

KIRKUS REVIEWS

TITLE INFORMATION

BEYOND THE SAGA OF ROCKET SCIENCE

In Space to Stay

Walter Sierra

Xlibris US (372 pp.)

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October 3, 2019

BOOK REVIEW

The third installment of a rocket scientist's odyssey through the history of space exploration.

In this series entry, Sierra traces an arc that leads from the United States government sparing almost no expense to beat the Soviet Union to landing men on the moon in the 1960s to the virtual mothballing of NASA amid "the harsh realities of public apathy, shifting priorities, and a turbulent political environment." Today, he laments, the U.S. space program "seems to have lost the luster it had during the space pioneering days of the 1960s when the nation was in a space race with the Soviet Union." Sierra's phenomenally researched and lavishly illustrated book captures the excitement of that halcyon period, spanning everything from the Apollo missions and the *Challenger* space shuttle disaster to the International Space Station. Space-program aficionados could hardly ask for more detail, and the technically inclined can plumb the intricacies of "density specific impulse" and combustion dynamics. The author has a talent for making the science accessible even for the layman, noting, for example, as when discussing the concept of Lagrange points: "Like a ball balanced at the peak of a steep hill, any slight perturbation will push the satellite out of equilibrium and roll it down the hill." Details range from the mundane—after the first space shuttle flight in 1981, for instance, pilot Robert Crippen reported that the toilet suffered from an annoying "low urinal flow and a feces separation problem"—to the awe-inspiring; the shuttle, Sierra says, was "the most complex machine ever built," with more than 2.5 million parts, including almost 230 miles of wiring. Particularly memorable is the portrait of the German-born Wernher von Braun, who led NASA's development of the Saturn V rocket that took Apollo 11 to the moon. The book was published before the successful maiden voyage of Elon Musk's spacecraft, but Sierra is hopeful that private enterprise can help keep the space dream alive: "In the coming decades human expansion will take place across the solar system," he predicts.

A work that provides enough detail to satisfy laypeople and exacting space buffs.

The US Review of Books

Professional Reviews for the People



[Beyond the Saga of Rocket Science: In Space to Stay](#)

by Walter Sierra

Xlibris

book review by Peter M. Fitzpatrick

"The International Space Station (ISS)—the most costly and complex project ever undertaken in human history—was 60 years in the making."

This is the third in a four-volume series penned by a man who has spent four decades in the aerospace and defense industries. This volume first explores the Apollo program, created largely in response to the Soviet's success in launching first the Sputnik satellite in 1957, followed by Yuri Gagarin's first successful orbiting of the earth in the Vostok 1 in 1961. President Kennedy helped give focus to the American response, and the 17 Apollo missions were the result. The first six were unmanned test flights, except for Apollo 1, where three astronauts died in a module fire. There was a total of eleven manned flights, with a successful moon landing in July of 1969. Watergate and public ennui regarding space exploration cut funding until 1981. Then the first space shuttle, *Columbia*, was launched. The author covers both the *Challenger* and *Columbia* disasters and has decided that the shuttle was never truly operational but only experimental like the X-wing series of jets. Thirdly, the author describes the slow evolution of the ISS. The final section, "Ασκληπιού," discusses the X-wings, the Mars expeditions, and other experimental spacecraft.

The author does a good job of simplifying complex calculus-derived orbital mechanics into simple concepts. He often does this by placing more technical data inside blue "boxes" interspersed throughout. There is a broad understanding of society's role in space exploration, with funding always being the central issue. But Sierra candidly reveals how the American military-industrial complex has been so completely interwoven with our space program, and how reams of huge multinational company proposals and contractor bidding have kept the cost extremely high. In addition, the author expertly addresses thought-provoking topics such as whether rocket engines are a thing of the past as well as possible futures in space exploration.

RECOMMENDED by the US Review



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Beyond the Saga of Rocket Science: In Space to Stay

Walter Sierra

Xlibris (Oct 3, 2019)

Softcover \$115.95 (372pp)

978-1-4990-9524-1

Beyond the Saga of Rocket Science: In Space to Stay is an enthusiastic review of the modern history of rocket science.

Walter Sierra's *Beyond the Saga of Rocket Science: In Space to Stay* concerns the progress, struggles, setbacks, and victories of human space exploration.

Humans have only inhabited space for a few decades, Sierra notes, but what eventful decades they have been. From manned lunar missions to the first space laboratories, from the evolution of shuttle design to immutable laws of physics, Sierra discusses a broad sampling of the experiments and projects that have furthered humanity's efforts to explore the cosmos.

The third book in the *Beyond the Saga of Rocket Science* series, *In Space to Stay* begins with the tension-filled Apollo 11 mission that put the first humans on the Moon. From there, it moves into the evolution of the Earth and Moon, the triumphs and tragedies of American and Russian space programs, and the behind-the-scenes political and personal dramas that so often hindered progress.

The book is detailed, sharing the minutiae of major events and scientific concepts and resulting in an intricate picture of the material. But the narrative is sidetracked by tangents whose relation to the main subject matter is either tenuous or not adequately explained. Bite-sized segments make it easy to focus on areas of particular interest, while copious photographs, charts, and other images help to make sense of the book's technical explanations of rocket engine design and function.

The small typeset on some graphics is hard to read, while haphazard page layouts find images and text arranged in cramped and awkward positions. The book's unnecessary use of italics, typographical errors, and inconsistent methodology for denoting measurements are distracting, while its reconstructed dialogues are stiff and unconvincing. The book employs a dizzying abundance of acronyms that are collected in the appendix.

Throughout the text are frequent references to information contained in the rest of the series; this entry is best read in series order, or with prior knowledge of rocket science. The book's impressive stories about the history and technology of space exploration make it more able to stand on its own. They are sometimes funny, sometimes gross, and always awe-inspiring, capturing the danger, thrill, and complexities of space exploration. They are laced with hints at what the future of rocket science may hold, promising even more spectacular developments in the coming years—and in the next and final book in the series.

A meticulous, dazzling picture of human progress in rocket science that's packed with historical and scientific data, *Beyond the Saga of Rocket Science: In Space to Stay* is an enthusiastic review of the modern history of rocket science.

EILEEN GONZALEZ (June 24, 2020)

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Author: Walter Sierra

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Reviewed by: Anthony Avina

Pacific Book Review

In the world of exploration, the greatest frontier that remains to be explored reaches beyond Earth's atmosphere, well into the far reaches of space. As Neil deGrasse Tyson once said, "Space exploration is a force of nature unto itself that no other force in society can rival." In author Walter Sierra's book *Beyond the Saga of Rocket Science: In Space To Stay*, readers are treated to a firmer understanding of the Apollo Space Programs and so much more.

In this third book in a four-book series exploring the production of rockets, the study of rocket science and the exploration of space as humanity knows it, the author takes readers throughout several years and steps within the space program. From the early days of the Apollo program to the modern-day International Space Station, also the differences and similarities between various rockets across different nations, this book covers a wide array of topics in the field of rocket science.

This was a fascinating, educational and detail-oriented read. The book delved into the intricate details of the various space programs, some which failed and some that succeeded. The book utilized visual aids and diagrams to illustrate the breakdown of the rockets themselves and showcase some of the most influential people on the various space programs throughout history. It is written in a very concise way which allows readers to absorb the information, whether they are an expert in the field or not.

This is a book for anyone who enjoys space, the space programs and rocket science as a whole, as well as educational and historical reads also. The author speaks with a wide knowledge of the subject and allows readers the opportunity to enjoy delving into the history of this subject. It is important for anyone wanting a full understanding of the series to grab the previous two books in the author's series to fully understand the dawn of rocket science and the study of space overall.

This is a one-of-a-kind read that seems to fully encompass the space programs and space exploration throughout history. It is the perfect read for anyone who is seeking an educational read that will delve into the large scale stage of the space programs and how they've evolved over the years. Author Walter Sierra's *Beyond The Saga of Rocket Science: In Space To Stay* is an illuminating read which fans of space exploration will not want to miss!



Beyond the Saga of Rocket Science: In Space to Stay

Walter Sierra

Xlibris, 372 pages, (paperback) \$115.95, 9781499095241

(Reviewed: June 2020)

Walter Sierra continues his epic chronicle of the history of rocketry in *Beyond the Saga of Rocket Science*. While his first two volumes progressed from 3rd century China through the Cold War and the space race, this volume picks up with the race to the moon and culminates in the early 21st century.

Sierra jumps in with a minute-by-minute account of the Apollo 11 moon landing. Other historical milestones, including the fatal Apollo 1 fire and the calamities of space shuttles Challenger and Columbia, receive similar intense scrutiny. He delves deeply into the life of Wernher von Braun, who helped get America's first satellite into orbit and launch the first moon mission, and includes thorough technical discussions regarding not just moon missions but also the Space Shuttle and Skylab projects. The book also contains charts, graphs, photographs, and numerous sidebars.

Overall, the book's facts and figures are concrete and verifiable, and Sierra's vast knowledge is impressive. However, the author's technique of relaying some incidents as if writing historical fiction, complete with dialogue and first-person narration, is questionable. For example, he has astronaut Dick Scobee recount what it felt like when the Challenger exploded. Since Scobee and crew died in the accident and there's no black box, this is grisly speculation.

Also, some may be troubled by the author's penchant for offering personal opinion, such as his use of a photograph of a woman filing her nails to accompany his caption/commentary about the work habits of "lazy" government employees.

Other missteps include naming a section with a word spelled out in the Greek alphabet; the baffling non-sequitur about a *Star Trek* episode in a chapter on why the name Apollo was chosen for space missions; and inclusion of Playboy Playmate photos to accompany discussion of a prank pulled on the Apollo 12 crew.

While the above-mentioned flaws undercut the book's credibility, readers will find value in its charts, graphs and other factual, historical information.

Also available in hardcover and ebook.