Author's preface

This book is for all those who have, or desired, to fly to extremely high altitudes. It is also for people who are fascinated by the achievements of those who have flown to great heights, and by the craft that made this possible. It is for those who have risen far above the clouds and birds to a place where the air is no more and the sky turns black above. This is an altitude where humans are not meant to be; where exposure can mean death. It is an altitude that beckons aviators to go higher and higher for reasons known only to themselves.

This book pays tribute to those who were killed trying to reach extreme altitudes, or in some cases after achieving this goal. It honors the wives and children that they left behind. Some of the pilots were quite young with their whole lives ahead of them.

While some people are driven by speed and distance, others are driven by altitude. This book chronicles some of the early pioneers, transitions to more modern times, and concludes with the aviators of today. It describes the people and the balloons, aircraft, sailplanes, and rockets in which they flew. But it leaves spacecraft to others because these travel well above the stratosphere. Included are interesting anecdotes and insights which few outside the community will have heard. This book is a collection of both historical and current flight operations stories.

Currently, there is no strict definition of a "stratonaut." Certainly the very earliest pioneers were would-be stratonauts, even if at the time they were called "aeronauts." But they never made it to the heights of their imaginations. They desired to go higher but the necessary technology was not yet available. Nevertheless, we recognize their attempts and are awed by their courage.

At what altitude should we consider someone to be a stratonaut? Technically, airline pilots who fly in the lower part the stratosphere could claim that name. But, then we would have to include those birds that have been observed in this region. One vulture was ingested into a jet engine at 37,900 feet. I have this image of a vulture with a silk scarf, goggles, and an oxygen mask! Geese routinely fly over Mount Everest, which is 29,029 feet tall. We obviously can't count birds as stratonauts but it is reasonable to count those aviators who flew at extreme altitudes in gondolas and open cockpits.

We must have a respectable altitude in order to justify this unique moniker! We must also determine the qualifying conditions that justify the title. So let's give this some thought. It isn't actually the upper level that we need to define; this seems to be about 31 statute miles or about 164,000 feet. If you've been there, then you are definitely a stratonaut! Above that level is first the mesosphere and then the thermosphere; this is the realm of astronauts and is where the International Space Station flies. The issue is the lower limit. Making a definition is complicated by the fact that the altitude of the stratosphere varies with latitude and season, so we must augment altitude with other complementary attributes.

The Fédération Aéronautique Internationale (FAI) places the boundary of space at 100 kilometers; about 62 miles or about 327,360 feet. NASA defines the altitude for an astronaut to receive his or her wings as above 50 miles or 264,000 feet. Even the U.S. Department of Transportation uses this definition for the newly defined commercial astronaut. Neither the U.S., nor any foreign country has a definition for a stratonaut. I think it's time we had one, so this book will describe the challenges of flying to great heights and try to define what it takes to be a stratonaut. But first, because the definition could be controversial, let's review what historically has occurred, see what is going on today, and gain an appreciation of what the problems are. Here goes!

Manfred "Dutch" von Ehrenfried
Lago Vista, Texas
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