

Michael Collins  
*Carrying the Fire: An Astronaut's Journeys*  
Cooper Square Press, New York, 1974

Critical Review by Elizabeth Deems

Michael Collins, pilot of Gemini X and command module pilot of Apollo 11, recounts his experiences of being an astronaut in his book *Carrying the Fire: An Astronaut's Journeys*. His autobiography is a candid and honest comprehensive overview of his experiences on the Gemini and Apollo programs. Collins describes, for the general lay reader, his experiences in the years of preparation to get to the moon, including the components of the program, the people in the program, and what it was like to live in this intense environment. In the end, Collins also ties the Apollo program into the bigger picture of life and exploration.

The author, Michael Collins, chose an Air Force career after graduating from West Point in 1952. He served at Edwards Air Force base as an experimental test pilot, from there applying to the astronaut corps. In his second attempt, he succeeded in joining the ranks of the third group of astronauts at NASA. After NASA classes, training, and serving as part of the backup crew for Gemini VII, Collins was selected as the pilot for Gemini X, where he performed two complicated extra vehicular activities (EVAs) and learned the intricacies of stellar navigation.

After recovering from spinal surgery, Collins was chosen to be the Command Module Pilot on Apollo 11, and after the success of Apollo 9 and 10, Collins's flight was destined for the Moon. In Apollo 11, Collins became the often-termed "loneliest man in the universe" while his fellow astronauts descended to the surface of the Moon. After this ground-breaking and dangerous flight, Collins retired from the astronaut corps to work at the State Department and later the first director of the Smithsonian National Air and Space Museum.

*Carrying the Fire* is an addition to the collection of books focusing on astronauts and their experiences. However, this book is written for both literary and historical perspectives, not just to serve as a personal memoir. Lanius comments that this book is an exception in a normally narrowly focused category, and the book is "deeply reflective and insightful," which adds to our understanding of the Apollo experience.<sup>1</sup> Indeed, Collins explicitly describes his feelings, fears,

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<sup>1</sup> Lanius, Roger D. "Interpreting the Moon Landings: Project Apollo and the Historians." *History and Technology* 22.3, Sept 2006: 225-255

expectations, and opinions without any noticeable hesitation. From the historical side, there is no bibliography, but all of the technical material that Collins describes is available to the public.

Collins is able to open his autobiography up to a general audience, and not just people specifically enthused by space. Due to general lack of information on the astronauts' opinion of Apollo at the time, the author does state that he wanted to write the book to convey his experiences accurately and enthusiastically, for all to hear. While he does include some technical jargon, Collins breaks the engineering discussions down and explains them to non-pilots as best as he can. The technical side of Apollo, as it relates to the author's experiences, is explained, but it does not overwhelm the rest of the story.

Only a few engineering decisions are discussed with any detail in the book, even though the astronauts were quite involved in decision-making processes. Collins does discuss the Apollo 1 fire as a slight turning point in the perception of the program for the engineers and the astronauts.

The fire occurred on January 27, 1967, killing three astronauts during a supposedly routine test. There were three main contributing factors: the environment (pure oxygen), the large quantity of combustible material, and the lack of a strict system for controlling last-minute changes to the spacecraft. This last factor was most likely due to the tight schedule and hurried design work.

The most technically challenging problem after the tragedy was to replace combustible materials with nonflammable ones because almost any substance will burn if exposed to a hot enough fire in abundant oxygen. Each new material had to be tested in detail, so even if solutions were straightforward, it took a long time to implement them.

After the fire, non-technical challenges also presented themselves. NASA and North American Aviation (NAA) initially blamed the other, but soon realized that they needed to take action together to keep the program moving forward. The astronauts also kept moving forward, and while realizing that space flight did kill, they were dedicated to the cause of putting a man on the moon, and none quit because of the Apollo fire.

These situations show that engineering decisions on Apollo were multi-faceted products of many types of inputs, resulting in the fire and its aftermath having a positive influence on the program. The design and programmatic changes took time (almost two years) to implement, and the goal of launching three manned Apollo flights in 1967 did not occur. Some believe that the

fire delayed the Apollo program, but NASA and NAA needed to take the necessary steps to prevent this type of tragedy from occurring again. In addition, the fire probably did not delay the lunar landing at all due to needed advancements in the Saturn V, LM, ground radar tracking, and computing systems. Astronauts were also tied up in the fire investigation, implementation of changes, and many other details, delaying training and simulation time.

This book covers a lot of varied material, and it may be too much information to make a cohesive point other than to show that an astronaut's life is interesting and diverse. At the end of the book, though, Collins brings his experiences together into a more cohesive statement about his views on the space program. It is at this point in the book that the only real messages come across – exploration is human so we are free to explore, the Earth is fragile and should be treated that way, and we can spend our time and money on Earth and on space-related activities. While these topics don't strongly tie to the themes of the rest of the book, the discussion also does not seem out of place and ties in with his experiences thus far.

Overall, Collins gives his audience a rare insight into the world of space flight by which so many are fascinated. Reading this book is like talking to a friend, including hearing everything from inside jokes to insecurities. *Carrying the Fire* puts its readers right into the Apollo program to help them understand what it was like to participate in pre- and post-flight activities in the dangerous and exciting times of early space flight.

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