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## Chapter 8

# Foreword to Spaceflight: An Illustrated Bibliographical Review of Spaceflight\*

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### Abstract

In the early twentieth century, visionaries and experimenters began developing the foundations for human spaceflight and taking steps to bring those dreams to reality. To further their cause, they wrote books and articles that described the challenge of human spaceflight and the opportunities that spaceflight presented for humanity.

This chapter will trace the trail of published works on the development of rocketry and human spaceflight concepts, prior to the launch of “Sputnik,” the first Earth satellite, and will include numerous illustrations that provide an imaginative visual record of those dreams. This chapter will include works published in English, German, French, Italian, and Spanish to offer a broad view of spaceflight dreams as they evolved around the world. In addition, this chapter will also provide the first comprehensive record of publications from the former Soviet Union, which offers insight into the popular interest in spaceflight, especially prior to World War II.

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## I. Introduction

Books have provided a wonderful method for capturing the dreams, plans, and accomplishments of explorers through the years. Whether exploring the highest mountain peaks in the world, the deepest regions of the oceans, or outer space and our planetary neighbors, travelers have used books and magazine articles to document those adventures. These publications were generally intended to inform and educate their readers, whether academic, professional, or general public. Sometimes the purpose was to provide publicity as explorers sought money to support their activities, which was particularly true in the early days when individuals or small groups of likeminded individuals did much of the work. At other times, the purpose was to document the results of plans and calculations to share with peers as the exploration effort grew and gained momentum.

The purpose of this chapter is to share visions of the future of spaceflight as a “photo album” of the literary foundations of human spaceflight. It is a celebration of our spaceflight heritage, along with dreams of the future from the perspective of the past, using history to provide context for the books that were published along the way.

## II. The Fathers of Spaceflight

Three men are widely recognized as the fathers of rocketry for spaceflight—Konstantin Tsiolkovskii (Russia), Hermann Oberth (Romania/Germany), and Robert Goddard (United States). The “holy grail” of this genre is an article he wrote in the May 1903 issue of *Nauchnoe Obozrenie* [*Scientific Review*] on “Exploration of Space by Means of Reactive Devices” (Figure 8–1) in which Tsiolkovskii applied the “rocket equation” to spaceflight and addressed various aspects of future spaceflight. Tsiolkovskii was influential as a mentor and inspiration to experimenters and spaceflight advocates in the Soviet Union. Oberth was also an early theoretician who was well-known to early rocket pioneers in Europe and beyond. He tried a bit of experimentation, but he was a better writer than scientist or engineer. Oberth privately published one of the most influential books on spaceflight—*Die Rakete zu den Planetenräumen* [*The Rocket into Planetary Space*] (1923) (Figure 8–2)—which inspired a generation of “rocketeers” around the world. Oberth later published a significantly expanded commercial edition, *Wege zur Raumschiffahrt* [*Path to Space Travel*] (1929) (Figure 8–3). Goddard, on the other hand, was an experimenter who spent his life building and testing rockets. He published his seminal monograph, *A Method of Reaching Extreme Altitudes* (Figure 8–4), in 1919 through the Smithsonian Institution and launched the first liquid-fuel rocket on 16 March 1926.



**Figure 8–1:** Tsiolkovskii, “Exploration of Space by Means of Reactive Devices” (1903).  
**Figure 8–2:** Oberth, *Die Rakete zu den Planetenräumen* (Oldenbourg, 1923).  
**Figure 8–3:** Oberth, *Wege zur Raumschiffahrt* (Oldenbourg, 1929).  
**Figure 8–4:** Goddard, *A Method of Reaching Extreme Altitudes* (Smithsonian Institution, 1919).

Another early publication of note includes *L’exploration par fusées de la très haute atmosphere et la possibilité des voyages interplanétaires* [*Exploration by Rockets of the Upper Atmosphere and the Possibility of Interplanetary Voyages*] (Figure 8–5) in 1928 by the father of French aeronautics, Robert Esnault-Pelterie.

This publication was prelude to a more massive effort by Esnault-Pelterie with his encyclopedic *L’Astronautique* (1930) (Figure 8–6).

Other interesting titles from this era include *Si può già tentare un viaggio dalla terra all luna?* [*Is It Possible to Attempt a Voyage from the Earth to the Moon?*] (1923) (Figure 8–7) by Luigi Gussalli and *La Conquête de l’Espace* [*The Conquest of Space*] (1916) (Figure 8–8) by Victor Coissac. Neither was particularly influential but they are interesting as early efforts to flesh out the problems of human spaceflight, flawed though they were.

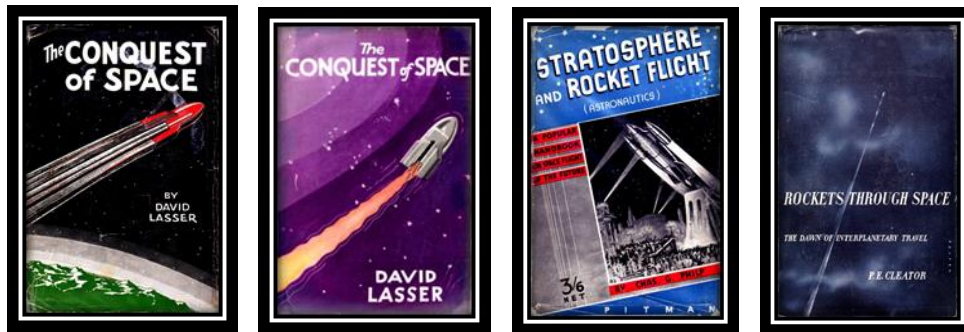


**Figure 8–5:** Esnault-Pelterie, *L’exploration par fusées de la très haute atmosphere et la possibilité des voyages interplanétaires* (Societe Astronomique de France, 1928).  
**Figure 8–6:** Esnault-Pelterie, *L’Astronautique* (Lahure, 1930).  
**Figure 8–7:** Gussalli, *Si può già tentare un viaggio dalla terra all luna?* (Società Editrice Lireria, 1923).  
**Figure 8–8:** Coissac, *La Conquête de l’Espace* (Librarie de “l’Inegrale,” 1916).

### III. A Gathering of Interests

What began as a solitary endeavor grew, as people with similar interests formed small groups to share news and plan for the future. Writers, particularly during the 1920s and 1930s, were the publicists who used their medium to spread the “gospel” of spaceflight and to explain what it offered to the future of mankind. These visionaries were able to take the dreams of spaceflight and weave them into stories for public consumption.

David Lasser wrote the first book of nonfiction in English on the use of rockets for human spaceflight, *The Conquest of Space* in 1931 (Figure 8–9 for cover of US edition and Figure 8–10 for cover of 1932 British edition). Lasser was a founder and the first president of the American Interplanetary Society (later renamed the American Rocket Society, which exists today as the American Institute of Aeronautics and Astronautics). The first British books of this genre appeared shortly thereafter—*Stratosphere and Rocket Flight (Astronautics)* (1935) (Figure 8–11) by C.G. Philp and *Rockets through Space: The Dawn of Interplanetary Travel* (1936) (Figure 8–12) by P.E. Cleator. Although many of these early rocketeers tended to be writers, they were soon joined by technical members, such as engineers, who were interested in the practical application of rocketry to human spaceflight. Together, these groups of dreamers and doers provided a fertile breeding ground that merely awaited a catalyst to reach fruition.



**Figure 8–9:** Lasser, *The Conquest of Space* (Penguin Press, 1931).

**Figure 8–10:** Lasser, *The Conquest of Space* (Hurst & Blackett, 1932).

**Figure 8–11:** Philp, *Stratosphere and Rocket Flight (Astronautics)* (Pitman, 1935).

**Figure 8–12:** Cleator, *Rockets through Space* (Allen & Unwin, 1936).

In Germany, Oberth provided an inspiration for spaceflight enthusiasts. Amongst writers who sought to inform and educate the public was Willy Ley, who emigrated to the United States shortly before the outbreak of World War II. His early work includes *Die Fahrt ins Weltall [The Journey into Space]* (Figure

8–13), which he later published in an expanded edition (Figure 8–14). He also edited a collection of essays by members of the German Society for Spaceship Travel (widely known by the acronym for their German name, the Verein für Raumschiffahrt) as *Die Möglichkeit der Weltraumfahrt* [*The Possibilities of Space Travel*] (Figure 8–15).

Russians also shared dreams of travel to other worlds. In fact, they were more prolific than the rest of the world in publishing titles to inform and entertain readers in the years prior to World War II. Yakov Perel'man published a series of popular books on spaceflight from the 1910s into the 1930s, including *Mezhplanetnye puteshesviia* [*Interplanetary Travels*] (editions of 1919 and 1929 depicted in Figures 8–16 and 8–17). Nikolai Rynin also published a compendium of knowledge on spaceflight in a series of volumes from 1928 to 1932 under the series title *Mezhplanetnye soobshscheniia* [*Interplanetary Communications*] (Volume 4 depicted in Figure 8–18).



**Figure 8–13:** Ley, *Die Fahrt ins Weltall* (Hachmeister & Thal, 1926).

**Figure 8–14:** Ley, *Die Fahrt ins Weltall* (Hachmeister & Thal, 1929).

**Figure 8–15:** Ley, *Die Möglichkeit der Weltraumfahrt* (Hachmeister & Thal, 1928).

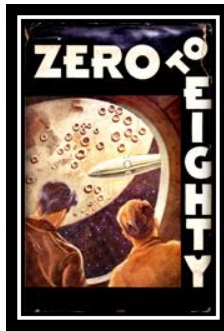
**Figure 8–16:** Perel'man, *Mezhplanetnye puteshesviia* (1919).



**Figure 8–17:** Perel'man, *Mezhplanetnye puteshesviia* (1929).

**Figure 8–18:** Rynin, *Mezhplanetnye soobshscheniia* (1929).

In addition to the books that attempted to describe the current state and plans for the future, others wrote novels based on these projections, with a nod at reality through inclusion of technical chapters or appendices. In addition to Lasser's book, nice examples of this approach are *Adventure Above the Clouds* (1933) by Frank Monk and Henry Winter (Figure 8–19) and *Zero to Eighty: Being My Lifetime Doings, Reflections, and*



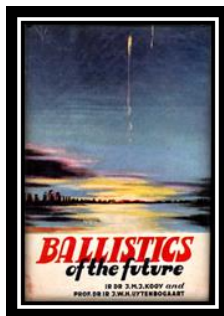
*Inventions also My Journey around the Moon* (1937) (Figure 8–20) by Akkan Pseudoman (pseudonym for Edwin Northrup).

**Figure 8–19:** Monk and Winter, *Adventure Above the Clouds* (Blackie, 1933).

**Figure 8–20:** Pseudoman, *Zero to Eighty* (Scientific Publishing, 1937).

#### IV. The Rise of the Rocket

It was extremely important to the development of rockets when the German military became interested in rockets as missiles and activities of “rocketeers” in Germany. This took rockets from the realm of the amateurs and into the arena of military applications. However, there is also a price to pay for relying on military support for a particular technology, whether it is atomic energy or rocketry. Technology is a sword that cuts in both directions. Rockets that fulfill dreams of launching humans into space (up and away!) are also potential weapons of war (up, then down). Rocketeers have struggled with this dilemma. But it is a legacy that we must acknowledge and understand.



The development of the V-2 rocket by Germany during World War II was a catalyst for rocket development in the United States and the Soviet Union following World War II. One of the most interesting contemporary books on the V-2, *Ballistics of the Future* by Kooy and Uytenbogaart (1946) (Figure 8–21), provides detailed schematics of the V-2 rocket and the location of launch sites in The Netherlands.

**Figure 8–21:** Kooy and Uytenbogaart, *Ballistics of the Future* (Stam, 1946).



Early experimenters were pleased to see their rockets launch without exploding. Then, they were eager to send them higher and farther. The destination was relatively unimportant for the moment, other than “up.” The German V-2 rocket program of World War II offered the first industrial-level development and production of rockets (albeit using slave labor). Walter Dornberger in V2 provided one of the first public accounts of the V-2 program (1952) (Figure 8–22).

**Figure 8–22:** Dornberger, *V2* (Hurst & Blackett, 1954).



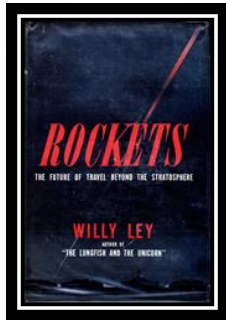
## V. The Popularization of Spaceflight

To advocates of human spaceflight, the goal was to place a spacecraft into orbit around the Earth or to send it to the Moon or Mars. Perhaps the most influential book on this theme was *Das Marsprojekt* [*The Mars Project*] (1952) (Figure 8–23) by Wernher von Braun, who was an early member of the German Society for Spaceship Travel and architect of the V-2 program, as well as a prominent figure in the US space program.

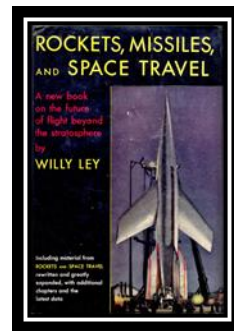
**Figure 8–23:** von Braun, *Das Marsprojekt* (Umschau, 1952).



Willy Ley was an early chronicler of the history, status, and future of human spaceflight, who escaped Nazi Germany in 1935. He published his first book on the prospects of spaceflight in Germany, as previously noted. He continued writing about spaceflight following World War II and is perhaps best known for *Rockets, Missiles and Space Travel* (Figure 8–24) which first appeared as *Rockets: The Future of Flight beyond the Stratosphere* (1944) (Figure 8–25), and which went through many editions and printings in numerous languages through the 1960s.

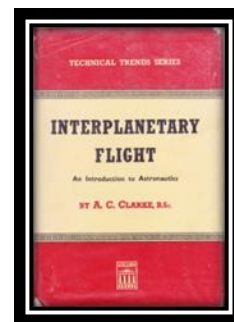


**Figure 8–25:** Ley, *Rockets: The Future of Flight beyond the Stratosphere* (Viking, 1944).



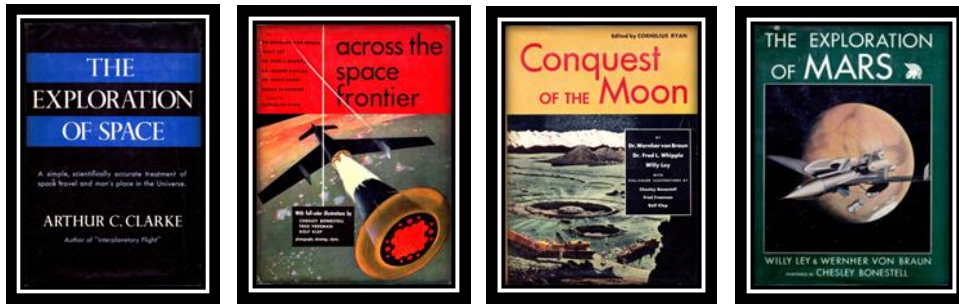
**Figure 8–24:** Ley, *Rockets, Missiles, and Space Travel* (Viking, 1951).

As the 1950s ushered in an era of prosperity and plans for the future, writers saw an opportunity to provide information and awareness to a general audience. Arthur C. Clarke introduced an astronautics primer, *Interplanetary Flight—An Introduction to Astronautics* in 1950 (Figure 26), which he followed shortly thereafter with the ubiquitous *The Exploration of Space* (Figure 8–27). Willy Ley was also instrumental in raising public awareness. He worked with a group of spaceflight professionals, including



**Figure 8–26:** Clarke, *Interplanetary Flight* (Temple Press, 1950).

von Braun, to publish a series of articles under the editorial guidance of Cornelius Ryan in *Collier's* magazine in 1952–1954 that envisioned the coming space age. These articles were later published in book form, including *Across the Space Frontier* (1952) (Figure 8–28), *Conquest of the Moon* (1953) (Figure 8–29), and *The Exploration of Mars* (with von Braun) (Figure 8–30).



**Figure 8–27:** Clarke, *The Exploration of Space* (Harper, 1952).

**Figure 8–28:** Ryan (ed.), *Across the Space Frontier* (Viking, 1952).

**Figure 8–29:** Ryan (ed.), *Conquest of the Moon* (Viking 1953).

**Figure 8–30:** Ley and von Braun, *The Exploration of Mars* (Viking, 1956).

## VI. Reaching the Next Generation

In addition to the staples of the Wild West, children were also captivated by this “next frontier.” Books began appearing that specifically targeted younger readers (Figures 8–31 through 8–36).



**Figure 8–31:** Bendick, *The First Book of Space Travel* (Franklin Watts, 1953).

**Figure 8–32:** Clarke, *The Young Traveller in Space* (Phoenix House, 1954).

**Figure 8–33:** Goodwin, *The Real Book of Space Travel* (Garden City Books, 1952).

**Figure 8–34:** Hurst, *The Big Book of Space* (Grosset & Dunlap, 1953).



**Figure 8–35:** Lewellen, *You and Space Travel* (Children’s Press, 1951).

**Figure 8–36:** Poole, *Your Trip into Space*, (McGraw-Hill, 1953).

Cold War tension between the United States and the USSR led to the space race—space was the new field of competition in a battle of ideologies. The initial venue for this competition was the International Geophysical Year (IGY), during which nations of the world were encouraged to join together to explore near-Earth space and better understand the Earth. At this same time, the United States and the Soviet Union were both eager to develop intercontinental ballistic missiles (ICBMs). IGY offered a convenient opportunity to sustain rocket development in support of the launch of the first artificial satellite into orbit around the Earth, ostensibly for peaceful purposes.

The publicity around efforts to place a satellite in Earth-orbit generated a lot of public interest, which resulted in many publications. Before the launch of *Sputnik*, there had only been a few hundred books published of speculative non-fiction on human spaceflight since the early 1900s. After the launch of *Sputnik*, the number of books about spaceflight increased significantly as people around the world sought information on efforts to explore this ultimate frontier.

The history of spaceflight is still being written as mankind continues its journey, back to the Moon and on to Mars.