

Scientists, Business, and the State, 1890–1960. *By Patrick J. McGrath.* Chapel Hill: University of North Carolina Press, 2002. x + 248 pp. Index, notes, bibliography. Cloth, \$39.95. ISBN 0-807-82655-3.

Reviewed by Robert E. Kohler

The subject of Patrick J. McGrath's book is the role of science in the political culture of cold-war America. It is an intellectual history, or, more precisely, a history of the scientific ideologies that have legitimated and buttressed the political power of large corporations and an expansive state. Like many such histories, this one is based on the writings of a few well-known public figures, about a dozen in all, including Theodore Vail and Frank Jewett of AT&T; the entrepreneurial physicists Ernest Lawrence and Karl Compton; Vannevar Bush and James Bryant Conant, who took science to war between 1941 and 1945; Robert Oppenheimer of A-bomb fame and his antagonists, Lewis Strauss and Edward Teller; and the postwar technocrat David Lilienthal.

McGrath covers events well known to historians: the invention of in-house industrial research and development during the first two decades of the twentieth century; the failure of physical scientists to secure New Deal patronage; the wartime alliance between private science and the state (Bush saw it as temporary), and the more lasting alliance that formed in the early years of the cold war; the decision to build the H-bomb and atomic politics; and the notorious Oppenheimer affair. Both in its selection of subjects and its approach, this book is a spruced-up reinvention of the politics-of-science literature of the 1960s.

The author posits a succession of three ideologies, which he terms “corporate science,” “state science,” and “scientific militarism,” each in turn providing the ideological and institutional raw material for the next. The ideology of corporate science, McGrath argues, was compounded of several widely current ideas: a notion of inevitable (and progressive) evolution in nature and human institutions—especially business institutions—and a belief in a politics of nonpartisan technical elites rather than in adversarial parliamentary politics. It was, in other words, a vision of a corporatist society, in which large business corporations were the model institutions, and natural science the authoritative mode of knowledge.

“State science,” which emerged from the New Deal and World War II, extended this ideology from commerce to statecraft—a more powerful and dangerous combination. Some advocates of state science pursued moderately progressive and idealistic social agendas (Bush, Conant, Lilienthal), while others were radical and socially retrograde (Teller, Strauss). Early in the cold war the radicals hijacked the ideology of “state science” and its institutional structures

(e.g., the Atomic Energy Commission). “[F]rom out of the Trojan gift horse of state science,” McGrath writes, “would emerge a political force [of] . . . scientific militarism. . .” (p. 128). How an undemocratic, oppressive, and dangerous political culture came to dominate America is the author’s central theme.

There was no conspiracy of industrial and political elites: McGrath avoids the cruder Marxian accounts of some previous writers. His point, rather, is that by creating an ideology of “corporate science,” corporation scientists, engineers, and administrators also created a resource that could be coopted by reactionary advocates of undemocratic politics and an all-out arms race. The story here is one of unanticipated and tragic consequences, not inevitability. Thinking they could share power and promote the public good, technocratic scientists and administrators ended up being not partners but servants of power.

These are large themes, central to twentieth-century history, and we should credit McGrath for taking on such an ambitious task for a Ph.D. dissertation. It is less clear, however, exactly how much new light he brings to the subject. The mode of analysis is the problem: ideological schematics alone cannot do the job, especially one based so narrowly on a small number of historical actors and canonical events. The book is too schematic, and the lack of evidence for the progression of ideologies results in a model that appears to be more political parable than political history.

The first chapter, on the creation of “corporate science,” is the weakest, as it draws heavily from secondary sources and offers little sense either of how the roles and institutions of corporate R&D were established or their part in forming to the political ideas of the Progressive Era. The later chapters on the postwar settlement and cold-war hijacking are more detailed and engaging. Actors like Bush, Lilienthal, and Herbert York emerge as conflicted, flesh-and-blood people. Overall, however, we are left with little sense of what “state science” was in practice or what exactly it had to do with changing political ideologies.

McGrath claims to be rescuing his subject from a narrow history of science by placing it in a larger context of political cultures, but he defines that context narrowly and generally says little about political cultures. Thus it never becomes clear that the ideas he writes about had many sources, of which science was but one and arguably a less important one than political and business strategies. (For example, mass-consumption businesses have long used continuous innovation as a strategy for keeping competitors off balance, but theirs is the logic of an arms race, not of social evolution—hence its appeal to cold warriors.) The author thinks it paradoxical that the ideas of corporate and state scientists were crucial in America’s governing ideology, because scientists were not central figures in the state. But it is no paradox at all if those ideas

came mainly—as I think they did—from private and public administrative elites, not from science per se.

Ideological schemata cannot accomplish the task McGrath has set for himself. He even observes that systematic empirical research is needed, and he is right. We will progress no further until we apply the methods of social history to the administrative elites of corporate and public institutions, including their middling ranks of technical managers, scientists, and engineers, examining their social origins and ambitions, politics, and contexts of work. In the future, let us not limit ourselves to physicists, as McGrath and most of his predecessors have done. Physicists may have a large profile in atomic-era dramas, but in the bigger picture they were not more significant than agricultural, social, environmental, and health scientists. (A broader and better model is James Scott's *Seeing Like a State*, published in 1998.) We need histories of modern administrative and technical classes, of which McGrath's scientific ideologues are particular, and perhaps not representative, subsets.

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