

Service and later to the state government of Pennsylvania an able and dedicated corps of men. He was neither the sole creator of American forest policy nor the sole creator of the U.S. Forest Service. Yet 55 years after the Transfer Act that gave the Forest Service its present form, American forestry and the Forest Service still show his stamp. Pinchot excelled only as the chief executive of an organization. He had a chronic inability to work effectively with his peers in the Republican party and in the Progressive movement. To only one superior did Pinchot ever give the full measure of loyalty and devotion he inspired among his own subordinates, and that man was Theodore Roosevelt, with whom he enjoyed a special privileged status. This fact was largely responsible, in McGeary's judgment, for thwarting many of Pinchot's political efforts. Three times he tried unsuccessfully to win a seat in the Senate, and on other occasions he revealed almost painfully naive dreams of succeeding to the White House.

Pinchot's greatest weakness was a tendency to see issues, men, and motives in harsh black and white. He seldom doubted where Virtue took her stand. This cast of mind dimmed his perception of some ethical questions; it also left him blind to some of the plain realities of life, both in forestry and in politics. Thus, Pinchot remained a militant lifelong advocate of federal regulation of cutting practices on private forest lands, because, in his eyes, private forest management had not really changed during the three decades since he was The Forester. It was the same Gifford Pinchot who confided to his diary in May 1936 that Alfred M. Landon could be elected President that November "if I help him."

Pinchot was a prolific and candid letter writer. His voluminous correspondence was deposited in the Library of Congress shortly before his death. These letters, together with Pinchot's diary, are the major sources of this biography. McGeary has also made effective use of the extensive mass of published material dealing with Pinchot's life and times.

This biography, as McGeary expects, will probably satisfy neither the worshippers nor the detractors of Gifford Pinchot. By setting down a round, unvarnished tale of Pinchot's life, Mc-

Geary has succeeded in showing us "what kind of person he really was, what he was striving to accomplish, and what methods he used to attain his objectives." The reader is not likely to underestimate Gifford Pinchot's lasting achievements as a forester-politician.

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Operations Research and Systems Engineering. Charles D. Flagle, Jr., William H. Huggins, and Robert H. Roy. Johns Hopkins Press, Baltimore, Md., 1960. x + 889 pp. Illus. \$14.50.

Although not explicitly advertised as such, this book is a collection of articles on the methods of operations research, written at an elementary level that is suitable for engineers and management personnel. There are introductory articles on the general philosophy and methodology of operations research and specific articles on such techniques as linear programming, queueing theory, theory of games, simulation studies, information theory, and other systems methods. Finally there is a collection of case studies. The chief defect in these articles is a tendency to verbosity on the part of some of the contributors.

By far the most fascinating and persuasive section is that on case studies. Of particular interest is an article by Zimmerman on the simulation of tactical war games; the discussion follows the course of a particular game step by step. Other articles detail studies on the operation of a hospital and a newspaper and analyze the cost and value of reports in a telephone company.

An article by Ellis Johnson (reprinted from the *Journal of Operations Research*) on operations research in the world crisis in science and technology goes far to illustrate the limitations of overenthusiastic applications of operations research considerations.

This book contains little that is new, but it is a worthwhile addition to the bookshelf of management personnel and others not actively engaged in operations research work.

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Miscellaneous Publications

(Inquiries concerning these publications should be addressed not to Science, but to the publisher or agency sponsoring the publication.)

U.S. Geological Survey. *Geological Survey Bulletin*. Bulletin No. 1058-E, "Geology and ore deposits of northwestern Chichagof Island, Alaska," Darwin L. Rossman, 1959, 80 pp. + maps; Bulletin No. 1061-F, "Glacial geology of the Mystic Lakes-Fresh Pond area, Massachusetts," Newton E. Chute, 1959, 31 pp. + map; Bulletin No. 1071-H, "Igneous and tectonic structures of the Stillwater complex, Montana," W. R. Jones, J. W. Peoples, and A. L. Howland, 1960, 63 pp. + map; Bulletin No. 1072-0, "Geology and oil-shale resources of Naval Oil-Shale Reserve No. 2, Uintah and Carbon counties, Utah," W. B. Cashion, 1959, 44 pp. + map; Bulletin No. 1074-F, "Geology and uranium occurrences in the Miller Hill area, Carbon County, Wyoming," James D. Vine and George E. Prichard, 1959, 41 pp. + map. *Geological Survey Professional Papers*. Paper 294-M, "Foraminifera of the Monterey shale and Puente formation, Santa Ana Mountains and San Juan Capistrano area, California," Patsy Beckstead Smith, 1960, 35 pp.; Paper 315-D, "Stratigraphy of Pennsylvanian and Lower Permian rocks in Brown and Coleman counties, Texas," D. Hoyer Eargle, 1960, 25 pp. + maps; Paper 332, "Cretaceous and Tertiary formations of the Book Cliffs, Carbon, Emery, and Grand counties, Utah, and Garfield and Mesa counties, Colorado," D. Jerome Fisher, Charles E. Erdmann, and John B. Reeside, Jr., 1960, 84 pp. + maps; Paper 333, "The foraminiferal genus *Orbitolina* in North America," Raymond C. Douglass, 1960, 55 pp. + maps; Paper 334-C, "Trilobites of the Upper Cambrian, Dunderberg shale, Eureka district, Nevada," Allison R. Palmer, 59 pp.; Paper 334-D, "Late Paleozoic Gastropoda from northern Alaska," Ellis Y. Yochelson and J. Thomas Dutro, Jr., 1960, 40 pp.; Paper 351, "Mode of flow of Saskatchewan Glacier, Alberta, Canada," Mark F. Meier, 1960, 79 pp. + maps. U.S. Geological Survey, Washington, D.C. (order from Supt. of Documents, GPO, Washington 25).

University of California. *Bulletin of the California Insect Survey*, vol. 6, No. 4, "The siricid wood wasps of California (Hymenoptera: Symphyta)," Woodrow W. Middlekauff, 18 pp., \$0.50; vol. 6, No. 5, "The soldier flies or Stratiomyidae of California," Maurice T. James, 54 pp., \$1. *Publications in Botany*, vol. 30, No. 5, "Morphological aspects of parasitism in the dwarf mistletoes (*Arceuthobium*)," Job Kuijt, 100 pp., \$2; vol. 32, No. 3, "A morphological study of three South African Gigartinales," Florence Ellen Hewitt, 40 pp., \$0.75. *Publications in Entomology*, vol. 16, No. 5, "The feeding behavior of *Hippodamia quinquesignata* (Kirby) larvae," Ibrahim K. Kaddou, 52 pp. *Publications in Geological Sciences*, vol. 34, No. 5, "Origin of Rock Creek and Owens River gorges, Mono County, California," William C. Putnam, 60 pp., \$2. University of California Press, Berkeley, 1960.