Book Reviews

Government and Science: Their dynamic relation in American democracy. Don K. Price. New York Univ. Press, New York, 1954. ix + 203 pp. $3.75.

Stimulating, thought provoking, full of good common sense and uncommon insight, Price's lectures are a forceful and challenging discussion of the problems and dilemmas on the one hand, and the administrative and legislative solutions and practices on the other, that have been created by the inevitable intermeshing of science and public policy. Price astutely diagnoses the fundamental problem of the new relationship of science to government in terms of the reconciliation of basic freedom with responsible authority.

Recognizing the reciprocal nature of this relationship, Price begins with an intriguing, albeit speculative, excursion into the sociology of knowledge as applied to American political history. He attempts to show that the philosophical scientists of the 18th century paved the way for our republican revolution. He also maintains that the scientific research programs and thought patterns of the 19th and 20th centuries laid the foundation for the development of government services, the extension of governmental powers, and the creation of those forms of organization and systems of personnel that, in practice, determine the workings of governmental authority. He then reviews the World War II developments, with particular emphasis on the Office of Scientific Research and Development and the dangers of political interference with science. His own conviction is that science is best protected against political interference if it is given "a direct and effective relationship with the responsible executives, as well as the support of well-organized groups of advisers from the leading private institutions of the nation."

Both respect and concern are revealed in the author's critical analysis of the contract system, the various advisory mechanisms, and the special difficulties arising from security considerations and congressional investigations. There is admiration for the ingenuity and patriotic fervor which created administrative mechanisms sufficiently flexible and adaptive to make the best use of the potentialities of science in furthering public policies. At the same time, there is anxiety lest the pressure of events and the development of technology outrun our administrative capabilities. One of Price's major concerns is the need of scientists to develop sharper understandings of their own roles as advisers to government administrators and deeper appreciation of the extrascientific considerations that the latter must weigh in the execution of their policy responsibilities. As recent events clearly show, the scientist-administrator relationship is a difficult one to create, nurture, and maintain, and yet it is essential to our national well-being.

To insure the progressive development of both free science and free government is the difficult task we face in mid-century. For scientists, legislators, and administrators, in fact for all who are concerned with reconciling the responsibilities of democratic government with the requirements of intellectual freedom, *Government and Science* is an indispensable source of insights, knowledge, and clearly defined issues. The author quite properly admits that he does not have all the answers, but he is certainly an expert in asking the important questions.

Vannevar Bush, commenting in the *New York Times Magazine* (13 June 1954) on the effective working partnership developed during World War II between professional men and officers of government, remarked that "This partnership, so essential to our future safety, has been gravely damaged and is being gradually destroyed." We are, apparently, in urgent need of more Don Prices to help us acquire, before it is too late, the political genius and administrative wisdom to recreate on firm foundations the effective and essential partnership of free science and free government in a democratic society.

HARRY ALPERT
National Science Foundation, Washington, D.C.

Proceedings of the Second International Congress on Rheology. V. G. W. Harrison, Ed. Academic Press, New York; Butterworths, London, 1954. ix + 451 pp. Illus. $10.

The many interesting papers contained in this excellent volume defy any unified description. Perhaps the best a reviewer can do is to quote from the presidential address by G. I. Taylor.

> When I was asked to preside at this congress of rheologists my immediate reaction was that I am so ignorant of the details of your work that I should feel like a sheep in a lion's den if I accepted; but when I considered the immense field covered by the term "rheology," I realized that many of you must be in much the same condition as myself. Rheologists who study creep and plasticity in metals for instance might well fail to pass with any credit an examination in the properties of non-Newtonian fluids.

Six general lectures are included: "Sur l'effet electrovisqueux qui se manifeste dans les suspensions colloidales" by A. Dobry, "Rheological problems in the fabrication of plastics" by R. S. Spencer, "Rheology and applied mechanics" by R. N. J. Saal, "Rheologisches Verhalten und molekulare Platzwechselmechanismen" by F. H. Müller, "Water association and hydrogels" by E. Forslind, and "Some rheological problems in biology" by P. Eggleton. These are followed by 22 papers on high polymers, 19 on viscosity and plasticity, three on biology, and five on oils and greases. A mere listing of the titles would more than consume the space available for a review. The general comments that can be offered are few indeed. One is that