Inventing the American Astronaut.

By Matthew H. Hersch. New York: Palgrave Macmillan, 2012.
Pp. xiv+220. $27.

This slim though rich, cogently argued, and highly readable book is an excellent example of how applying a new analytical framework leads to fresh insights on a familiar subject. Popular imagination has been saturated with NASA's image-making, astronauts' self-fashioning, politically charged accounts loaded with either glorifications or accusations, and imaginative journalism catering to the sensation-seeking public. Set against this background, scholarly studies have evolved from dry technical and institutional histories, to animated stories of political machinations, to the most recent social and cultural analyses, including studies of the iconic role of the American astronaut in popular culture, the institutional culture of NASA, the role and identity of the astronaut in the age of automation, the conceptualization of the astronaut's body in aerospace medicine, and multifaceted gender issues. Drawing on the wealth of these studies, and complementing them with his own thorough research of space archives and oral interviews, Matthew Hersch has created an integrated picture of the meteoric rise and slow descent of the American astronaut as a profession.

Hersch applies the sober, decidedly unsentimental, and almost brutally incisive analytical framework of labor conflict and professionalization to a whole range of issues negotiated within NASA. Each of the debated issues—from the criteria for astronaut selection, to the degree of spacecraft automation, to crewing decisions, to mission programming—emerges loaded with interests of various professional groups—test pilots, military pilots, scientists, engineers, and managers. Peeling off the familiar layers of heroic imagery, colorful personality, and sensational notoriety, Hersch shows that at the core lies a series of clashes of professional cultures, each competing for influence within the U.S. space program.

Unlike the first Soviet cosmonauts, who were selected from among junior military pilots and whose identity was kept secret until their flights, the first American astronauts were well-educated, experienced, elite test pilots who became celebrities well before they flew into space. While the cosmonauts found themselves almost completely at the mercy of powerful space engineers, the astronauts skillfully used their symbolic capital to gain influence in various aspects of the U.S. human-spaceflight program, from crewing decisions to spacecraft design. Thus while the cosmonauts and the astronauts seemed to fit into the same occupational niche, their *professions*, emerging in dissimilar sociocultural contexts, showed remarkable differences.

A series of social and cultural tensions shaped the profession of the American astronaut. The first astronauts had to navigate between NASA's

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engineering corps, which favored reliable automation, and the test-pilot community, which placed the highest value on superb piloting skills. In the end, the astronauts were able to carve out a professional role for themselves, which combined high technical expertise with manual piloting and backup options at crucial phases of flight. Further, the arrival of scientist-astronauts and later military pilots challenged the dominant status and cultural norms of pilot-astronauts. In response, the pilot-astronauts hardened their stance, marginalizing the other groups within the astronaut corps. Tracing how these tensions played out in the Apollo and Skylab programs, Hersch shows that the research component of the U.S. human-spaceflight program suffered as a result of such labor disputes.

The role and identity of the American astronaut were constantly renegotiated in response to internal professional disputes, public-relations goals, and political agendas. In response to the changing sociocultural context—the cold war, détente, environmentalism, civil rights, and multiculturalism—NASA deftly adjusted its priorities, while the different groups of astronauts were also quick to exploit the political and cultural sensibilities of the day.

Constantly drawing comparisons with other historical labor disputes and the formation of other professions—from mechanical engineers to doctors and lawyers—Hersch fleshes out the specificity of the astronaut case. The astronaut profession emerges as a problematic outcome of the complex interplay of narrow expertise, high publicity, massive and expensive technological infrastructure, and the uneasy burden of popular imagination.

The story told in the book calls for a more systematic comparison with the Soviet case. The Soviet human-spaceflight program experienced many of the same tensions, opening an even larger gap between the professional identity and the public image of the cosmonaut. Yet, the complex organizational structure of the Soviet space program, lacking the unifying administrative force of NASA, produced a fractured cosmonaut corps, with different cosmonaut groups associated with different powerful organizations in the space industry and in the air force. As a result, the cosmonaut corps began dividing into subspecialties, even before it formed a unified profession. The consequences of this distinct pattern of professionalization for the development of space technology and space policy deserve further study.

Occasional errors, such as the claim that an average spacewalk lasted "half a day" (p. 162) (in fact, the *longest* spacewalk in NASA history was under nine hours), may amuse the reader, but they do not diminish the value of the book. The account of the Apollo–Soyuz project would have benefited greatly from the use of sources on the Russian side. Hersch's statement that Soviet hardware was "at least five years behind that of Apollo" (p. 143), for example, must be tempered by the simple fact that the docking mechanism that locked Apollo and Soyuz together was designed by the Soviets.

This book is a must read for any space historian. Historians of technology would find here a vivid and instructive example of one important

social dimension of technology—being the launchpad of a new profession. The invention and evolution of space technology prove inextricably interwoven with the invention and evolution of the American astronaut.

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Imagining Outer Space: European Astroculture in the Twentieth Century.

Edited by Alexander C. T. Geppert. Basingstoke, UK: Palgrave Macmillan, 2012. Pp. 416. $105.

In 1997, Howard McCurdy published his pathbreaking *Space and the American Imagination*, which related the dreams of spaceflight to the larger American culture. Asif Siddiqi has also explored this theme in the context of the Russians in his *The Red Rockets' Glare: Spaceflight and the Soviet Imagination, 1857–1957* (2010), while this collected work seeks to do the same for the nations of Europe. In *Imagining Outer Space: European Astroculture in the Twentieth Century*, Alexander Geppert brings together an eclectic though insightful collection of essays to address this question.

Geppert dubs the study of this phenomenon "astroculture," which is essentially shorthand for "how did the idea of outer space, spaceflight and space exploration develop over the course of the twentieth century into a central element of the project of Western and in particular European modernity" (p. 6). It also seeks to describe how "outer space [was] represented and communicated, imaged, popularized and perceived in media" (ibid.). This notion of astroculture in Europe has some analytical potential, especially as it relates to the longstanding fascination of a subculture of Europeans in the prospects of spaceflight. This subculture ranges from science fiction—such depictions as Tintin, Dan Cooper, and *Space: 1999* come to mind—to nonfiction, such as reporting in magazines like *Aus Forschung und Technik* and *Science et Vie*, to oddities like UFO sightings in Europe. Geppert assembles chapters on all of these subjects, and many more, in this quite revealing collection of essays.

Several of the essays are genuine gems that not only stand on their own, but also reinforce themes in other chapters. For example, the film image of Wernher von Braun explored by Michael Neufeld and William Macauley's essay on the Pioneers 10 and 11 plaques provide uniquely European perspectives on U.S. space activities. Some of the chapters deal with very recent events, such as the Tristan Weddigen piece on the Mars lander Beagle 2 and broader essays on space and culture by Geppert, Steven Dick, Bernd Müt-