Foreword

The most rewarding experience available in all of amateur astronomy is a view of the intricate cloud belts of Jupiter, or the faint wisp of a distant galaxy, in a telescope that you have made yourself. It's simply thrilling. And when you look in the eyepiece, you not only appreciate the quality of the view, but you also recall vividly how the instrument was born from a few sheets of plywood, bits and pieces of hardware, and countless hours in the workshop. And now it's planets, stars, and galaxies. It's a wonderful kind of alchemy — sawdust transformed into celestial gold.

An artist friend of mine regards telescopes as fantastic pieces of conceptual art. To her, they're sculptures shaped to reveal the secrets of the universe. I like that idea because it captures both the idea of the instrument as a beautiful object, and as a device with a remarkable ability to inspire awe and wonder. High art indeed. When I look at the telescopes Albert Highe makes, I fully appreciate that perspective.

I've had the good fortune to run *Sky & Telescope* magazine's telescope-making department for the past 15 years, and in that time I've met many bright people with great ideas. It was in this role that I first became aware of Albert. I was working up an article entitled "A Roundup of 6-inch Travelscopes," for the December 2002 issue. Albert's contribution to that piece was "My C-Channel 6," which described his nifty *f*/5, reflector. That instrument was a favorite of mine partly because I've always had an affinity for portable scopes that were completely self-contained, but also because it was so beautifully made. Over the years, several more Highe originals found their way onto the pages of the magazine — each one possessing a vaguely magical combination of elegant design and superb functionality.

The book you hold in your hands shows you how it's done. Reading it, I felt as if I was being let in on the closely held secrets of a master magician. And though there are mirrors involved, Albert's writing is utterly free of smoke or any other kind of obscuration. His prose is clear and purposeful. While there are plenty of books out there that show you how to make a telescope, by and large, they take a cookbook approach. If you follow the directions carefully, you'll end up with a telescope you can call your own, but yet, one that isn't entirely yours. Usually left unexplored are the under-

pinnings of the design and the rationale behind the methodology. Why should that part go there? Can I make this bit smaller? What happens if I change this dimension? What sets Albert's book apart is that the "hows" are firmly bolted to the "whys." He doesn't just show you how to make a telescope, but *why* you might choose to build it that way. I've long held the view that the most compelling reason to make a scope is that it's the surest way to get what you really want. But to achieve that goal, you need the detailed understanding of telescope engineering, design, and construction that Albert fills the pages of this book with. You need both the "how" and the "why" to build a telescope that is really yours.

It's no small accomplishment to take a concept as familiar and well established as the Dobsonian, and view it in a new light. Each incremental improvement reflects the ideas and efforts of countless ATMs (including, in no small way, Albert himself). Although I've been building telescopes for decades and have traveled far and wide to see the efforts of other ATMs, I found all kinds of material in this book that was new to me. The large-aperture, lightweight machines Albert describes here represent the latest and greatest phase in the continuing evolution of the Dobsonian telescope. And what a long, strange, and wonderful journey it has been. Who could have imagined that John Dobson's crude-but-effective design would eventually evolve into the graceful and refined instruments described in this book. The Ugly Duckling becomes a beautiful swan!

The very best books mirror the interests, inclinations, and abilities of their authors. This one is no exception. Albert combines the knowledge and skill of an experienced engineer with the aesthetic sensibility of a true artist. Let this book guide you through the design and construction of a telescope, and you'll have an instrument that not only performs wondrously, but one that is also a thing of beauty.

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