

## The Cambridge Photographic Moon Atlas

Written by an experienced and well-known lunar observer, this is a hands-on primer for the aspiring observer of the Moon. Whether you are a novice or are already experienced in practical astronomy, you will find plenty in this book to help you raise your game to the next level and beyond. In this thoroughly updated second edition, the author provides extensive practical advice and sophisticated background knowledge of the Moon and of lunar observation. It incorporates the latest developments in lunar imaging techniques, including digital photography, CCD imaging and webcam observing, and essential advice on collimating all common types of telescope. Learn what scientists have discovered about our Moon, and what mysteries remain still to be solved. Find out how you can take part in the efforts to solve these mysteries, as well as enjoying the Moon's spectacular magnificence for yourself! Provides information about the moon, star charts and monthly sky maps covering that which is visible each month in different hemispheres. Original.

The Compendium of Practical Astronomy is unique. The practical astronomer, whether student, novice or accomplished amateur, will find this handbook the most comprehensive, up-to-date and detailed single guide to the subject available. It is based on Roth's celebrated German language handbook for amateur astronomers, which first appeared over 40 years ago. Written by a well-known and experienced amateur astronomer, this is a practical primer for all aspiring observers of the planets and other Solar System objects. Whether you are a beginner or more advanced astronomer, you will find all you need in this book to help develop your knowledge and skills and move on to the next level of observing. This up-to-date, self-contained guide provides a detailed and wide-ranging background to Solar System astronomy, along with extensive practical advice and resources. Topics covered include: traditional visual observing techniques using telescopes and ancillary equipment; how to go about imaging astronomical bodies; how to conduct measurements and research of scientifically useful quality; the latest observing and imaging techniques. Whether your interests lie in observing aurorae, meteors, the Sun, the Moon, asteroids, comets, or any of the major planets, you will find all you need here to help you get started.

Featuring 388 high-resolution photographs and concise descriptions of the Moon's topography, this atlas is an indispensable guide for amateur astronomers and astrophotographers. An authoritative guide packed with practical tips for all types and levels of observations in amateur astronomy.

Informative, profusely illustrated guide to locating and identifying craters, rills, seas, mountains, other lunar features. Newly revised and updated with special section of new photos. Over 100 photos and diagrams. "Extraordinary delight awaits the amateur astronomer or teacher who opens this book." — The Science Teacher.

Ever since the serendipitous discovery of planet Uranus in 1781, astronomers have been hunting for new worlds in the outer regions of our solar system. This exciting and ongoing quest culminated recently in the discovery of hundreds of ice dwarfs in the Kuiper belt, robbed Pluto from its 'planet' status, and led to a better understanding of the origin of the solar system. This timely book reads like a scientific 'who done it', going from the heights of discovery to the depths of disappointment in the hunt for 'Planet X'. Based on many personal interviews with astronomers, the well-known science writer Govert Schilling introduces the heroes in the race to be the first in finding another world, bigger than Pluto. Historical maps and rare photographs illustrate four centuries of mapping the Moon.

p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 14.0px Verdana} On July 20, 1969, half a billion viewers around the world watched as the first television footage of American astronauts on the moon was beamed back to earth—a thrilling turning point in the history of images, satisfying an age-old curiosity about our planet's only natural satellite. To celebrate the fiftieth anniversary of the Apollo 11 moon landing, this captivating volume surveys the role photography has played in the scientific study and artistic interpretation of the moon from the dawn of the medium to the present, highlighting not only stunning photographic works but also related prints, drawings, paintings, and astronomical instruments. Apollo's Muse traces the history of lunar photography, from newly discovered daguerreotypes of the 1840s to contemporary film and video works. Along the way, it explores nineteenth century efforts to map the lunar surface, whimsical fantasies of life on the moon, the visual language of the Cold War space race, and work created in response to the moon landing by artists such as Robert Rauschenberg, Nancy Graves, and Aleksandra Mir. A delightful introduction by Tom Hanks, star of the award winning 1995 film Apollo 13, delves into the universal fascination with representations of the cosmos and the ways in which space travel has radically expanded the limits of human vision.

Since the advent of astronomical CCD imaging it has been possible for amateurs to produce images of a quality that was attainable only by universities and professional observatories just a decade ago. However, astronomical CCD cameras are still very expensive, and technology has now progressed so that digital cameras – the kind you use on holiday – are more than capable of photographing the brighter astronomical objects, notably the Moon and major planets. Tony Buick has worked for two years on the techniques involved, and has written this illustrated step-by-step manual for anyone who has a telescope (of any size) and a digital camera. The color images he has produced – there are over 300 of them in the book – are of breathtaking quality. His book is more than a manual of techniques (including details of how to make a low-cost DIY camera mount) and examples; it also provides a concise photographic atlas of the whole of the nearside of the Moon – with every image made using a standard digital camera – and describes the various lunar features, including the sites of manned and robotic landings.

Guide to discovering lunar sites, for beginners.

Maps and satellite photographs show the features of the Earth, Moon, Mercury, Venus, Mars, Jupiter, Saturn and their moons

Removes the scanning artefacts and transmission imperfections to produce a most comprehensive and beautifully detailed set of images of the lunar surface.

To help practical astronomers, all the photographs are systematically related to an Earth-based view. Organized to make it easy for astronomers to use, enabling ground-based images and views to be compared with the Orbiter photographs.

Several decades have elapsed since the publication of any similar book in the German language. The lack of such a book has been felt keenly by all friends of astronomy. In our

space age, astronomical knowledge arouses public interest more and more. Practical observation at the telescope depends more than anything else on such knowledge. The educational value of such a training is undisputed. On the other hand, the work of the amateur astronomer can also contribute essentially to the work of the professionals. It is from these points of view that this handbook aims to help with versatile advice. At the same time, the book intends to show the wide range of applied astronomy, as it presents itself to the friend of the stars; in mathematical-physical fields, in precision mechanics and optics, and last but not least in the area of social relations. Beyond the circle of amateur astronomers the book is addressed to lecturers, teachers, students and pupils. It wishes to serve them as a guide to "astronomical experiments", which we suggest should be performed in primary and secondary schools, specialist colleges, and extramural courses.

Dedicated to modern lunar imaging, this is an in-depth and illustrated guide to capturing impressive images of our nearest neighbour.

Why write another guide to observing the Moon? That was the question I was pondering as I began this project, having a fine collection of "classic" lunar guidebooks dating back to 1791 in my own library. As a Fellow of the Royal Astronomical Society (RAS), member of the American Astronomical Society's Division for Planetary Sciences (AAS DPS), and member of the American Geophysical Union (AGU), I am fortunate to know many professional lunar scientists who keep me up to date with developments in lunar science - contrary to public perception, lunar science has definitely not stagnated since the last Apollo, No. 17, left the surface of the Moon in December, 1972. I am also lucky to know many amateur lunar observers, who, like me, enjoy actually looking at the Moon with telescopes and imaging it with a wide variety of devices ranging from regular 35 mm cameras to video recorders and CCD cameras. My friends who study the Moon, whether in their professions or just for fun, gave me several reasons for doing "another" lunar guidebook. First, the last lunar observer's guide of any length was published over ten years ago, and many reviewers noted that it was badly out of date even then.

'Catchers of the Light' is a History of Astrophotography. It tells the true stories of the 46 pioneers who did most to master the art of celestial photography, as it was known during its early days; and whose efforts have made it possible for us to see the many magnificent pictures of the Universe featured in books, magazines and on the internet. In its TWO magnificent volumes is contained an unbelievable collection of tales of adventure, adversity and ultimate triumph and tells the uplifting stories of this small band of ordinary men and women, who did such extraordinary things; overcoming obstacles as diverse as war, poverty, cholera, death, very unfriendly cannibal natives and even exploding donkeys. It has been written with a no specific audience in mind - it is a book for anybody in fact - astronomers, photographers, historians, genealogists, art dealers, students, artists, doctors, farmers, builders, teachers & many more. If you like to read about the lives of special people - those who never give up - no matter what - and who succeed in achieving the seemingly impossible - then this is the book for you. This book of 1600 or so pages, with 1800 or more photographs/illustrations and over 2000 references/notes - represents the FIRST fully detailed and professionally researched book on the subject; and tells of the incredible lives of the pioneers of Astrophotography, each with their own incredible story to tell - they were the 'Catchers of the Light'. Catchers of the Light is divided into ten Parts (I-X), each covering a specific aspect of the subject- I: Origins of Astrophotography; II: Lunar Astrophotography; III: Solar Astrophotography; IV: Solar System Astrophotography; V: Deep Space Astrophotography; VI: Photographic Astronomical Spectroscopy; VII: Photographic Sky Surveys; VIII: Astrographs; IX: Modern Digital Age; X: Appendices. The following men and women are to be found in the pages of the book; who are the 'Catchers of the Light': Louis Jacques Mande Daguerre (1787-1851); Joseph Nicéphore Niépce (1765-1833); Frederick Scott Archer

(1814-1857); Richard Leach Maddox (1816-1902); John William Draper (1811-1882); Maurice Loewy (1833-1907); Pierre Henri Puiseux (1855-1928); William Henry Pickering (1858-1938); Armand Hippolyte Leon Fizeau (1819-1896); Jean Bernard Leon Foucault (1819-1868); Warren De La Rue (1815-1889); Pierre Jules Cesar Janssen (1824-1907); John Adams Whipple (1822-1891); William Usherwood (1821-1915); Pierre Paul Henry (1848-1905); Mathieu Prosper Henry (1849-1903); Maximillian Franz Joseph Cornelius Wolf (1863-1932); William Cranch Bond (1789-1859); George Phillips Bond (1825 -1865); Benjamin Apthorp Gould (1824-1896); Henry Draper (1837-1882); Isaac Roberts (1829-1904); William Edward Wilson (1851-1908); James Edward Keeler (1857-1900); Edward Emerson Barnard (1857-1923); Williamina Paton Stevens Fleming (1857-1911); Lewis Morris Rutherford (1816-1892); Father Pietro Angelo Secchi (1818-1878); William Huggins (1824-1910); Margaret Lindsay Murray (1848-1915); Edward Charles Pickering (1846 - 1919); Hermann Vogel (1841-1907); Wilhelm Oswald Lohse (1845-1915); Julius Scheiner (1858-1913); Edwin Powell Hubble (1889-1953); Milton Lasell Humason (1891-1972); Amedee Ernest Barthelemy Mouchez (1821-1892); David Gill (1843-1914); William Parsons (1800-1867); Andrew Ainslie Common (1841-1903); George Willis Ritchey (1864 1945); Henri Chretien (1879-1956); Bernhard Voldemar Schmidt (1879-1935); . Eugen von Gothard (1857-1909); Alfred Rordame (1862-1931); Marcel De Kerolyr (1873-1969). If you have seen or read 'Longitude' the story of John Harrison, the country carpenter who built the first clock that could accurately tell the time at sea, and who also made 'Del Boy' a 'millionaire', then you will love the 'Catchers of the Light'.

"A balanced biography of Gerard P. Kuiper and his critical role in the emergence of modern planetary science"--Provided by publisher.

This book approaches geological, geomorphological and topographical mapping from the point in the workflow at which science-ready datasets are available. Though there have been many individual projects on dynamic maps and online GISs, in which coding and data processing are given precedence over cartographic principles, cartography is more than "just" processing and displaying spatial data. However, there are currently no textbooks on this rapidly changing field, and methods tend to be shared informally. Addressing this gap in the literature, the respective chapters outline many topics pertaining to cartography and mapping such as the role and definition of planetary cartography and (vs?) Geographic Information Science; theoretical background and practical methodologies in geological mapping; science-ready versus public-ready products; a goal/procedure-focused practical manual of the most commonly used software in planetary mapping, which includes generic (ArcGIS and its extensions, JMARS) and specific tools (HiView, Cratertools etc.); extracting topographic information from images; thematic mapping: climate; geophysics; surface modeling; change detection; landing site selection; shared maps; dynamic maps on the web; planetary GIS interfaces; crowdsourcing; crater counting techniques; irregular bodies; geological unit symbology; mapping center activities; and web services. All chapters were prepared by authors who have actually produced geological maps or GISs for NASA / the USGS, DLR, ESA or MIIGAİK. Taken together, they offer an excellent resource for all planetary scientists whose research depends on mapping, and for students of astrogeology.

"The 21st Century Atlas of the Moon is uniquely designed for the backyard, amateur astronomer. As an indispensable guide to telescopic moon observation, it can be used at the telescope or as a desk reference. It is both accessible to the novice and valuable to the expert. With over two hundred Lunar Reconnaissance Orbiter images, the highest quality images of the moon ever taken, this atlas illustrates the Moon in high resolution. With special maps of the limb and far side, LRO altimetry-based images of major basins and their mare ridge, and maps of the Apollo and Soviet landing sites, this guide offers a level of detail never before seen in an atlas of the Moon. The Atlas clearly provides unprecedented detail on more than one thousand

named Moon features while recommending additional features and images to observe." -- Publisher's website.

The Apollo 17 flight and lunar landing, the sixth and final lunar landing and third extended science capability mission in the Apollo Program, are discussed with emphasis on the scientific endeavors conducted on the lunar surface. The scientific investigation of the mission is presented in three interrelated types of activities: the lunar surface sampling and observation, the lunar surface experiments, and the inflight experiments. Collection, documentation, and description of the lunar samples are discussed with a preliminary evaluation and analysis. The lunar surface experiments are described, including the results and their relationship to the scientific objectives of each experiment. The geochemical, photographic, geophysical, topographic, and medical data resulting from experiments conducted in flight are presented.

For anyone artistically inclined, observing the Moon and attempting to sketch or paint it can easily become a passion. The Moon presents a broad array of tone, texture, and form. Capturing this in a painting or sketch at the eyepiece of a telescope – or even with binoculars – develops observational skills, leaves a record of the observation, and can also be a delightful and rewarding pastime. However, the choice of media available is extensive (acrylic paint, oils, pen, charcoal, etc., and even computer art programs), and there is no existing text that fully explains all lunar sketching and painting techniques in each respective medium. This beautiful and graphically rich book fulfills this requirement. It presents detailed step-by-step instructions, in the form of illustrated tutorials for every major medium employed to represent the Moon. It also provides practical advice on how to sketch outdoors at night (not ideal conditions for an artist!). This is easily the most extensive book on the subject of lunar art for amateur astronomers, particularly those observing through a telescope. The diverse features of the lunar surface will attract and entice readers to review the number of different media presented, exciting and inspiring them with the possibilities of learning to depict all of the fascinating aspects of Earth's very own satellite. A favourable reception of the first edition of this book - due no doubt to the nature of its subject - which went out of print in 2 years, gave its author a welcome opportunity to update at present its contents. This was all the more necessary, as seldom in the annals of science has our knowledge of the physics and astronomy of the Moon made greater progress than during this time. The real heroes of this advance have, of course, been the spacecraft - 33 of which have now been sent out since 1959 to reconnoiter our satellite at a close range. The hard-landers among them just about delivered their message by the time when the first edition of this book went to the press; but it was the soft-landers and orbiters, which followed in their wake between 1966-67, that became really the principal contributors to lunar research. By now that it may be both timely and their programmes have likewise been completed; so opportune to take stock of the present state of our subject now - on the eve of the next stage of lunar

exploration by manned landings on the surface of our satellite - which can be expected to take place in the very near future. \* The aim of the second edition of this book will be to provide the requisite information, brought up to date in an organized manner.

Julius Schmidt was one of the finest astronomical observers of his time, and his detailed map of the Moon surpassed anything that had come before. Today, the German astronomer and geophysicist has remained a largely neglected figure, despite being one of the most important players in the history of lunar studies. This book at last makes accessible Schmidt's highly regarded German work, *Der Mond*. Considered an astronomical classic of the nineteenth century, *Der Mond* remained without a proper English counterpart for the last century and a half, until now. The author's faithful English translation provides readers with much-needed access into Schmidt's original publication, with the aim of showing the community just how vital his work and legacy have been in the international field of selenography.

Day-by-day photographic guide to observing the features of the Moon through a small telescope.

*Selene's Two Faces* sets out to look at the scientific purposes, the aesthetic expression, and the influence of early lunar drawings, maps and photographs, including spacecraft imaging.

The far side of the Moon, also called the "dark side of the Moon" was unknown to humanity until the Luna and Lunar Orbiter pictures were returned to Earth. This wonderful book contains beautiful photographs and newly-assembled mosaic images of the far side of the Moon, cleaned of transmission, imaging stripes and processing artifacts by today's computer technology. Byrne's superb analysis documents the appearance of the features of the far side with beautiful pictures from Lunar Orbiter. Until now, the far side Lunar Orbiter photos have only been available with strong reconstruction lines, but appear here for the first time as complete photographs, unmarred by imaging and processing artifacts.

After several decades spent in astronomical semi-obscurity, the Moon has of late suddenly emerged as an object of considerable interest to students of astronomy as well as of other branches of natural science and technology; and the reasons for this are indeed of historical significance. For the Moon has now been destined to be the first celestial body outside the confines of our own planet to be reconnoitered at a close range by means of spacecraft built and sent out by human hand for this purpose. At the time of writing, not less than ten such spacecraft of American as well as Russian origin landed already on different parts of the lunar surface; and some of these provided remarkable records of its detail structure to a spatial resolution increased thousandfold over that attained so far from our ground-based facilities. A renewed interest in our satellite, stemming from this source, on the part of the students of many branches of science and technology has also underlined the need for presenting the gist of our present knowledge in this field in the form that could serve as an introduction to the study of the Moon not only for astronomers, but also for serious students from other branches of science or technology.

The aim of the present book has been to provide an outline - the first of its kind - of the history of the human efforts to map the topography of the surface of our satellite, from the days of pre-

telescopic astronomy up to the present. These efforts commenced modestly at the time when the unaided eye was still the only tool at the disposal of men interested in the face of our satellite; and were continued since for more than three centuries by a small band of devoted friends of the Moon in several countries. Many of these were amateur astronomers, and almost all were amateur cartographers; though some highly skilled in their art. The reader interested in the history of lunar mapping between 1600 and 1960 will find its outline in the first chapter of this book; and can follow the way in which the leadership in the mapping of the Moon, the cradle of which stood in Italy, passed successively to France, Germany, and eventually to the United States. All efforts described in this chapter were wholly superseded by subsequent developments since 1960, largely motivated by logistic needs of a grand effort which culminated with repeated manned landings on the Moon between 1969-1972- a feat which will remain for ever one of the glories of our century.

Popular Mechanics inspires, instructs and influences readers to help them master the modern world. Whether it's practical DIY home-improvement tips, gadgets and digital technology, information on the newest cars or the latest breakthroughs in science -- PM is the ultimate guide to our high-tech lifestyle.

Edward Emerson Barnard's Photographic Atlas of Selected Regions of the Milky Way was originally published in two volumes in 1927. Together, these volumes contained a wealth of information, including photographic plates of the most interesting portions of the Milky Way, descriptive text, charts and data. Only 700 copies were printed, making the original edition a collector's item. Reproduced in print for the first time, this edition combines both volumes of Barnard's Atlas. It directly replicates Barnard's text, and contains high-resolution images of the original photographic plates and charts, reordered so that they can be seen together. It also includes a biography of Barnard and his work, a Foreword and Addendum by Gerald Orin Dobek describing the importance of the Atlas and additions to this volume, and a pull-out section with a mosaic of all 50 plates combined in a single panorama.

Many astronomers are unaware of how to obtain the best results from their telescopes. For those interested in photographing the Sun, Moon and planets, this volume provides the complete reference. This guide is packed with practical tips on how to obtain the highest resolution and provides a wealth of stunning images by the world's best amateurs, showing just what can be achieved. Individual chapters describe the various types of telescopes, the most suitable equipment to photograph a given subject, and recommend films and techniques in developing and printing. Also given are short biographies of key high resolution astrophotographers, both past and present, and an extensive bibliography of further reading. This guide provides both a wealth of sound, practical techniques and a unique portfolio of Solar System images--an inspiring handbook for any amateur astronomer.

[Copyright: bb66264903b4c62890ddd6b90a4c187d](https://www.cambridge.org/9780521818714)