

Preface

I was never an amateur astronomer; foggy London in the 1950s was no place for a young boy to learn the constellations. But I did grow up as a science geek, surrounded by chemistry sets, construction kits, electric trains, and soldering irons, all strongly encouraged by my physicist father and math-teacher mother.

At Cambridge University in the 1960s I majored in physics and then looked around for a topic to pursue for my PhD. The decision was easy. Martin Ryle and his colleagues had built a major radio observatory at Lord's Bridge, a few miles outside of Cambridge, and data were pouring into its telescopes, rain or shine. With them we could see phenomena that were invisible to the largest optical telescopes in the world, and new discoveries were being made every month.

Having completed my PhD dissertation (on compact HII regions) I switched wavelengths and continents to join Gerry Neugebauer's group at Caltech, which was opening up the skies at infrared wavelengths. Once again, new science was pouring in through a newly opened window on the universe. I continued my research into infrared astronomy after I moved to the University of Hawaii in 1978.

One of the most important things I learned from all this is the way that new technology is a driving force of astronomy. When a new technology is invented, progress tends to come in three stages: first, some exciting discoveries are made by looking at a few favorite places in the sky. Then someone does an initial survey of the sky and starts to look for patterns and statistics in the new data. Finally, major surveys are undertaken to build databases that astronomers everywhere can access and search for new phenomena. This is the idea that has guided the structure of this book.

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I started writing this book soon after my retirement from the University of Hawaii. I have benefitted enormously from subsequently being provided with a desk, library access, and intellectual stimulation both at the Institute for Astronomy in Honolulu and at the Cavendish Astrophysics group at Cambridge University. Particular thanks go to directors Guenther Hasinger and Paul Alexander for these privileges.

A toast is also due to Wikipedia founder Jimmy Wales and the dozens of anonymous contributors who have made Wikipedia such a superb first resource for astronomy. I have no shame in revealing that Wikipedia is usually the first place I visit when I need to explore an astronomy topic that is new to me. Thanks, too, to the many astronomers and science writers, particularly at NASA, who maintain the splendid public information websites associated with many of the projects mentioned in this book.

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