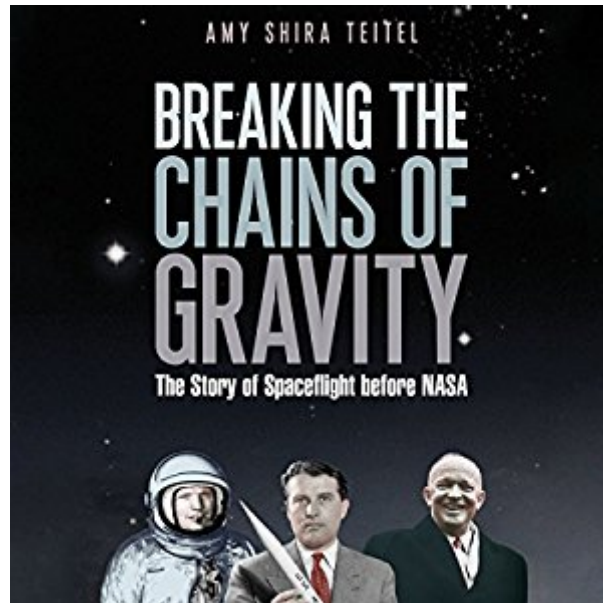


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# Breaking The Chains Of Gravity: The Story Of Spaceflight Before NASA



## Synopsis

NASA's history is a familiar story, culminating with the agency successfully landing men on the moon in 1969. But NASA's prehistory is a rarely told tale, one that is largely absent from the popular space-age literature but that gives the context behind the incredible lunar program. America's space agency wasn't created in a vacuum; it was assembled from preexisting parts, drawing together some of the best minds the non-Soviet world had to offer. With a central narrative woven from the stories of key historical figures, *Breaking the Chains of Gravity* tells the story of NASA's roots in an engaging and accessible way. The book begins with Wernher von Braun, the engineer behind the V-2 rocket, who dreamt of sending rockets into space. He orchestrated a daring escape from the ruins of Nazi Germany and was taken to America, where he began developing missiles for the United States Army. Ten years later his Redstone rocket was the only one capable of launching a payload into orbit. Just what payload von Braun's rockets would launch was under consideration at the National Advisory Committee for Aeronautics. While working out how to get a nuclear warhead through the atmosphere, NACA pioneered a round-bottomed capsule that could also keep men safe when returning from space. Meanwhile, US Air Force pilots rode to the fringes of space in balloons to see how humans handled radiation at high altitude, while NACA test pilots like Neil Armstrong flew cutting-edge aircraft in the thin upper atmosphere. *Breaking the Chains of Gravity* looks at the evolution of America's nascent space program, its scientific advances, its personalities, and the rivalries it caused between the various arms of the United States military, right up to the launch of Sputnik in 1957. At this point getting a man in space became a national imperative, leading to the creation by Dwight D. Eisenhower of the National Aeronautics and Space Administration.

## Book Information

Audible Audio Edition

Listening Length: 10 hours and 30 minutes

Program Type: Audiobook

Version: Unabridged

Publisher: Audible Studios for Bloomsbury

Audible.com Release Date: October 22, 2015

Whispersync for Voice: Ready

Language: English

ASIN: B015QJ9LB8

Best Sellers Rank: #95 in Books > Engineering & Transportation > Engineering > Reference >

History #98 inÂ Books > Science & Math > Astronomy & Space Science > Aeronautics & Astronautics #104 inÂ Books > Engineering & Transportation > Engineering > Aerospace

## Customer Reviews

Treitel is a good story teller. She is neither dry and simply factual, nor does she pump up the drama. In fact, I think her biggest virtue is letting the actual figures in the story display their own personalities. Some of the figures, e.g., Wernher von Braun, John Stapp, and Scott Crossfield, truly have larger than life personalities, and she lets them have their air time. I think she also does a good job of depicting the marriage between the military and the science side of the development of rocketry. Some of the efforts, and some of the personalities, fell harder to one side or the other. Certainly the military imperatives of World War II were a dark blessing for the development of new technologies, as were those that followed during the cold war. You could even read the story as a wrestling match, played both on a personal scale and on broader national scales, between military aspirations and space exploration. Von Braun dreams of trips to the Moon while building V-2s to be launched against Britain. Experimental planes like the X-15 derive from Eugen Sanger's vision of an "antipodal bomber". Astronauts ride in space capsules atop rockets designed as missile weapons. And at the end of the story, NASA emerges as a civilian agency under the Eisenhower administration, to the apparent frustration of the military branches, especially the Air Force. Any story is going to be selective. One decision Treitel made was to leave out the contributions of Robert Goddard. She states that decision in the book's Preface, citing the need to limit and focus the story. It's understandable that she focused her story on the trail that begins with the German rocket group prior to WWII, but that trail did intersect with Goddard's, or the technologies and approaches that he and his teams developed before his death in 1945. The omission still feels odd to me. The only mention of Goddard in the book is to say that he will not be part of the story. One part of the book I especially appreciated was the story of competition and inefficiency in the multiple space and missile programs undertaken in the late fifties, by the US Navy, Army, and Air Force. Strategic decisions to separate missile and space programs, along with those inter-service rivalries could arguably be said to have been responsible for both the Soviet public victory with Sputnik and the perceived "missile gap" of the time. A related debate over the next step for the American manned spaceflight strategy in the aftermath of Sputnik included a fascinating weighing of ballistic re-entry vehicles (space capsules) against gliders (space planes, descendants of the X-15 and precursors of the Space Shuttle). This was something I hadn't read before. I would have liked more coverage of the X-15's story itself, and

of its proposed successor, the X-20 DynaSoar. I'd recommend Milton Thompson's At the Edge of Space to anyone who would like to read that story. Now that I've read Teitel's book, I'd like to read a similar story about the early days of the Soviet manned space program. If anyone has a recommendation, I'd love to hear it. One I'd recommend on the space race itself is Walter McDougall's The Heavens and the Earth.

Interesting book, if a bit tedious in places. But it reviews an interesting period in world history as a prelude to the space age. I came away thinking the Eisenhower years were not without consequence, and the old general did not get us into any wars or drop atomic bombs. Good to know.

Breaking the Chains of Gravity is a wonderful departure from traditional historical accounts of early space exploration. Teitel's accessible narrative allows both the casual space history fan and the hardcore spaceflight buff to experience the haphazard, dangerous, and thrilling early years of rocketry in a way that few other writers have. One pitfall the author skillfully avoids is the tendency to "explain" history in such a way that the reader is not asked to think or consider the events on their own. Instead, Breaking the Chains of Gravity grants the reader the freedom to experience events and draw their own conclusions without being told how each achievement or failure will impact the future. This is a welcome change from most historians' perspectives. Teitel's skillful storytelling intelligently draws together the many threads of early rocket science, and has left me even more curious to look deeper into a number of events. Teitel makes this easy with a massive list of sources - a glossary of places and organizations, rockets, and people as well as an extensive bibliography for further reading. Teitel effortlessly achieves what every popular history writer should hope to give their reader. Also, pictures.

Well written history first of Von Braun's work and then expands to early (pre-NASA) rocket and hypersonic development and flight testing. A story about people and circumstances, not about technologies and technical development.

Recent years have seen many books on the first space age, most focus on Sputnik and forward. Here, Teitel starts with the first rockets in Germany, the start of rocket/rocket plane projects to the first sat launch to the creation of NASA. Followers of history will see familiar stories here, but Teitel

brings together these stories in a cohesive narrative with new details. People new to the story of man's first steps into space will enjoy this book as a great intro; familiar readers will appreciate the journey down memory lane. For more, check out books like *Operation Paperclip*, *Yeager* and *The Pentagon's Brain*.

I'm a big fan of space and history but I don't often get the chance to read, and even less often finish a book. This book, on the other hand, told an amazing story, filled with just the right amount of side-stories, personalities, and facts, all while told in an extraordinarily accessible way. The language was like a friend telling a fascinating tale and nothing like a textbook or history book. Exciting, it really communicated how amazing the advent of space technologies was, and it showed how big things start out small.

This is my first audio book. I was able to transfer the book to my mini SD card so I could play the book through my headsets while I'm jogging. This book is a reasonably well documented accounting of the early history and development of rocketry. I found it interesting, however, the oral presentations sounds as if it is being read from a high school history book. If you are not an enthusiast on the subject as I, you may find it a little dull.

The book is excellently detailed, providing microscopic insight into the many links in the long chain responsible for developing America's eventual manned spaceflight program. I am looking forward to purchasing and reading a follow up publication by this author concerning this subject matter.

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