

Book Reviews

Can Democracies Fly in Space?—The Challenge of Revitalizing the U.S. Space Program

W. D. Kay, Praeger Publishers, Westport, CT, 1995, 244 pp., \$59.95

The Future of the Space Industry—Private Enterprise and Public Policy

Roger Handburg, Quorum Books, Westport, CT, 1995, 169 pp., \$55.00

Since the end of the Cold War, the international situation has changed dramatically, with significant effects on the U.S. space program. At the same time, chronic federal budget deficits have caused the Administration and Congress to curtail federal spending on some large space projects. Indeed, NASA's budget has reached a peak and is expected to decline over the next several years. Recently, NASA published a new Strategic Plan with visions of the future that differ significantly from the Space Exploration Initiative of just a few years ago. Yet, the Space Shuttle continues to fly missions regularly, and the work of building a Space Station goes on in cooperation with Russia. Commercial activities in space are in an early stage of development, but a rapidly growing international telecommunications industry exerts a growing demand for low-cost launch capability.

What should be the future of the U.S. space program? The books *Can Democracies Fly in Space?* by W. D. Kay and *The Future of the Space Industry* by Roger Handburg both address this fundamentally important question but from different viewpoints.

The tenor of *Can Democracies Fly in Space?* is established in the book's opening sentence: "Over the last two decades it has become increasingly obvious that something is terribly wrong with the U.S. space program." The first five chapters of the book address this premise by citing mission failures and critiquing NASA. A strength of these chapters is the documentation of past missions with supporting references; however, the emphasis rests on negative aspects of the programs, and successes are given insufficient credit. The last three chapters discuss prospects for reform. There are discussions of the benefits of international cooperation in space ventures and the potential benefits of technological breakthroughs. There is very little discussion of the role of the private sector in future space development. Ultimately, the author is pessimistic about the future of the space program based on the view that U.S. political institutions are incapable of addressing the fundamental problems. This conclusion reflects the book's view that the future of the space program is based on actions by the federal government.

The book is flawed by technical errors. For example, on page 168 there is a discussion of single-stage-to-orbit systems with the statement that the concept of a

hypersonic aerospace plane taking off and landing like a conventional airplane is not new: "The same principle was employed... on the first piloted rockets like the X-1 and X-15." Of course, the X-1 and the X-15 did not take off from runways, but rather they were launched at altitude from carrier aircraft.

In contrast, *The Future of the Space Industry* presents an optimistic view of the long-term prospects for space development. And its view is that private enterprise will have a significant role in future development of space. This view is stated clearly in the book's first sentence: "Commercial space is no longer merely the dream of visionaries or the province and playground for earthbound government bureaucrats." The book regards the problems of the public sector as opportunities for the private sector. The first six chapters of the book discuss the prospects for private enterprise, including a discussion of the lessons to be learned from the failure of the Landsat program. There is a chapter devoted to reinventing NASA with the conclusion that NASA remains a vital national technological resource whose important contribution must be recaptured and continued. The book sees NASA's role focused mostly on research and development, with emphasis on building national economic competitiveness. The last three chapters of the book discuss the implications and trends of the commercial development of space.

There is a currently popular book, *Undaunted Courage—Meriwether Lewis, Thomas Jefferson and the Opening of the American West* by historian Stephen E. Ambrose. *Undaunted Courage* tells the story of the Lewis and Clark expedition as the great epic of the young American republic. *The Future of the Space Industry* closes by observing that, although the Lewis and Clark expedition blazed a trail across the Northwest, it was the pioneers who followed in covered wagons that developed the territory economically. By analogy, the book observes that in a modern epic journey the astronauts landed on the moon in 1969. The book concludes that it is now time for new pioneers to develop the economic future of space.

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