



# Preface

## What This Book Is About

This book is about bringing the far-off close. It offers twenty-five observations that can be achieved using modest amateur equipment. Each of these observations has changed how we understand our world and its place in the universe. Some have made headlines, transforming how we think about ourselves. Others have caused quieter revolutions. But each of these observations has a place in history.

And you can see them for yourself. With the help of this book, you can follow in the footsteps of the great astronomers and connect with the science, the history and the changes that have flowed from them. You can share with others why astronomy matters for us all.

Each chapter contains observations that require fairly simple astronomical tools: binoculars, a telescope, a sense of where things are in the sky and lots of patience! Each observation is made from familiar starting points, so there is no need to have go-to software for your telescope.

We will cover the science that explains and illuminates the observations so as to understand what we are seeing. We will also witness the impact that each observation has made on human history and culture, and see why a planet or tiny spot in the sky has affected the world in which we live.

## How to Use This Book

Readers who are beginning their astronomical explorations can follow this book in order. The early chapters contain straightforward observations and introduce key scientific tools that help to understand the planets and the stars. More experienced observers will be able to see familiar objects in a new way, as well as seeking out more challenging targets. Everyone will discover things that they can share with non-astronomers, so that we can talk about our passion in a way that builds connections.

The history of astronomy is enfolded within the observations. Great figures appear several times and sometimes in surprising ways, as we see for ourselves the observations that they made.

This is inevitably a personal selection. It is formed by my own observing experience in the northern part of the northern hemisphere and by my perception of great moments in astronomical history. I make some suggestions as to what might be the 26<sup>th</sup> observation in the last chapter of the book. I would welcome other ideas.

## About the Pictures

Many images in this book are the work of amateur astronomers. The pictures taken by the Hubble Space Telescope and other instruments are magnificent, but they can also mislead. If we think we are going to see the Horsehead or Crab Nebula as Hubble does through our telescopes, we are going to be disappointed. But amateur astrophotographers can, with great patience and skill, achieve amazing images.

Without exception, those whom I approached gave permission for their pictures to appear in this book. They want their work to be enjoyed.

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the World

And How To Make Them Yourself

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