

# Science and Fiction

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Thomas Eversberg

# The Moon Hoax?

Conspiracy Theories on Trial

 Springer

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Cover illustration: Astronaut Edwin E. Aldrin Jr., lunar module pilot of the first lunar landing mission, poses for a photograph beside the deployed United States flag during an Apollo 11 extravehicular activity (EVA) on the lunar surface. *Credit:* NASA, Image number AS11-40-5875

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*For Bine*

# Foreword

July 20, 1969: The first humans land on the Moon. The older generations among us witnessed this event, whereas the younger generations have learned about it from history books. A historic event! A giant leap for mankind! Or maybe not? Could the event that was broadcast to millions of TVs possibly have been staged: is this a case of a “Moon Hoax”? There have been persistent rumors that the US space agency, NASA, tricked everyone with smoke and mirrors, and that all of the technological advances were completely made up. In the 1970s, the lies about the faked Moon landings were born. And nowadays, in the time of the Internet, where everyone is not only a consumer of media but can also easily be the author and distributor of information, these lies are being spread constantly. Other conspiracy theories, too, are once more rearing their ugly heads, all on the World Wide Web.

Our human insistence on doubting and questioning events, claims, and alleged facts is actually a positive aspect of our culture. These are inevitable requirements to be able to understand correlations, to classify things, and to increase knowledge. But where is the border between common sense and scientific thinking on the one hand, and lack of understanding, confusion, and ideological delusion on the other? What are we willing to accept as true and what remains incompatible with our worldview?

Thomas Eversberg, PhD in astrophysics and an active professional in space management, deals with the arguments of those who would question the trips to the Moon in this book, *The Moon Hoax?—Conspiracy Theories on Trial*. By taking these arguments seriously and then confronting them with solid logic, his analysis turns into a unique lesson. With penetrating clarity, he uses a tool from the philosophy of science called Occam’s Razor: According to this theory, the hypothesis describing a phenomenon with the fewest assumptions

should be preferred. Those requiring an unnecessarily large number of assumptions can be discarded as too complex (in a figure of speech: sliced off by the razor blade).

It is the consistent application of this principle, a common practice in scientific work and rational thinking, that makes Eversberg's analysis significant far beyond the topic at hand. The author shows not only the flaws in the arguments of the Moon landing opponents—he shows more generally how serious arguments can be distinguished from fantasies. Anyone who reads this book will become much more capable of navigating the vast flood of information to be found in modern media without running the risk of being defrauded.

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Uwe Reichert

# Acknowledgement

Who would have thought that a little boy enthusiastic about space would turn into an astrophysicist that deals with the Moon landings 40 years later? I am indebted to my grandmother, Ruth Wendland, who sensitively promoted my interests, as did my father, Karl-Werner Eversberg. I would like to give a heartfelt thanks to him and my mother, Karin Eversberg, who gave me total freedom and who always supported my curiosity and enthusiasm. Many friends inspired me to give talks about the Moon landings and therefore contributed significantly to this book through their various questions and thoughts. This particularly applies to a few people that I would like to mention here. The many discussions I had with Andreas Boeckh instigated by his interest in science and the Moon, whether at home or in the Swedish mountains, gave rise to many of my approaches in this book. If he was ever bored by these weird thoughts of mine, he politely never let me notice. Norbert Reinecke deserves special thanks and respect for his critical questions and comments about my endeavors as an astronomer, and his support during rough times. I would like to thank Klaus Vollmann for our joint scientific discussions, his dedication to scientific accuracy, and the work at our observatory for many years; even more so, because this work is often very tiring and sometimes not the most enjoyable. Moreover, I would like to thank Anke Gödersmann and Dieter Schaade for their inspiring discussions while sharing delicious meals with me for many years. I further want to thank my uncle, Abdelali Aouati, for the constant motivation and his unprecedented optimism. And I thank my good friend Britta Schlörscheidt for motivating me during the writing of the book. Also, thank you to Martina Mechler from Springer Spektrum for her great help in creating this book. This also applies to my editor, Vera Spillner, who made a major contribution by asking professional and critical questions while giving me careful recommendations. I also want to thank my

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**Fig. 1** The *Saturn V* Moon rocket with *Apollo 11* on its way to the Moon. This rocket, the most powerful machine ever built, had a weight of almost 3000 metric tons, a total height of 111 meters, and developed a thrust of 3500 tons, or 160 million horse power. Photo: NASA. No.: AP11-KSC-69PC-442

# Contents

<b>1</b>	<b>Prologue: The Conspiracy of the Faked Moon Landings</b>	<b>1</b>
<b>2</b>	<b>Russians, Rockets, and Election Campaigns</b>	<b>5</b>
<b>3</b>	<b>Proof I: The Dilemma</b>	<b>19</b>
<b>4</b>	<b>Stars are Missing in the Sky</b>	<b>23</b>
<b>5</b>	<b>But Look! The Flag Flutters!</b>	<b>31</b>
<b>6</b>	<b>A Lamp: Oblique Shadows</b>	<b>37</b>
<b>7</b>	<b>Manipulation of the Pictures</b>	<b>43</b>
<b>8</b>	<b>Is Everything in Slow Motion?</b>	<b>51</b>
<b>9</b>	<b>Telescopes Can See Everything</b>	<b>57</b>
<b>10</b>	<b>Warning! Hazardous Radiation!</b>	<b>63</b>
<b>11</b>	<b>Too Hot, Too Cold</b>	<b>69</b>

<b>12</b>	<b>The Lander's Exhaust Plume and Its Crater</b>	73
<b>13</b>	<b>Anything Else?</b>	79
	The Spacesuits Are Too Stiff	79
	The Blue Windows	81
	Sharp Footprints Cannot Be Made Without Water	81
	The Computer Technology	84
	The Rover Has Problems	86
	Ghosts in the Lens	91
	Ghosts on the Screen	95
	The Rocket Man Meets Walt Disney	97
	Where Are the Pictures?	100
	Everything Is a Lie	101
<b>14</b>	<b>Proof II: Rocks, Photos, and Stars</b>	103
	Distance Measurements	103
	Moon Rocks	106
	Radiowaves and Color TV	108
	Probe Photos	113
	The Stars in the Sky	115
<b>15</b>	<b>What Can We Learn?</b>	123
<b>16</b>	<b>Technology, Money, and the Return to the Moon</b>	137
	<b>Appendix A Apollo Drawings</b>	149
	<b>Appendix B The Astronauts of the Moon Landing Missions</b>	163