

A Long-term Vision of Man in Space

by Marsha Freeman

A Passion for Mars: Intrepid Explorers Of the Red Planet

by Andrew Chaikin

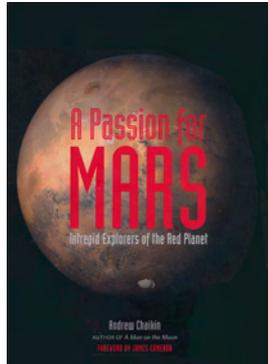
New York: Abrams, 2008

Hardcover, 272 pp., \$35.00

Mars is a changing planet, and our understanding of Mars has also been changing, especially since the first spacecraft gave us out-of-this-world close-up views of the red planet, in the 1960s.

At present, there is a pair of expeditionary robots on the surface, working in tandem with a team of satellites in Mars orbit. As their data are relayed back to Earth, scientists have had to periodically “rewrite the book” on Mars, superseding existing theories. So, it is to be expected that there is a steady flow of new publications about Mars, just to keep up with the new developments.

But Andrew Chaikin’s Mars book is unique. In addition to recapping the history of the twists and turns of our understanding of this dynamic world, and updating us on the new discoveries, through both words and spectacular photographs, he approaches the exploration of Mars as



seen through the personalities of the people who brought it about.

The book demonstrates that scientific discoveries, especially those which are, as he stated in an interview, “at the limit of what we know how to do,” are not made “objectively.” Fundamental advances in our knowledge are a function of the *passion* of the discoverer, most emphatically when it comes to exploring Mars.

Unlike research that can be carried out in the laboratory, according to the schedule of the scientist, sending spacecraft to Mars is a once-in-26-months opportunity. If a mission fails, it is two years, and at least hundreds of millions of dollars later,

before another attempt can be made. Scientists who are determined to study Mars, Chaikin explains, must be able to dedicate literally decades of their lives and careers to the endeavor, live with disappointments, and never lose the drive to move forward.

To do that, requires not only scientific interest and curiosity, but a *personality* that is anchored by dogged determination, and centers upon a commitment to a goal that is beyond the individual career, and often the individual lifetime, of the explorer.

Passion is a human quality, but the subjects of the subtitle of Chaikin’s book, the “intrepid explorers,” have, so far, only been robots. “I would make the case that the robots are extensions of the humans who built them,” Chaikin says. Steve Squyres, the principal science investigator for the Spirit and Opportunity rovers that are still exploring Mars, told Chaikin that “passion is what got those rovers to the launch pad.”

The Quest of Generations

One of the central figures in Chaikin’s book, and in the quest for the exploration of Mars, is Tom Paine. He was the Admin-



NASA

NASA Administrator Thomas Paine (center) and other NASA officials applauding the successful splashdown of the Apollo 13 crewmen in 1970. At right: Crewmen aboard the U.S.S. Iwo Jima, prime recovery ship for the Apollo 13 mission, hoist the Command Module aboard the recovery ship, April 17, 1970.



istrator of NASA when we landed on the Moon. Following that success, he was called upon to formulate what the post-Apollo program for the United States should be in space exploration. The plan, with the input of Wernher von Braun, was to culminate in manned missions to Mars. But President Richard Nixon nixed that plan.

Nearly two decades later, after the first Space Shuttle flights, Paine directed another study on long-range goals for President Reagan, through the National Commission on Space. Again, the plan laid out a visionary Mars exploration program.

Unfortunately, the release of this report was overshadowed by the January 1986 Space Shuttle Challenger accident, and was never implemented.

Willing to work “outside the system,” and undiscouraged, Tom Paine became an enthusiastic supporter and *eminence grise* for a group of “young turks” in graduate school, whom Chaikin describes as “almost renegade types.” These young people organized the Case for Mars conferences in the 1980s. They were “very much outside the mainstream of the space community,” Chaikin noted, and were “bucking the tide,” as no one else was talking about missions to Mars.

It would be 20 more years, and long after Tom Paine were sadly gone, that the Vision for Space Exploration, announced

by President Bush in 2004, would put manned missions to Mars on the agenda as a legitimate goal for space human exploration.

A Vision Sustained

After multiple “defeats,” how did Tom Paine sustain a vision over decades, and never lose his optimistic view for the future? *Passion*.

Andrew Chaikin related to this writer that he had interviewed Tom Paine several times, the first, at the 1984 Case for Mars conference. It was clear, Chaikin observed, that Paine saw himself “passing the torch,” in this “multi-generational quest” to explore Mars. What Tom Paine would not live to see in his lifetime, he was sure would be created by the next generation.

The passion of Tom Paine, and of NASA’s Apollo-era Administrator, James Webb, emanated from the belief that the manned space program not only fulfilled a drive to explore, but the human and material resources that had to be mobilized for such “quests,” would have a profound impact on the future of human civilization, as a whole.

In his 1984 Case for Mars conference presentation, Tom Paine outlined how, over the next 100 years, international cooperation in space exploration would not only extend the space frontier, but could help create “peace and prosperity,” around the globe.

Promoting the General Welfare

Chaikin’s approach in *A Passion for Mars* stands in stark contrast to what often passes for space history by people who are not “passionate” about space, but instead write “scholarly works” that substitute academic studies and footnotes for an understanding of the process of scientific inquiry and of achievements in space exploration.

One such example is a paper presented at a history session of the International Astronautical Congress in Glasgow, Scotland in the Fall of 2008. The paper by Roger Launius, a former NASA historian who is currently at the Smithsonian National Air and Space Museum in Washington, proposed to show that Apollo-era NASA Administrator James Webb had mistakenly believed that what had made the Moon landing program a success, could be transferred to help solve other problems in society. Launius labels the “expression of political power” in the “social activism” of people like Webb as a concept he calls the “positive liberal state.” This, he derides, as a “crusade.”

The truth is otherwise. Webb believed, as did Tom Paine, that the application of developments in science and technology, driven by the space program, could contribute to solving the societal problems of poverty, social inequity, and economic stagnation. Having come to Washington during President Franklin Roosevelt’s New Deal, Webb understood that a Federally directed “Space Age America” could help strengthen the educational and economic potential of the nation.

During his presentation in Glasgow, Launius said that Webb, and others, believed (naively, in his view) that the government had a role to actively “promote the general welfare.” Launius was reminded by this writer, that it was not Democrat “social reformer” James Webb who had created that concept of the role of government, but the founding fathers, in the Preamble to the Federal Constitution!

That the advances in science, technology, and management that NASA created did not solve the economic and social problems of 1960s America, had nothing to do with the space program. It was, in fact, a function of the lack of a passionate commitment to the promotion of the general welfare on the part of policymakers,



NASA

James E. Webb, NASA Administrator (center), talks to Harold Mullins, U.S. Army Corps of Engineers (left), and O.L. “Dusty” Rhodes, NASA, in the early days of construction of the rocket test facility in Mississippi.

which virtually stopped space exploration, after Apollo

Man on the Moon, and on Mars

In *A Passion for Mars*, Chaikin not only sheds light on the passion of the scientists, engineers, and managers who have created the Mars exploration programs, but weaves his own personal story throughout the book. From a childhood interest in, and fascination with Mars, he traces his academic study, his participation in Mars missions at the Jet Propulsion Laboratory, and his decision to write about this remarkable quest of exploration, rather than become a professional planetary geologist.

Chaikin's previous work, *A Man on the Moon*, which was made into an HBO series titled "From the Earth to the Moon," was based on interviews with the Apollo astronauts. Similarly, *A Passion for Mars* combines the facts of the history of Mars exploration, with the personal histories and personalities, of the central figures.

In explaining his approach to the writing of space history, Chaikin says: "I never pretended that I was impartial. I am not an objective academic. That's not my role. I've tried to delve into the history with a point of view." Like James Webb, Tom Paine, Wernher von Braun, and the other space scientists, engineers, and visionar-

ies, Chaikin says, "One of the reasons that I find space exploration so compelling, is that you have to be focussed on the long term. You have to be thinking not only of the future of our current society, but the future of the human species."

This space exploration program, Chaikin says: "is going to continue long after you and I are gone, and will keep going as long as humans are capable of exploration. I feel that it is a real blessing to have in your life, an interest in something that is so profound and so far-reaching. The things that excited me when I was five years old are still exciting today, and they're just as compelling."

Christopher Columbus's Mission

by Charles Hughes

Christopher Columbus, the Last Templar

by Ruggero Marino

(Translated by Ariel Godwin)

Rochester, Vt.: Destiny Books, 2007

Paperback, 368 pp., \$19.95

Ruggero Marino is a veteran journalist who has worked for the Italian newspaper *Il Tempo* in Rome since 1963. For many years he has also been a Columbus researcher, and he wrote a previous book on Columbus in 1992, *Cristoforo Colombo e Il Papa Tradito* (Christopher Columbus and the Betrayed Pope), available in Italian.

Marino, whose name ironically translates as "sailor," is a firm defender of the reputation of Columbus: "Centuries of injustice have reduced the man who enlarged the world, to someone ignorant who was limited to making it smaller. How has the belief persisted for five hundred years, that he thought he had arrived in China, when he knew he must seek a mythical land—especially considering the Indies referred to Eastern lands but not those that formed the Chinese Empire?" Marino asks.

Instead, Marino says, Columbus was part of a grand design to discover the New World! The Columbus expedition, he

says, was a carefully planned project, led by Pope Innocent VIII, with Nicholas of Cusa, the polymath Paolo Toscanelli, and other Italian humanists.

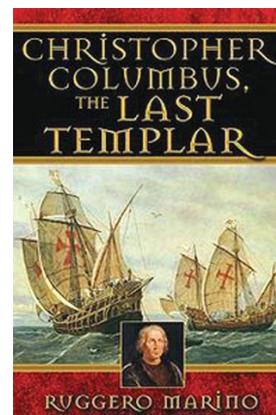
Less successfully, Marino tries to show that Columbus was likely one of Pope Innocent VIII's 12 illegitimate children, known then as his nephews and nieces. This Pope, John Baptiste Cybo, was a patron of Italian Humanism, and was of Greek or Jewish and Muslim background. He was born on the Island of Chios, which in the 15th Century was under the rule of Genoa.

The grand plan was to discover and colonize lands in the western Atlantic, before the Turks thought of doing this. At the same time, Pope Innocent VIII was tireless in his efforts to make peace with the Turkish Sultan.

The Evidence

The book is dense with the historical connections of all those involved in this humanist project, which I won't attempt to fully summarize. The crucial points are these:

When Cusa died in Todi in 1464, there was a conference held at his death bed, attended by Toscanelli, the famous mapmaker Bussi, and Martinez, another mapmaker. Bussi was also a custodian of the



Vatican Library. Columbus, who was then about 13 years old, was discussed.

In describing the deathbed meeting, Marino, among other things, quotes from a 1910 book published in Italian by Pirro Alvi, titled *Todi Città Illustre dell Umbria* (Todi, Illustrious City of Umbria):

"And here we must speak of the famous Nicholas of Cusa, who died in our city. Acknowledged by many, he was the most well-read Cardinal that the sacred robe ever honored, the dearest friend of the great Pius II. At his deathbed were Toscanelli, Bussi, and Martinez witnesses to his testament. Columbus was discussed and the discovery of the New World."

This meeting was crucial for future ex-