

# Introduction to the book *Space Places*

By Roger Ressmeyer, January 1990

Ever since childhood, space exploration has enthralled me. As a boy, I liked its mysterious implication of the infinite and the eternal. As an adult, my career as a photojournalist has enabled me to visit the world's leading centers of research – space places, I call them.

I have wanted to be an astronaut ever since my eighth birthday, when I discovered that there was a place above the blue sky called space, and that an American named John Glenn was about to visit there. That dream, I suspect, was one shared by an entire generation.

The 1960s were an ideal time to be a schoolboy interested in space. One astounding discovery followed another in the span of just a few short years. While I was flying model rockets, building telescopes, and reading science fiction, astronauts and space probes were mesmerizing the world. As I looked at the moon through my first telescope, I joined scientists in trying to imagine what people would find there. The moon's surface was totally unknown. Could it swallow our landing craft? Might there be life buried in its mountains? Yet by the end of the decade the moon had become an old friend. The world had lived through the most thrilling period of exploration in history: Live, from the moon, Neil Armstrong and Buzz Aldrin!

I have yet to join the astronauts, but I've already lived in their world: flying with them in weightlessness-simulating jets, diving with them into neutral-buoyancy pools, and delighting in the stunning glory of their launches. Seeking to understand humankind's ageless yearning for the stars, I've also traveled to observatories atop the darkest mountains in the world – a magnificent experience. And along the way I've come to realize that while the roots of our odyssey into space are older than recorded history, we're only now beginning to realize its rewards. For the same technology that takes us to the stars is exactly what's required to ensure the quality of life on earth.

Many of the secrets to preserving our tiny, delicate planet lie near at hand, if only we can learn to recognize them. Around the world, space people are working on critical problems that precisely mirror the environmental challenges facing the planet as a whole. It's no coincidence: A lonely spacecraft hurtling through the solar system is simply a microcosm of life on earth, with all the same needs. Techniques for the safe production of energy, for recycling and waste management, for finding natural resources, and even for ensuring cooperation between nations are all necessary elements of any long-term voyage through space – and all are directly applicable to real-life situations around us.

There are still those in America who say we shouldn't waste money on space when we have problems at home. Yes, space research is costly. It won't solve the quandaries of drugs, poverty, crime, and despair. But it can make significant contributions. Space exploration inspires nations of people to achieve the exceptional, to bring cutting-edge technologies into everyday use, and thus to improve the world as a whole.

For example, the majestic photos of Mother Earth taken by Apollo astronauts fueled the environmental movement by helping people realize just how small and fragile our beautiful home really is. We looked at manned spacecraft with their limited supplies of fuel, food, and water, and saw an analogy to earth, in that long-term survival depends on renewable resources. We studied the globe from orbit and saw no boundaries between nations. We found direct proof that we are destroying our atmosphere and oceans. That awareness has helped lead to action.

Space research can also contribute to an energy-rich future for our planet. Unless we solve the world's energy problems before we run low on fossil fuels, technological society may be forever lost. To do that, we need to understand solar fusion so we can safely duplicate it on earth. We need to consider the possibility of recovering the helium-3 deposited on the moon by the solar wind, since it is the best and cleanest fuel for fusion. We need to investigate the potential in earth-orbiting solar power stations. And we need to improve energy efficiency so our renewable resources will go farther.

Communications satellites have already revolutionized international relations. But space exploration has had a profound effect in a more subtle way. Over centuries, we've gradually come to see that humanity doesn't occupy the center of the universe. As our importance in the grand scheme of things appears to shrink, the inevitable realization takes hold that we must take care of ourselves, of our world, of our resources, of our environment, and especially of our neighbors on this fragile planet.

Just as space flight offers a biological model of life on earth, so too does it provide a highly visible stage for the resolution of political conflict. Partners in any space venture are obliged to make serious commitments to one another, and every day the astronauts themselves invent new ways of overcoming obstacles to international cooperation. Place ten individuals from around the world in a single spacecraft bound for Mars, and that group will quickly evolve into a peaceful and cooperative unit. All nations will inevitably grow close through the experience of watching the travelers learn how to understand and communicate with each other.

It is time for the world to lay down its weapons, and learn to share precious resources rather than fight over them. The final frontier lies within man himself – in his maturity, and in the health of the relationship between each and every member of the human race. Space is a place where we learn to confront our limitations in a very direct way, and where we might first conquer our instincts for hatred and destruction.

These feelings are shared by many of the people I've met while wandering the globe in search of space places. Space explorers, and I include earthbound astronomers among them, are bright, committed, and serious. They are dreamers, visionaries. They are people who can help move the world forward into a healthier tomorrow.

Over the past twenty years, as I made the photographs in this book, many of these wonderful people helped me by explaining and sharing the special worlds they inhabit. Many times these same people worked with me to make the unusual and mysterious appear on film. Often this meant meeting at three o'clock in the morning, or keeping a team of technicians on hand until midnight. At other times, their research had to be interrupted. I am grateful to all of them.

None of my pictures are fakes; no darkroom tricks were added later. When the camera's shutter closed, after a fraction of a second or after ten hours, the image was rendered on film exactly as it appeared through the lens. Sometimes during long exposures I "painted" the scenes with light, my brush strokes discreet bursts of illumination in the corners of these spacescapes. Many noteworthy places I visited are not included in this book. But I have tried to touch on all the key elements of our journey toward the stars.

To gaze into space is to embark upon a spiritual quest, an experience of awe and wonder, a longing for the farthest horizons. Today it is time for the human race to chart a bold course into the 'Second Space Age', establishing a permanent presence in the sky, an interplanetary economic system, and a new era of expanded international cooperation. This book reflects my voyage of discovery into this awakening second space age. Welcome to what I have found.

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