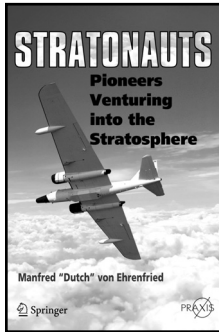


BOOK REVIEWS

STRATONAUTS: PIONEERS VENTURING INTO THE STRATOSPHERE



By Manfred "Dutch" von Ehrenfried

Springer-Praxis Publishing, 2014

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This book is an annotated compilation of names, dates, places, vehicles, and heights attained by those who attempted to rise higher than ever before, or for one reason or another were compelled to make the attempt, either succeeding or failing in the act. The author's intended audience, as stated in his Preface, is "all those who have, or desired, to fly to extremely high altitudes," as well as those "who are fascinated by the achievement of those who have flown to great heights." Thus the book celebrates the flyers, though it is organized by first enumerating the challenges and the vehicles. After a brief opening chapter describing the layers of the atmosphere, and two following chapters on the physical problems flyers encounter (pressure, temperature, G-loads, procedures for escaping) and a descriptive history of pressure suits, there are three following chapters outlining the history of high flight to World War II. The bulk of the book is then devoted to specific high-altitude aircraft, such as the X series, the U-2, and Blackbird. There are sections on sailplanes and manned ballooning from Strato-Lab in the 1950s to the Red Bull Stratos.

The author writes enthusiastically as a participant, having flown to 70,000 feet in support of NASA's Earth Observations Aircraft Program, having tested pressure suits in vacuum chambers to simulated altitudes in excess of 400,000 feet, and having experienced high G-loads in centrifuges and virtual zero-G in NASA's Reduced Gravity Research Program. His tenure with NASA extends back to the 1960s as a flight controller for NASA's piloted missions.

One of the first questions an alert reader will encounter is just what "stratonaut" means. The term is used throughout the book, yet the author admits openly in his preface that there is no strict definition of the term and that by reading the content of his book, hopefully the reader will gain the author's insights to intuitively appreciate the term. To be sure there is an emotional element. For example, von Ehrenfried would like to redefine those high-flying aeronauts of yore as stratonauts if they "never made it to the heights of their imaginations."

So what does stratonaut mean? Von Ehrenfried would include commercial airline pilots if it were not for the fact that birds are known to fly at commercial altitudes in the lower stratosphere. Somehow, though, that would not disqualify humans flying in gondolas or open cockpits. He feels that the upper altitude limit is not at issue, since the definition of astronaut takes care of that. Even so, the upper limit seems to lie between 50 and 62 miles: the region where space begins and astronauts are defined. Overall he wants to appreciate "what it takes to be a stratonaut" and invites the reader to follow his argument to the end. And for sure, at the end is a section "Definitions of a Stratonaut." Even by the title, it is clear this is no simple matter for the author, who again explores not only altitude, but other factors: "the times, the conditions, the risks, the technology, and the implications for the flight." Highly laudable, but in his subsequent delineation of seven periods, distinguished by time and technology, what we get once again is a compilation of who did what, when and where, a bit of how, but not much why. Finally he hones in on 63,000 feet as the lower limit for what constitutes a stratonaut.

Aside from this heartfelt effort to coin a new term, or category for achieving high flight, a motive that might appeal to readers of *Quest* who seek an introduction to some of the mechanical aspects of high flight, this reviewer encountered some serious issues with the production of the book. First, although there are scattered general references to technical and participant literature, the reviewer found no references to secondary literature. There is heavy reference to Web-based resources. In lieu of a bibliography there is an appendix listing websites for various institutions. The one given for the National Air and Space Museum led to a commercial site for domain searching. There are similar problems with the index, which seems to be reliable for the basic text, but hit or miss for the extensive tables, image captions, or any other part of this intriguing but idiosyncratic book.

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Stratonauts : pioneers venturing into the stratosphere / Manfred "Dutch" von Ehrenfried. "This book defines the altitudes related to the stratosphere, how it changes with latitude and the effects on ascending aviators. Also described is how over time technology enabled aircraft and balloons to achieve higher altitudes. The book shows the clear influence of the military on designs that initially focused on speed and maneuverability, but only later on reaching new altitudes" -- Publisher description. "Dutch" Von Ehrenfried has worked in both the spaceflight and aviation fields for about 25 years, including as a stratonaut himself. He was a NASA Flight Controller in Mission Control for Mercury, Gemini and Apollo Missions and also worked on some of the experiments that went into Skylab from an Earth Resources experiment standpoint. He worked in the NASA Headquarters Space Station Program Office for about 10 years and the FAA Aviation Safety Office for a year. In addition, Von Ehrenfried has a lot of experience working with scientists on Apollo, which gave him the knowledge needed to translate scientific requirements into flight operations. Preview "Stratonauts by Manfred "Dutch" von Ehrenfried. Stratonauts: Pioneers Venturing Into the Stratosphere. by. Manfred "Dutch" von Ehrenfried. 3.33 Rating details. 3 ratings 0 reviews. The early flights into the troposphere and eventually the mid to upper reaches of the stratosphere are chronicled, with great emphasis on flight operations. This includes decompression, bailouts, inertia coupling, ejections, catastrophic disintegration, crashes and deaths. Although the book highlights major altitude attempts and records, it also focuses on the life-threatening problems confronting the would-be stratonaut and the causes of many of their deaths. Stratonauts chronicles humankind's quest for ever higher altitudes from ancient times to the present. It is based upon history, science and technology, and tells some interesting and fascinating stories along the way. It pays tribute to those killed while attempting to reach the stratosphere over the past several centuries. Dutch von Ehrenfried uses his personal experience as a NASA sensor operator on the RB-57F, flying to an altitude of 70,000 feet, as well as the input and experience from other RB-57F, U-2, A-12, SR-71 and F-104 pilots. Although many of the aircraft and balloons are describe