so and were or were not able to prevail, might have given a more differentiated picture of the incentives and perspectives of policy-makers than Burger has provided. Such discrimination might also have enabled Burger to offer more in the way of strategic suggestions, identifying leverage points at which scientific analysis and advocacy might be brought to bear on the policy process.

Referring to C. E. Lindblom as the best-known critic of synoptic aspirations in policy-making, Burger argues (p. 18) that the fragmented process of advocacy that Lindblom defends "would be measurably strengthened . . . by arming the various points of view with good analysis and good information" (a proposition with which, incidentally, it is hard to imagine Lindblom disagreeing). But neither his analyses of specific failures nor his prescriptions suggest that Burger has thought very extensively about how analytical instrumentalities might be adapted to a pluralistic political setting.

The book's main value, then, is not in its political analyses or as a source of strategems for influence, but in the case histories it presents. Burger seems strangely reluctant to analyze or evaluate Nixon's 1973 reorganization decision itself. But his policy-area discussions provide a candid and concrete account of the major involvements of the science advisory staff, and an account that would be very difficult to come by otherwise of the eventual fate of the ideas and critiques thus generated. These narratives can prompt useful critical reflection regardless of whether one shares the author's convictions as to the role scientific analysis can and should play in policy formation.

DAVID E. PRICE
Department of Political Science,
Duke University,
Durham, North Carolina 27706

Rotifers

Rotatoria. Proceedings of a symposium, Gent, Belgium, Sept. 1979. H. J. DUMONT and J. GREEN, Eds. Junk, The Hague, 1980 (U.S. distributor, Kluwer Boston, Hingham, Mass.). 264 pp., illus. $79. Developments in Hydrobiology 1. Reprinted from *Hydrobiologia*, vol. 33, Nos. 1-3.

The Rotatoria (rotifers) are small aquatic animals, almost entirely restricted to fresh-water habitats and found most abundantly in highly productive or soft-water lakes and ponds. They reproduce by parthenogenesis, but most groups (except the bdelloids) can produce resting eggs sexually from males and mictic females. Rotifers have spiral cleavage and adults have a fixed number of cells (eutely). They are easily cultured in the laboratory; early ideas on aging, the "Lansing effect," resulted from rotifer studies, and rotifer species are the only metazoa to have been continuously cultured in diaxenic chemostats of algae and a herbivore.

This symposium volume is a collection of over 40 papers by some well-known scientists (including J. Gilbert, C. King, J. Green, H. Dumont, A. Ruttner-Kolisko, R. Pourriot, and B. Pejler) and some bright young scientists (including P. Clément, P. Starkweather, R. Wallace, C. Ricci, T. Snell, and K. Bogdan). There are two excellent series of papers. One by Clément and his colleagues describes electron microscopy studies of the digestive system of rotifers and reports on the structure of photosensitive organs and their significance with re-