

plosions, and the causes and effects of the weather, all of great significance in the early nineteenth century. The experience of the Franklin Institute in its research was instrumental in eventually bringing science within the scope of government through the National Academy of Science.

In addition to dealing with larger themes of more than local significance, Sinclair is concerned with the internal history of the institute and its financial and programmatic problems. He also discusses the men in the institute, their businesses, their interests, and their associations with the other scientific and intellectual organizations of Philadelphia, principally the American Philosophical Society and the Academy of Natural Sciences. Much important biographical information about a number of technological and scientific leaders of the United States is here presented.

Sinclair has written an important book in its field. It adds another chapter to an understanding of the American past in science and technology, both of which have been the subjects of scholarly research in the last quarter century. The book deals with the history of the Franklin Institute for only the period 1824-1865. It was originally a doctoral dissertation and so had to be cut to a manageable length. The period chosen is a viable unit, but this reviewer is left with a feeling of dissatisfaction because he does not know what has happened to the institute in the last 110 years. Maybe Sinclair will fill in this gap by writing a second volume.

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The Federal Machine: Beginnings of Bureaucracy in Jacksonian America. By Matthew A. Crenson. (Baltimore: The Johns Hopkins University Press, 1975. Pp. xii, 186. Notes, tables, figures, bibliography, index. \$10.00.)

Matthew Crenson is a political scientist writing history, and as such he brings both the weakness and strength of that interdisciplinary situation to this study. The author grasps better than most historians writing in the period the significance inherent in the dynamic expansion of the United States federal civil establishment as it grew to meet the equally dynamic expansion of the nation. But Crenson's

knowledge of what has been written recently about the Age of Jackson is limited only to some very visible political contributions and lacks depth; his knowledge of the earlier formative period in American politics is also very shaky.

Nevertheless, by concentrating on the General Land Office and the Post Office, the two components of the Jacksonian civil service most affected by the physical growth of the nation in the years 1820-1850, and by viewing these from the novel perspective of their roles in the establishment of an American government machine (read bureaucracy), Crenson makes an important contribution. He goes beyond Malcolm Rohrbough's fine study, *The Land Office Business*, by viewing the land office in clinical terms that capture its mechanistic influence on western expansion. So very little has been written about the early Post Office that any exposure of its social and political role is welcome knowledge.

A good part of the administrative change that occurred in the Age of Jackson Crenson attributes to "the ascent to power of men of lowly origins" (p. 8), a development to which historians are now returning in an effort to explain anew the dynamic qualities of the Jackson epoch. Under the impact of industrialization there occurred an "apparent deterioration of moral restraints" (p. 44) that infected all of American life, the federal civil service included. "Attorneys and businessmen who went to work for the government could not be expected to possess the same habits of moral uprightness as their predecessors" (p. 46). Jackson consciously attempted to fight this alleged tendency, according to Crenson, so that government, at least, would be freed of acts "injurious to the morals of the country" (p. 173). This explains, then, Old Hickory's effort to place new men in government service and his adherence to the principles of rotation in office.

This reviewer questions many of the author's basic premises, notably that a decline in public morality had occurred between the end of the era of the founding fathers and 1830. In spite of these facile ideological overtones, the author is still able to reveal a great deal that is new and interesting about the Post Office and the General Land Office.

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