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Cultural Images of Humans in Space

Spacefarers: Images of Astronauts and Cosmonauts in the Heroic Era of Spaceflight. Edited by Michael J. Neufeld (Smithsonian Institution Scholarly Press, Washington, DC, 2013). Pp. 256. $29.95. ISBN 9781935623199.

Space history meets media studies in this captivating book. Michael Neufeld has masterfully put together a collection of lively yet scholarly essays addressing multiple facets of the cultural fascination with human spaceflight. The essays cut across various national contexts (American, Soviet, and European), different programmes of space exploration (from Vostok to Apollo to the US Space Shuttle), and a variety of media (from magazines to books to television). Using Alexander C. T. Geppert's term, one might see this volume as a valuable attempt to survey some of the key themes that emerge in the study of "astroculture."

The first three essays trace the evolution of the cultural imagery of US astronauts from the Mercury Seven to shuttle astronauts. Margaret Weitekamp offers a fine analysis of gender representations in two television series, *The Man and the Challenge* and *Men into Space* (1959–1960), which aspired to a realistic depiction of scientific principles and practical challenges of human spaceflight. Playing with gender stereotypes of the day, some episodes skilfully contrasted physical strength with psychological weakness and challenged the mythology of the so-called "weaker sex." As the space race was moving to the forefront of the propaganda battles of the Cold War, images of masculinity came to symbolize not only the psychological and physical challenges of spaceflight but also the toughness and determination of Cold Warriors. Projections of masculine strength, portrayed, incidentally, by a gay actor, thus resonated with a wider political agenda.

Matthew Hersch's excellent discussion of the images of space voyagers in American popular culture reveals a wide difference in the portrayal of pilots-astronauts and scientists-astronauts in the movies of the 1950–1970s. The heroic image of a skilful pilot, calmly steering his (in the all-male astronaut corps) spacecraft through life-threatening emergencies, contrasted sharply with caricatured depictions of hapless, unqualified, or even creepy scientists, carried on board as passengers. Such cultural attitudes countered the pressures that forced NASA's reluctant inclusion of 11 scientists, specializing in a range of fields from astronomy to physiology, in the astronaut training group of the 1967 selection. Hersch argues that, in view of such cultural misrepresentations, the public often shared NASA management's and pilot-astronauts' prejudices against scientists, resulting in the inclusion of only one scientist, a geologist, in the last Apollo mission.

James Spiller's engaging piece shows that popular representations of both the Mercury Seven and the shuttle-era crews were inspired by the American frontier mythology, but with subtle differences. Although early astronauts were portrayed as daring frontier

trailblazers, racing to outdo Soviet rivals, the shuttle crews evoked the imagery of frontier settlers, industrious homesteaders whose knowledge and skill would advance the image of the United States as a global leader. These contrasting images, Spiller argues, not only reflected the evolution of the national space program's goals but also resonated with wider cultural concerns about America's status in the world.

The second set of three essays contrasts cultural representations of spacefarers in different national contexts. Andrew Jenks' article, adapted from his terrific biography of Gagarin, *The Cosmonaut Who Couldn't Stop Smiling*, reveals multiple agents and agendas in the construction of Soviet popular imagery of Gagarin. For the Soviet youth in the 1960s, Gagarin symbolized the dawn of a futurist utopia, liberating them from the daily hardships and political constraints of Soviet everyday life. At the same time, identifying themselves with the "simple man" Gagarin, Soviet citizens felt connected to goals of the state. In the post-Soviet era, nostalgia for space glory turned into "memory business." The image of Gagarin, memorialized in innumerable expositions in his home town, became an important token of negotiation between the centre and the periphery, with the periphery embodying the "true Russian spirit" in the exchange for the centre's patronage and funding.

Guillaume de Syon adds a fascinating third dimension to the traditional American/Soviet binary narrative of the space race by exploring coverage of cosmonauts and astronauts in the glossy weekly magazine *Paris Match* between 1961 and 1981. By focusing on the daily life of space travellers, the magazine effectively domesticated or, so to speak, "enFrenchized" space culture for the French reader, fostering support for the participation of French "spationauts" in human spaceflight.

A nice counterpart to the French case is Trevor Rockwell's insightful comparison of representations of space exploration in two American and Soviet glossy magazines, which fulfilled a particular propaganda mission. *America Illustrated* was produced by American media experts for the Soviet audience; the Soviets distributed *Soviet Life* in the United States. Both sides shared a common vision of human spaceflight as the epitome of peace and progress, yet they never missed an opportunity to stress their ideological message. Soviets duly traced their achievements to the advantages of socialism; Americans touted liberty and openness.

The final set of three essays explores media attention to the changing professional, gender, and race demographics of the astronaut corps in the 1980s. Valerie Neal aptly contrasts the earlier heroic iconography of astronauts with the visually stunning and only occasionally dramatic documentary IMAX footage shot by astronauts in orbit in the shuttle era. In IMAX films, the sense of excitement of spaceflight was conveyed by aesthetic beauty and technical sophistication rather than by the risk and danger in the earlier era. *Hubble 3D* film (2010) brought the sense of sublime by computer manipulation of astronomical images, further departing from the astronaut-centred narrative devices of the past. Jennifer Ross-Nazzal examines media coverage of the first class of space shuttle astronauts, which included six women. She argues that the media treated the women astronauts differently from men by emphasizing their feminine traits and family life instead of focusing on their space work.

Finally, Margaret Lazarus Dean convincingly argues that Tom Wolfe's bestseller *The Right Stuff* (1979) and Stephen Harrigan's novel *Challenger Park* (2006) fictionalize two

different eras in human spaceflight in fundamentally different ways. The former casts the early astronauts as warriors and heroes and constructs a narrative of "competitiveness, domination, and masculinity" (p. 223); the latter portrays shuttle-era astronauts as less heroic and yet more emotionally complex, as someone to whom ordinary readers can relate.

This volume is a snapshot of some of the best scholarship on cultural representation of astronauts and cosmonauts. It shows that such representations both reflect and shape societal attitudes towards human spaceflight, mixing together cultural stereotypes, propaganda agendas, and social criticism. This book is a fascinating and stimulating read for the specialist and the lay reader alike.

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Paying for Astrophysics in the United States

In Search of the True Universe: The Tools, Shaping, and Cost of Cosmological Thought. Martin Harwit (Cambridge University Press, Cambridge, 2013). Pp. xvii + 393. £35. ISBN 9781107044067.

In 2002, Donald Osterbrock warned us "history is too important to be left to the historians." A decade later, Martin Harwit warns us that science policy, in particular policy dealing with the funding of astronomical research, is too important to be left to the astronomers (or the politicians). The insights of the historians and the sociologists of knowledge are essential for the proper understanding of the progression of science. From that understanding, one can identify the best future science policy, especially in the area of patronage.

Drawing on extensive reading in manuscripts and published primary and secondary sources, as well as his own experiences as a researcher, Harwit provides a nuanced and well-documented history of astrophysics in the twentieth century, with a primary focus on the post–World War II era. He reminds us that scientific progress is the result of the complicated interaction of ideas, personalities, technology, and the social context (including, but not limited to, the political and economic contexts). Among the topics he explores are the roles of breakthroughs in neighbouring disciplines, military technology adapted for scientific purposes, institutional leadership, and communication among astrophysicists. This is not a history of astronomical ideas. Harwit has argued in earlier publications that new technologies were essential for many significant astrophysical discoveries. Here he goes further, arguing that "new ideas seem to have played but a minor role" (p. 196) even in theoretical astrophysics. Tools are essential. In the case of theoretical astrophysics, one needed new mathematical tools to translate ideas into important theoretical advances.

Harwit provides two summations that every current student of astronomy, whether scientist or historian, should ponder. First, there is his figure showing the potentially