

Spaceflight in the Shuttle Era and Beyond: Redefining Humanity's Purpose in Space. By Valerie Neal. (New Haven: Yale University Press, 2017) Pp. 270.

Few books better demonstrate the evolution of the field of spaceflight history than Valerie Neal's book *Spaceflight in the Shuttle Era and Beyond*. In 1981, a group of historians gathered for a seminar at the National Air and Space Museum to consider the state of their discipline. These scholars agreed that with a few exceptions, most authors who had written books on spaceflight history to that point were consumed with technical details and did not consider broader social and cultural themes. These authors were more interested in exploring the intricacies of the *Saturn V* rocket propellants and engines, for instance, than in exploring what a machine like the *Saturn V* meant for the society that constructed it. Scholars over the next two decades, realizing that the former approach provided too narrow a view of their field, strove to integrate the latter approach until the organizers of a 2006 conference agreed that they had developed to an impressive extent a "new aerospace history...that moves beyond an overriding concern for the details of the artifact."¹ As the holder of an M.A. and Ph.D. in American Studies before she began her job as a National Air and Space Museum curator in 1989, Valerie Neal is a natural choice to examine the cultural dimensions of spaceflight and not simply the technical details. Neal seeks to add knowledge to spaceflight that goes beyond what would interest an engineer who works on a space vehicle and instead engage a broader audience, therefore fitting into the "new aerospace history."

Neal explores in this book how NASA officials and the media interpreted the meaning of spaceflight during the Space Shuttle era, finding that these entities attempted to frame this era around the pragmatic vision of routine commuting to Earth orbit but found this meaning contested as the years passed. From 1969 to 1972, twelve Americans had set foot on the Moon. Neal finds that two cultural narratives had helped to sustain support for *Apollo* lunar exploration: the idea that Americans should continue to explore the frontier in the tradition of westward expansion that had marked the nation's history, and the idea that Americans should prevail in a heroic contest against an adversary (the Soviet Union during the Cold War "space race"). Yet after *Apollo 11*, support for further moon landings waned. This meant that human spaceflight needed a new rationale to maintain public support. Neal devotes her book to explaining the formation of that new rationale and its transformations through the 21st century. President Richard Nixon laid the foundation of the post-*Apollo* era in human spaceflight by approving the Space Shuttle project in 1972. This meant that future astronauts would travel not a quarter of a million miles to the Moon, but to Earth orbit aboard this massive winged ship. Since these astronauts would not be exploring new territory, the Nixon administration, NASA officials and the media framed the meaning of spaceflight as instead exploiting Earth orbit. Like workers commuting to an office, astronauts would routinely commute to Earth orbit to bring practical benefits to their society, from the deployment and repair of satellites, to laboratory experiments yielding new knowledge into life and materials science, to the construction of a space station. The vehicle would also carry women, African-Americans, and Hispanics who

¹ Steven Dick and Roger Launius, eds., *Critical Issues in the History of Spaceflight* (Washington, D.C.: NASA SP-2006-4702, 2006), vii.

would carry out tasks that went beyond piloting the vehicle, thereby making the astronaut corps more diverse than the community of white male test pilots it had been during the 1960s. In the tradition of a cultural studies scholar, Neal argues that these ideas amounted to the imaginary, or “broad common understanding that permeates a society and makes sense of its norms and practices,” that marked the Space Shuttle era.² She draws upon an impressive variety of sources to support this argument, citing the speeches and publications that NASA officials produced to frame the meaning of the Shuttle era, including sources available in archival collections in Washington, D.C. and Houston. But she does not confine herself only to NASA sources; she also examines the influence of news coverage, editorials, and even cartoons in shaping public opinion. For instance, cartoonists depicted the Space Shuttle as a “You-Haul” truck and made this a visual icon that highlighted the meaning of the shuttle as a practical and routine commuter vehicle.

However, Neal also makes a considerable case that the media contested this framing of meaning. After the first launch of *Columbia* in 1981, for example, *New York Times* writers frequently reported on the technical glitches that delayed flights and eliminated any hope that the vehicle could fly frequently enough or deliver enough services to pay for itself. Though NASA released colorful booklets explaining the benefits of the scientific research done on *Spacelab* shuttle missions, which Neal analyzes as part of her exploration of the visual rhetoric of meaning, editorialists and scientists often questioned the scientific productivity of the vehicle and argued that unmanned vehicles had accomplished almost all of the important science in space. The shocking destruction of *Challenger* and the loss of its seven astronauts on January 28, 1986, brought to the forefront severe reservations that the shuttle could ever make space travel routine, as well as the arguments that NASA needed a new goal worthy of human spaceflight or that unmanned vehicles should travel into space rather than astronauts. Though the program recovered after the *Challenger* disaster, the loss of *Columbia* and seven more astronauts on February 1, 2003, brought the same questions from the media. Similarly, Neal devotes several chapters to media criticism of NASA’s proposed space station (endorsed by President Ronald Reagan in 1984 but not occupied by a crew until 2000 and not completed until 2011) and plans to send humans beyond Earth orbit that fizzled in the 1980s, 1990s, and 2000s. Thus, by the end of the book, Neal has mustered an enormous array of evidence to support her assertion that “reality proved to be a much harder thing to control than the optimists who launched a new era in spaceflight ever anticipated.”³

This book deserves a large audience because, as a cultural studies document, it has the potential to engage scholars not traditionally associated with spaceflight history. The merging of cultural studies and human spaceflight is still a fairly recent phenomenon; Neal’s fellow National Air and Space Museum curator Michael Neufeld notes that this “did not emerge until the end of the 1990s.”⁴ This underscores the need for scholars like Neal to show how cultural history can be drawn into the web of spaceflight history, a much narrower domain. For those

² Valerie Neal, *Spaceflight in the Shuttle Era and Beyond: Redefining Humanity’s Purpose in Space* (New Haven: Yale Univ. Press, 2017), 4.

³ Neal, *Spaceflight in the Shuttle Era*, 214.

⁴ Michael Neufeld, ed., *Spacefarers: Images of Astronauts and Cosmonauts in the Heroic Era of Spaceflight* (Smithsonian Institution Press, 2013), 4.

scholars who do not specialize in spaceflight history, the book should attract interest because the ideas of framing, construction of meaning, and memory are applicable to a wide variety of historical topics. For those scholars who do specialize in spaceflight, this book offers the most thorough treatment of the cultural understanding of the Space Shuttle era yet attempted and will hopefully inform the creation of new cultural understandings as astronauts continue to soar beyond Earth.

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