own right. But they do not answer the author's major question: Can science retain its vitality and integrity under current conditions of support and decision making?

The warning that it cannot is useful, and will be most so if it provokes us to develop the measures that make the warning false.

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Spoils of War

Project Paperclip. German Scientists and the Cold War. CLARENCE G. LASBY. Atheneum, New York, 1971. xii, 340 pp. $8.95.

This is a superb account of the project that brought 642 German scientists and technicians to the United States after World War II in order to deny these skills to others, mainly the Russians, and to benefit American interests, particularly through the military application of their expertise. Lasby writes definitively about the bureaucratic processes that generated the program, induced a confused government to adopt it, and persisted in its implementation. His judicious handling of background materials makes this a valuable study of the U.S. government in transition between waging war against Germany and Japan and undertaking to compete with the Soviet Union, a newly identified Cold War rival.

American officials began special efforts to acquire and exploit German scientific achievements during the war, in the autumn of 1943. By early 1945 the U.S. Army, Navy, and Army Air Force each had active field teams of special technical intelligence collectors with broad missions competing with one another. Overshadowing their rivalry was the growing perception that what they did not acquire would fall to their allies or to the Russian army.

Lasby's account deals mainly with the period from the spring of 1945, when the U.S. military began to control German territory and came into possession of German scientific records and personnel, until 1948. By then the major decisions had been made, although many of the German scientists actually came after that. American policy concerning the postwar treatment of Germany was in considerable disarray in the spring of 1945. An untenable plan promoted by Secretary of the Treasury Morgenthau had come unraveled in interdepartmental conflict. Agreements in Washington simply bounded the policy controversy and pushed it out into the field. In this policy vacuum, American military personnel, as they came upon German manufacturing and scientific enterprises, generated ideas about the utilization of German scientific talent by the United States. The main elements of Project Paperclip thus originated in the field.

The dynamic and competitive setting of Germany with the converging allied armies and competing American task groups was ideal, if for nothing else, for the nurturing of new policies. At first (in the summer of 1945) the idea was to gather German scientists, use them for a limited, definite period, and then release them. (This is what the Soviet Union actually did.) That autumn, however, a Commerce Department official who had assumed the role of advocate of a wide-ranging exploitation of German industry and science proposed the permanent acquisition of German scientists—what became known as Project Paperclip. As the perception grew of the Soviet Union as a menace, the objective of denying technology and technologists to the Russians became a vital aim of the project. Lasby carefully notes the change in objective from temporary to permanent use of the German scientists, though if anything he underemphasizes the implications of the shift.

The definitive core of this study is an account of factional competition along the lines of a well-founded general model of bureaucratic struggle and innovation. Competitive factional models are usually poor predictors of particular outcomes, and this one is no exception. Reflecting this difficulty, Lasby accounts for the persistent delays in the implementation of policy by describing a series of skirmishes, and by brief though illuminating treatment of the role played in the public controversy over Paperclip by the Federation of American Scientists in its first years and of the breakdown of the wartime collaboration between the military and the scientific establishment as the latter sought a more independent status in public life. One might hope to see more systematic handling of factional and competitive behavior, however.

In 1945 American scientists were ready to vent their frustrations with wartime military collaborators and claim their own independent status in public affairs. Their independence and their antagonism were demonstrated by the blocking of the War Department's proposal that nuclear energy and weaponry development remain entirely under military control after the war, a defeat that could be laid mainly to the action of American scientists as an interest group. Lasby presents this information as background to a series of events that depict the scientists emerging onto the public affairs stage. He does not, however, deal systematically with their role in public affairs—an omission that, though understandable, limits the value of the book. Scientist factions were only a secondary subject here, and anyway, adequate data on the population of scientists, the distribution of political activity among them, the structure of scientist political groups, and other characteristics of scientist groups are not easy to come by.

This problem with factional analysis incurs other costs as well. The author recounts the bureaucratic struggles within the government and provides sufficient background to enable the reader to follow events and interpret motives. To have gone further would perhaps have required that he relate his own factional account to other factional phenomena in that setting.

One of these phenomena was the shifting status of the Joint Chiefs of Staff in relation to the Department of State and to other elements of government. The JCS had established itself in the wartime government as the linchpin of the governmental process for prosecuting the war. It would not consider war-related policy questions until all other agencies with pertinent interests had reached agreement. In effect, the JCS reserved to itself the final say on interdepartmental war-connected issues. Even the Department of State had to deal with the JCS as a matter of course through working-level contacts, and even on such matters as the German question. The Chiefs occupied this extraordinary status in part because of their standing with the President but also by reason of the resources they controlled and the operations they directed. Given the fact that

they occupied the seat of action, they could decide the terms on which other elements of the government could approach them.

This remarkable situation began to change when the urgency of prosecuting the war fell away in mid-1945, and in fact Project Paperclip fell victim to a reverse case in which the military, with a sense of urgency growing out of their noncombat activities, attempted to induce the Department of State to venture—to run some risks—in the handling of one of its principal standard operations, the control of immigration through the visa issuance process. The interdepartmental clearance process now turned about. The War Department urged and advocated, and State deferred decision.

Patently, State's obstruction was not an isolated occurrence, nor was obstructionism conspicuously associable with State. Background information such as can be found here on the wolves in State's dangerous habitat is not a sufficient reference point for assessing that obstructionism. The obstructionist pattern is larger than that and poses a larger puzzle: why was interdepartmental business so vulnerable to obstructionist tactics by the JCS, State, or any other department within the same government?

Similarly, the factional struggle over Project Paperclip was one of several factional struggles that one finds within the American government at the end of World War II. Lasby's is one version of the extraordinary shift within the government from an operative objective of defeating Germany to one of opposing the Soviet Union and reconstructing Germany. In addition to relating the dispute over Project Paperclip to the other issues at stake in this period, larger factional analysis could more systematically relate the factions identifiable in terms of Paperclip to other factions. For instance, a complex structure of factions congealed in late 1944 about the closely related question of the postwar treatment of Germany. Proponents of the Morgenthau Plan (in Churchill's term, its goal was to "pastoralize" Germany) were potential supporters also of Project Overcast, the predecessor to Paperclip that intended only temporary exploitation of German scientists. Overcast could be intended to denude Germany of scientific prowess. By early 1945, when Overcast was proposed, Morgenthau Plan proponents had suffered setbacks that made them receptive to more palatable means than the Treasury Department's ambitious scheme to achieve their particular ends. It might have been a dangerous game for proponents of Overcast and later of Paperclip to link their advocacy with the general advocacy of a hard peace for Germany, and in fact they would have had difficulty with the suspicions of the Morgenthau Plan faction that Overcast and Paperclip were directed against the Soviet Union and in fact were a cause of Soviet intransigence. Alternatively, they might have felt their way into the opposite camp—as indeed they seem to have done, inadvertently. With some awareness of the sensitivities of the major executive departments involved in the Morgenthau Plan dispute, or simply of the Army's sensitivity to the prospect of criticism for unpopular policies in connection with its responsibility for governing postwar Germany, the advocates of Overcast would have been more aware than indicated in this book that Paperclip was much more vulnerable to criticism.

Such factional analysis would have given greater significance to the shift from Overcast to Paperclip. Lasby is himself alert to its full significance, but explains the shift as something that was brought about, without much concern over these matters, by military personnel wholly occupied with pragmatic problem solving, doing their work in a busy and complex bureaucracy that could be adamant or evasive. Patently, the governmental processes under view in this book had other cognitive dimensions.

Critics of Paperclip claimed that it supported German scientists at the expense of equally good or better Americans and produced mainly ordinary engineering outputs when the government should have been nurturing more fundamental work. Lasby does not assess the output of Paperclip, or its relation to other government-sponsored science. He mentions no attempt within the government to address these questions, although his account reads as though a strong motivating force was a special respect within the American military establishment for German science. It would have been difficult to assess the fruits of Paperclip with any precision, because most contributions were individual and hence both fragmented and integrated with other work. The easiest output to appraise was perhaps that of the von Braun team of rocket specialists, who evidently gave the American rocket effort a significant boost. Even here, however, the main question remains unanswered: Was the von Braun team important in the competition with the Soviet Union because we lacked the technology and the potential to get it, or were the constraints economic and bureaucratic? They were at least the latter. Hence, the von Braun team was a practical opportunity. But was it also a scientific or technological windfall? As important as this distinction may be to assessing the value of the general case posed by Paperclip, perhaps its practical significance is small. For, as with other enterprises, science is constrained by economic and organizational resources and time as well as by human talent.

Lasby's fine account of the adaptation, innovation, and conflict manifested in Paperclip is a solid base for more systematic studies of these organizational processes. For the reader interested in the governing of science, and in scientists in government, it is meritorious for having the detail and documentation that much of the literature on these subjects lacks.

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Public and Private Interests

Professional Forestry in the United States. HENRY CLEPPER. Published for Resources for the Future by Johns Hopkins Press, Baltimore, 1971. xii, 338 pp. $10.

The Forest Service. MICHAEL FROME. Praeger, New York, 1971. xiv, 242 pp. + plates. $8.75. Praeger Library of U.S. Government Departments and Agencies, No. 30.

In recent years historians have turned their attention to the conservation movement. The romanticism of the movement has suffered as a result, but our understanding of the development of concern for planned use of the public domain has greatly increased. Both Henry Clepper and Michael Frome in the books under review have added significantly to the literature of the subject.

Fears of a timber famine in the late 19th century coupled with a growing awareness that engrossing businessmen were destroying the public domain at a furious pace gave rise to the conservation movement in the United States.