

Advisory Mechanisms

Worldwide Science and Technology Advice to the Highest Levels of Governments.

WILLIAM T. GOLDEN, Ed. Pergamon, New York, 1991. xvi, 430 pp. \$59.50; paper, \$28.50.

This is not an ordinary book. Comprising over three dozen essays written by nearly three score authors, the book primarily aims to tell the reader how worldwide science and technology advice is shaped and rendered. The volume is edited by William T. Golden, a man of enormous experience and wisdom in the advisory corridors of our government. Only Golden could have persuaded so many distinguished individuals to prepare the essays that make up this volume.

At the heart of the book are descriptions of the science advisory mechanisms in some 35 countries, from Australia to Yugoslavia. (It is too bad that Zimbabwe was not included.) An unexpected fillip is an essay on activities of the Pontifical Academy of Sciences serving the Vatican, written by Maxine F. Singer, president of the Carnegie Institution of Washington and a member of that academy.

Each essay writer was asked by the editor to "(a) describe the science and technology advising organization to the highest levels of his or her government; and (b) comment on its effectiveness and how it actually influences policy formulation and action." The first request is handled reasonably well in most essays; the second issue is addressed less frequently and less effectively. This is not surprising, because it is a difficult one to address forthrightly and in any sort of depth in a short essay.

Nevertheless, the essays paint a fascinating panorama of the role science and technology play, or strive to play, in all these countries. The unity of science and technology notwithstanding, their role is different in each country. That's not surprising, because the needs for science and technology advice are different in, for example, Saudi Arabia and Sweden. Moreover, the centrally managed economies of Bulgaria and the People's Republic of China face problems that are unlike those of the developing economies of Egypt, India, or Indonesia. And even in the highly developed and technology-intensive Western European countries and Japan, the modalities of technical advice to the highest levels of government range widely for cultural and historical reasons. In our own United States, they change of

course from administration to administration.

Thus, the book is but a snapshot, albeit an engrossing snapshot, of technical advisory mechanisms as they functioned before the political upheavals in Eastern Europe, before the economic union of Western Europe scheduled for the end of 1992, and before the Persian Gulf conflict and its aftermaths.

At their best, the essays are insightful glimpses into a country's mechanism for providing its leaders with science and technology advice and into the associated science and technology issues—as well as into setting technical goals, targeting priority areas of effort, pursuing international cooperative approaches, and planning future directions. The occasional essay that misses this benchmark tends simply to outline the structure of a country's technical advisory organization.

Some issues addressed in the book are enduring and will be with us for decades. Global change, as well as public health and the quality of life, is admirably summed up in an introductory essay by D. Allan Bromley, the science and technology adviser to President Bush. The need for international cooperation in science, big and small, and the challenge "to identify the points of intersecting interests, and then construct frameworks for national cooperation pivoting on such interests" are stressed by Frank Press, president of the National Academy of Sciences. Curiously, not much is said anywhere in this volume about the need to deal with impacts of population growth across the globe or with the adequacy of food and energy supplies.

There are four overview essays: by Shalheveth Freier reporting on the International Forum on Science and Government held in Rehovot, Israel, in 1989; by Henry Durand on "Building up a common European science and technology policy"; by Abdus Salam and Azim Kidwai on "A blueprint for science and technology in the developing world"; and by Thomas R. Odhiambo, on "Designing a science-led future for Africa: a suggested science and technology policy framework". They are interesting, but not compelling. Finally, David Z. Beckler has an admirable primer on the do's and don't's of science advising. Every incoming president or prime minister should read it and heed it. But will they?

Overall, this unique book should be a valuable resource for students of the com-

plex issues growing out of the relationship between science and government. And that includes government officials, politicians, political scientists, the media, and the concerned public.

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Toxicological Concerns

An Environmental Odyssey. People, Pollution, and Politics in the Life of a Practical Scientist. MERRIL EISENBUD. University of Washington Press, Seattle, 1991. xii, 264 pp. + plates. \$24.95.

This straightforward memoir of Merrill Eisenbud's professional life reflects a moderate and intelligent man, one who has spent more than 50 years investigating a daunting—if sometimes mundane—catalogue of what we have come to call "environmental" problems. Eisenbud began with industrial dust, went on to other problems in industrial toxicology during World War II (electrical insulating materials used in ships, zinc fumes, cashew nuts, mercury, noise), and landed after the war in the Atomic Energy Commission, where he made contributions on beryllium and uranium toxicity before becoming a leader in fallout studies, which eventually took him into more general environmental work. His is a world in which problems arise, solutions are sought, precision is cherished and excess avoided. It is not a cold or impersonal world. Although I have never met Eisenbud, I remember meeting people in remote parts of Brazil who praised him highly for his warmth, a quality that shines throughout this book. But Eisenbud's is a world in which professional discourse triumphs over irrational impulses and technicians enlighten businessmen and politicians.

To his credit, Eisenbud recognizes in the end that something is missing in his picture of the way the world works. Confronted with a mayor of New York City who has decided to appoint a politician (Kretchmer) rather than a professional as Environmental Protection Administrator, he writes, "I have never understood why Lindsay changed his mind. I have been told by others that Kretchmer was active in the liberal wing of the Democratic Party, and that Lindsay had incurred some obligations because of that faction's support for him during the recent election. I don't understand such things and still cannot believe they happen in real life." It will be hard for some to believe that Eisenbud, who spent many years working for the federal government as well as two in the Lindsay Administration in New York