The primary value of From Counterculture to Cyberculture comes from integrating all these episodes into a single story. This exposes the surprising consistency of Brand’s philosophy and method of operation. For example, Turner discovers commonalities between the organization of The Whole Earth Catalog and the later WELL network. The Whole Earth Catalog, cast here as “an information technology,” included heated discussion from readers and projected itself as the focal point of an intellectually diverse community. Brand retained his quasi-mystical faith in utopian transformation and the power of technologies and ideas to empower individuals. He worked by making himself the focal point of a broad network, using the rhetoric of systems theory as what Turner, following Galison, calls a “contact language” for symbolic trading between disparate intellectual communities. We also see parallels between Brand’s own career and the vision he espoused of a world of skilled free agents growing rich through networks and the exchange of information.

Turner resists the urge to editorialize but is unafraid to subject Brand to historical scrutiny, finding historical voices to note that his networks and communities were made up almost exclusively of young white men and that his ostensibly apolitical stance ignored the realities of social class. It remains unclear, however, whether Turner believes that the language of systems and cybernetics Brand and his counterparts appropriated represented a substantive transfer of concepts and methods from the Cold War elite or just a fashionable vocabulary on which to draw.

This book makes an important contribution to historicizing the controversies of the 1960s and 1970s and demonstrates to historians the centrality of insights from the history of science and technology in studying the cultural history of these turbulent decades.

THOMAS HAIGH

Zuoyue Wang. In Sputnik’s Shadow: The President’s Science Advisory Committee and Cold War America. xxii + 454 pp., illus., bibl., index. New Brunswick, N.J.: Rutgers University Press, 2008. $62.50 (cloth).

The key contention Zuoyue Wang explores in this welcome new study is that the partnership canonized by Eisenhower between American science and the government, in the form of the President’s Science Advisory Committee, generally worked to lessen, and even reverse, the “technological enthusiasm” of the so-called...
military-industrial complex. He argues that the PSAC’s legacy was “to moderate and limit the impulse to solve national and international problems through technological fixes” (p. 187). Wang examines the PSAC’s success mostly in these terms—and mostly prior to the mid-1960s, when its influence began to unravel. Thus he may differ somewhat from other observers who tend to judge the PSAC’s effectiveness during its later years or in terms of its failure to maintain or increase governmental support for science, when, as Hunter Dupree reminded us, the “delicate web of understandings . . . was torn asunder” (Science in the Federal Government [Johns Hopkins, 1986], p. xv).

This engaging and well-organized monograph elucidates the creation of the PSAC in the wake of Sputnik and examines the issues and concerns it did or did not address, or was unable to address or fight, over the course of its existence through 1972, when it was abolished by Nixon. It is a revealing study of how decisions were made, informed more or less by arguments presented by scientists, in the highest offices of the United States. Fostered by Eisenhower, the PSAC was charged with informing White House deliberations regarding the management of military technology policy, space policy, and arms control under the operational umbrella of curbing “big government.” From the start, however, as Wang makes painfully clear, there was tension between the scientists, military and government officials, and critics of the PSAC in the far from monolithic scientific community over the degree to which the committee’s scientific advice should be allowed to venture into policy, beyond the technical arena, and the degree to which it was self-serving. Wang looks closer than have previous studies of the partnership between science and the state, yet he maintains sufficient perspective to show that scientists themselves were hardly monolithic in their vision or modes of operation and that the internal dynamics of the committee, the personalizations of its leading members, and members’ relationships with influential scientists who did not participate on the committee or its panels had important consequences that colored their actions.

Wang shows clearly that this dynamic tension preceded the establishment of the PSAC in the complex array of forces and drives constituting the Cold War world. Thus his account of the history of the PSAC also considers this far larger world, so central to understanding, on the broadest canvas, the course of American science and its institutions in the second half of the twentieth century.

The book is divided into three major parts, beginning with a tutorial on public science and science advising in the United States prior to Sputnik that covers the Scientists’ Movement, the debate over the nature of the National Science Foundation, the H-bomb, and means to protect against a surprise attack. Wang traces the emergence of technological skepticism in the wake of World War II, a skepticism embodied in reactions to the management and use of atomic weaponry and the continued development of nuclear devices, as opposed to diplomatic solutions aimed at national security. The Oppenheimer case frames the public debate, but, more darkly, Wang shows how it brought to light a sharp fracture in the American scientific community and a deep division of opinion everywhere over the range of advice scientists can or should provide the state and, subsequently, how various schemes to manage the interface between science and the state might be constituted, including the short-lived Research and Development Board of the Joint Chiefs of Staff and, after that, the Science Advisory Committee to the Office of Defense Mobilization (ODM-SAC). But then Wang argues, clinically and cogently, that all sides more or less accepted the growing interdependence between science and the state; for this reason, “their partnership would survive the Oppenheimer case” (p. 49).

The second part of the book focuses on Sputnik and, in its wake, the formation of the PSAC and the debate over the nature of a national space program, eventually leading to the creation of NASA. Wang leads the reader through factors that clarify Eisenhower’s vision, specifically his choice of a person like James R. Killian, instead of an Edward Teller, to chair the PSAC. He describes how Eisenhower brought the ODM-SAC into the White House as a result of his “profound rethinking of the course of the Cold War and the nuclear arms race” (p. 74). This was not a winnable war, as the Teller faction promised. Sputnik, Wang argues, was the trigger for this rethinking, and he explores the ramifications throughout Eisenhower’s administration, from space policy and arms control to the national organization of the scientific infrastructure.

Wang composes his story dramatically, asking questions in such a way that even though the typical Isis reader may know the answer (Would PSAC survive the Eisenhower administration?) he or she is still pulled through the narrative with the promise of further enlightenment. Part 3, covering the Kennedy, Johnson, and Nixon years, clarifies how the PSAC was unable to face the forces marshaled by Johnson, James Webb, and even the National Academy’s Space
Science Board and so, pragmatically, did not contest the hijacking of the space program for a race to the moon, given its less than dire consequences. Moreover, he shows how the PSAC persevered in cases of true life-and-death consequence—as in its support for Rachel Carson’s message—to “maintain a healthy skepticism toward technological promises” (p. 209). Wang argues, as well, that the PSAC sought to ensure “sufficiency” rather than “supremacy” (p. 227) in its push for the first limited Test Ban Treaty. And, finally, he provides a new springboard from which to explore the ways the PSAC, at its height in the Kennedy years, lobbed for basic university science and how, in the Johnson years, responding to the needs of his Great Society vision of a beneficial role for government, the PSAC worked to find ways to expand support for science among a wider range of American educational institutions and to develop means to restore the environment.

Under Johnson, however, the PSAC also had to face down new technological enthusiasms to win the war in Vietnam, and this led to a new phase, with the growing debate over an antihallistic missile defense system adding to the uneasy alliance. Finally, in this last phase, at the end of the Johnson and into the Nixon years, when individual former PSAC members began openly to criticize government policies on national security and the environment, Wang traces the steps Nixon took to abolish the committee and the heroic efforts of Glenn Seaborg, Donald Hornig, and others to salvage what they could.

Throughout In Sputnik’s Shadow, Wang is always sensitive to helping and guiding easily distracted readers. He provides ample documentation, adequate historiographical context, and clear summaries of his points at the ends of each of the chapters.

DAVID H. DEVORKIN

Robert S. Westman; David Biale (Editors). Thinking Impossibilities: The Intellectual Legacy of Amos Funkenstein. xiv + 365 pp., illus., bibl., index. Toronto: University of Toronto Press, 2008. $65 (cloth).

“Rare is it that an intellectual can leave a profound imprint on one field, let alone several. Amos Funkenstein’s intellectual range exceeded what one might expect from three or four scholars of outstanding talents.” There is no better way to describe Amos Funkenstein’s exceptional legacy than this first sentence of the preface to this memorial volume, aptly entitled Thinking Impossibilities. The variety of topics with which Funkenstein dealt is almost inconceivable: the dialectics of secularization and the theological dimensions of modern science and historiography; perceptions of history (and of the end of days) from antiquity to the present; Christian–Jewish discourse and disputations; biblical exegesis; modern German Jewish thought. In each of these fields Funkenstein left a profound imprint. But, as the editors mention, even more important are the stimulating links he made between various themes and topics and the ways in which he combined them into a comprehensive field of inquiry, one based on the fundamental questions that occupied all his studies: perceptions and interpretations of history (of the past and the future), of Scripture, and of nature—three dimensions that from his point of view were inseparable.

Many of these aspects are demonstrated with striking virtuosity in Funkenstein’s seminal Theology and the Scientific Imagination (Princeton, 1986), where he closely examined the “dialectics of secularization.” Focusing on what he termed “the secular theology of the seventeenth century,” Funkenstein exposed the medieval theological foundations and the dialectical process that led to the emergence of new perceptions of law, nature, and history. It is therefore not surprising that, as discussion of the nature of secularism has been growing in recent years, many have returned to this work as a source of inspiration.

Theology and the Scientific Imagination is a remarkable and pioneering contribution to the scholarship of the theological dimensions of modern scientific and historical imagination. But it is more than that: it is an inspiring attempt to “actualize” premodern questions and epistemologies, arguing for their continuing relevance to our self-understanding. This aspect is manifest in the very structure of the book, where each part is dedicated to one of the attributes of God in the scholastic tradition: Omnipotence, Omnipresence, Divine Providence, and Divine Knowledge. On yet another level, Funkenstein demonstrates the interrelations between Jewish and Christian traditions, as well as the role of disputations in shaping both identities.

Thinking Impossibilities preserves this extraordinary horizon by bringing together essays on topics that are seldom discussed together and by showing how Funkenstein’s arguments and readings continue to inspire a variety of fields. As an appendix, the volume also includes, for the first time in English, Funkenstein’s last es-