

**Wessex Astronomical Society
Synopsis Catalogue**

Astronomical Bodies

45	Moon, Mars and Venus		Text: English, Czech (translation)
12	Comets	Russell & Ian Grant Ash & Drawings & Diagrams Photographs	
25	Impact Earth	Austen Atkinson	As more asteroids enter our solar system, our chances of a collision increase by the day. This work examines the impact phenomenon describing the importance of "Deathrock" collisions in the Earth's history, the potential dangers and alleged cover-ups of near misses.
15	The RGO Guide to the 1999 Total Eclipse of the Sun	Steve Bell	Published to help people get the most out of the total eclipse of the Sun on the morning of 11th August 1999. Foreword by Patrick Moore.
2	MAN AND METEORITES	Brian; Stewart, T. H. (Editors) Pejovic	
85	Mars	Heather Couper	The authors look at how our knowledge of our nearest planetary neighbour - Mars - has grown, and assess the role it might play in our futures. They look at the old myths associated with Mars, the fears of Martian invasions, and take the story up to date to show what we now know about the planet in the aftermath of the 1996 meteorite that may provide evidence for life and from the discoveries of the recent probes. They also assess whether Mars could form a crucial stopping point for further exploration.
140	The Universe From Your Backyard	David J. Eicher	Describes more than six hundred multiple stars, star clusters, nebulae, galaxies, and quasars found in each of forty-six constellations
84	Galaxies	Timothy Ferris	Beyond the Milky Way and toward infinity, Timothy Ferris navigates an exploration of the universe, guided by stars and galaxies that have been photographed through telescopes at the greatest observatories in the world. The book celebrates the wonder and the power of the cosmos in these photographs, which take you through silvery star clusters and vast red, exploding nebulae toward blue quasars 15 billion light years away. Revealing not only the ingredients of our own galaxy, the Milky Way, Ferris' vivid text also visits local galaxies, such as the Magellanic Clouds, the Andromeda, and the Sculptor and Fornax dwarves. The author then proceeds to discuss the elliptical, spiral and even violent aspects of galaxies, concluding with an examination of cosmology, which addresses such subjects as the geometry of space and time.
3	Total Eclipses	Pierre Guillermier & Serge Koutchmy	Lively and easy to understand, Total Eclipses presents the myths and legends associated with solar and lunar eclipses through the ages, the mechanisms governing these events, their beauty, and the wealth of information gleaned from them by astronomers and astrophysicists. "Gives a wide variety of information on observing eclipses for the novice as well as on the value of eclipses to professionals...any reader can find information at an interesting and appropriate level and can be sure that he is being guided knowledgeably." -NATURE.
68	The Guide to the Galaxy	Heather Couper Nigel Henbest	The authors take us on a personal tour of the Milky Way in this guide to our home galaxy. The book is written in non-technical language, for the general reader and the amateur astronomer. The text is supported by colour photographs of stars, star clusters and gas clouds.
82	The Home Planet	Kevin W Kelly	From Publishers Weekly This is a collection of 150 photographs of Earth taken from space, accompanied by quotes from members of the

Astronomical Bodies

			<p>Association of Space Explorers, a multi-national group of astronauts and cosmonauts. The pictures are spectacular: an "Earthrise," as seen from the moon; the mountain ranges, canyons, coastlines, cloud formations, tropical storms, volcanos, oceans, deserts and deltas of the Earth photographed from thousands of miles above our planet's surface. So precise is the view that we see a plankton bloom, in an amazing inversion of scale, off the coast of New Zealand. The space explorers' comments on their experiences, their common realization of the camaraderie of all of Earth's citizens and of the fact that the Earth is fragile and too precious to be wasted range in eloquence, but are uniformly affecting and well-intentioned: "The first day or so we all pointed to our countries. The third or fourth day we were pointing to our continents. By the fifth day we were aware of only one Earth," says a Saudi Arabian. "We went to the moon as technicians; we returned as humanitarians," declares an American. " . . . I understood that we are all sailing in the same boat," observes a Russian. 166,000 first printing; first serial to Life; Literary Guild alternate . Copyright 1988 Reed Business Information, Inc.</p>
147	Exoplanets	C. R. Kitchin	<p>Since 1992 there has been an explosion in the discovery of planets orbiting stars other than the Sun. There are now around 600 alien planets that we know about and that number is likely to break through the 1,000 'barrier' within a couple of years. The recent launch of the Kepler space telescope specifically to look for new worlds opens the prospect of hundreds, maybe thousands, of further exoplanets being found. Many of these planets orbit stars that are not too different from the Sun, but they are so close in to their stars that their surfaces could be flooded with seas of molten lead – or even molten iron. Others orbit so far from their stars that they might as well be alone in interstellar space. A planet closely similar to the Earth has yet to be detected, but that (to us) epoch-making discovery is just a matter of time. Could these alien worlds provide alternative homes for humankind, new supplies of mineral resources and might they might already be homes to alien life? Exoplanets: Finding, Exploring, and Understanding Alien Worlds takes a look at these questions - examining what such planets are like, where they are, how we find them and whether we might ever be able to visit them. It is written for the non-specialist but also provides a comprehensive, accurate and balanced summary useful to researchers in the subject. Above all this book explores the excitement of how a new branch of science is born, develops and in less than two decades starts to become a mature part of our knowledge of the universe.</p> <p>"...intended for a broad range of readers....a good book for the astronomy enthusiast." -- Michael Zeilik, Astronomy</p> <p>"Introduces constellations, prominent stars, planets, and the basic concepts for understanding the motions of the heavens ... Gratifying." -- AAAS Science Books and Films.</p> <p>Night falls over the equator and Phoebus rises from the west. It takes only 4 1/4 hours for this nearest moon to cross the sky--more than enough time for it to wax from new to full.</p> <p>This is the enduring charm of Mars: the more you learn about it, the stranger it seems. Moore's sober, commonsense tale of discovery cannot help but be as much about the garish Mars of the imagination as it is about the physical planet--and the changes wrought upon that imaginary twin have been truly cataclysmic. Lowell's charming canals lie shattered beneath the gargantuan volcanic sierras of Olympus, Ascræus, and Pavonis. The frozen carbon dioxide and thin hoarfrost of Mars's meager poles have vanished beneath huge quantities of water ice, bringing with it the nagging possibility of subterranean oceans and, every few tens of millions of years, an intermittent period of fertility.</p> <p>Moore is better placed than most to give earlier observations and imaginations their due. When he wrote Guide to Mars in 1955, it was commonly believed that the dark areas of the planet's surface were due to vegetation. And, given all</p>
55	North Star to Southern Cross	Will Kyselka & Ray Lanterman	
9	Meteorites and Their Origins	G.J.H. McCall	
27	Patrick Moore on Mars	Patrick Moore	

Astronomical Bodies

- 144 Uranus, Neptune, and Pluto and How to Observe Them (Astronomers' Observing Guides) Richard Schmude
- the advances in our understanding in the mere 40 years since, it seems perfectly natural for Moore to conclude his account by writing seriously about the likely shape of future colonies there.
- A home astronomer's guide, a memoir, a history that ably demonstrates the interplay between scientific data and interpretation--however you read it, Patrick Moore on Mars is more poetic and inspiring than it knows. --Simon Ings, Amazon.co.uk.
- This book tells the story of two giants and a dwarf. The giants, Uranus and Neptune, are mostly huge balls of gas, and they make their home in the remotest reaches of the Solar System. The dwarf, Pluto, which can usually be found even farther out than the two giants, was always small, but up until a short while ago, it enjoyed the same status as the other planets, a full-fledged member of the Solar System. Today, Pluto has been re-classified as a "dwarf planet." In this clear and succinct overview of the current research on these remote Solar System objects, Richard Schmude, Jr., tells us what facts we do know about these faraway entities, what we are seeking to know, and also how to observe them for yourself, using commercially available telescopes. He also explains why Pluto was re-classified and what it means, exactly, to be a dwarf planet. Intrigued by these objects since boyhood, Schmude has compiled a loving tribute to them, if not making them warm and fuzzy, at least making them seem less remote and bringing them into our current frame of reference, giving them personality and revealing their worth in our understanding of the structure and nature of the Solar System in which we live.

Astrophysics & General Science

- 47 The Five Ages of the Universe Fred C. Adams & Greg Laughlin
- There's a reason "astronomically large" means "larger than the scale of ordinary life": normal scales of time and space for astronomers involve millions of years and anywhere from thousands to quadrillions of kilometers. Even for astronomers, University of Michigan professor Fred Adams and his former student Greg Laughlin think big--really, really big--and their planning is really, really long-term.
- In *The Five Ages of the Universe*, Adams and Laughlin present their vision of the history of the universe, from the big bang on. They've had to come up with a new unit of measure to make this timescape intellectually tractable: the "cosmological decade." When the universe is 10 to the n years old, it is in the n th cosmological decade; we are now in the 10th, for instance. Each decade is thus 10 times as long as the one before.
- All the stars will have stopped shining in the 14th cosmological decade, about 100 trillion years from now--which is a mind-bendingly long period of time by most standards. But Adams and Laughlin are just getting their speculations warmed up. They go on to fold, spindle, and mutilate your time sense as they discuss the Degenerate Era (out to decade 39), the Black Hole Era (to decade 100), and the possible creation of new universes in the Dark Era (after decade 101 or so). It's the most fascinating, mind-expanding trip inside eternity you can read. --Mary Ellen Curtin.
- Arp's book is a frontal assault on the standard model of the universe, replete with anecdotes and illustrations, including 8 pages of colour plates.
- 39 Seeing Red Halton Arp
- 37 Exploding Suns ISAAC ASIMOV
- In his 310th book, Asimov explains the secrets of the supernovas in his usual clear and concise manner. He gives the historical background of the different theories advanced by many astronomers and astrologers over the centuries. The "big bang" theory is discussed as the means of forming our universe. He goes into detail about the composition of the different types of novas,

Astrophysics & General Science

			<p>black holes, the makeup of the universe and much more. He relates past studies to those of the present and speculates on what science has yet to uncover in the years ahead. All unusual terms are defined carefully within the text. Asimov takes a complicated subject and puts it into an easily understood format for non-scientists. Pat Royal, Prince George's County Public Schools System, Md.</p> <p>Copyright 2002 Reed Business Information, Inc. --<i>This text refers to an out of print or unavailable edition of this title.</i></p>
11	EXPLORING THE EARTH AND THE COSMOS	ISAAC ASIMOV	<p>First published in 1982, this is a lively account of humanity's explorations of land, sea, sky, matter and the Universe at large, all handily compressed into 320-odd pages.</p> <p>It is at once a history of ingenuity and technology, and a catalogue of wonders. These are the greatest detective stories of all time: the struggles to grasp the shape and size of the Earth, to plumb the depths of the oceans, to finally travel beyond the atmosphere, to delve into the invisible realms of the atom.</p> <p>Asimov is helpful with the staggeringly large numbers involved in these investigations, and manages to make the obscure vivid. For anyone sincerely interested in how the world works, this would be a fine harbour to sail from.</p>
99	Astronomy	Robert Horace Baker	Examines the elements and actions of the solar system, stars, and galaxy, paying attention to recent evidence concerning black holes, meteorites, quasi-stellar objects, and stellar and planetary evolution
122	New Solar System	J. Kelly Beatty & Olry	A guide to the current state of planetary science and the solar system, incorporating the most recent research on, and discoveries in, the solar systems and beyond. Fourth revised edition.
116	Star Watch	David Block	Describes the characteristics of the planets, comets, nebulas, stars, black holes, and galaxies, and discusses the philosophical questions raised by the size and nature of the universe.
57	Stephen Hawking's Universe	John Boslough	The first popular introduction to Hawking's work, this program discusses the mysterious world of black holes and singularities and the "big bang"--the point at which our universe may have begun.
30	Astronomy (Colour)	Peter Lancaster Brown	
32	EINSTEIN'S UNIVERSE.	Nigel Calder.	<p>'Einstein's Universe', a 120-minute TV film produced and directed by Martin Freeth for the BBC and WGBH, was presented by Peter Ustinov, and written by Nigel Calder. First broadcast on the centenary of Einstein's birth, 14 March 1979, it is still shown, although only very occasionally – most recently, if memory serves, in Hungary in 2009.</p> <p>The book that accompanied the programme has been a bit more durable. <i>Einstein's Universe</i> by Nigel Calder was published by the BBC in London and Viking in New York on the day of the</p>

broadcast. The journal *Nature* greeted it as “a valuable contribution to the demystification of relativity” and, commenting for lay readers, the *Evening Standard* said it was “consistently illuminating” and the *Irish Times* called it “a must”. ‘Einstein’s Universe’, a 120-minute TV film produced and directed by Martin Freeth for the BBC and WGBH, was presented by Peter Ustinov, and written by Nigel Calder. First broadcast on the centenary of Einstein’s birth, 14 March 1979, it is still shown, although only very occasionally – most recently, if memory serves, in Hungary in 2009.

16	Cosmology Revealed	Anthony Fairall	This book presents a clear explanation of the nature of the universe, including a special color feature incorporated in the book that offers three-dimensional views of the surrounding universe to ever greater depths. It assumes no prior knowledge of astronomy or cosmology and will attract general readers and beginning amateur astronomers. It provides much more on large-scale structures than other popular-level cosmology books. The mix of cosmology, large scale structures, anthropic principle, and perspectives on the universe is unique.
17	The Whole Shebang	Timothy Ferris	The Whole Shebang: A State-of-the-universe(s) Report is a non-fiction science book written by author Timothy Ferris originally published in 1997.[1] In his book he provides a wide-range report of current research on cosmology, the study of the universe, and its trends going into the 21st century. He reports on theories about the possibility that our universe is one among many, the Big Bang theory, Black holes, the "expanding" universe, and a "curved" space. The book has twelve chapters with most of it exploring the Big Bang theory and the mass density of the universe.
23	Antimatter	Gordon Fraser	"...Fraser's absorbing narrative retraces the effort to unravel the structure of subatomic matter--and antimatter--from Planck, Einstein, Heisenberg and Dirac to Richard Feynman and Murray Gell-Mann; he imparts a keen sense of the colorful personalities and discoveries..." Publishers Weekly "...an up-to-the-minute account of a developing field of knowledge. Recommended for those who want to know what is going on in this exciting area of physics." Choice.
19	Almost Everyones Guide to Science	John Gribbin	John Gribbin is one of the few science writers who is equally comfortable writing about biology as about physics, and this beginner's guide will take the reader through the basics and the fundamental issues of the crucial areas of modern science, from the birth of the universe through to the evolution of our own species, the nature of human behaviour and the workings of our minds. Crucially, the book will not only provide an overview of the central areas in a single volume, but also explain how the areas link up, what evolutionary theory has to say about how we think, how sub-atomic particles came into being in the big bang, and atoms in stars.
35	Companion to the Cosmos (Phoenix Giants)	John Gribbin	COMPANION TO THE COSMOS is the brilliant science populariser and an award-winning writer, John Gribbin tells us

Astrophysics & General Science

28	In Search of the Edge of Time	John Gribbin	<p>everything we want to know about the universe.</p> <p>Once the stuff of science-fiction novels, black holes, and their even stranger cosmological counterparts, white holes and wormholes, are now the subject of serious inquiry. Physicists who formerly shunned these astrophysical eccentricities have begun to theorize about them and search for the physical proof of their existence with the zeal of converts. The unavoidable conclusion of this research is that these "rips in the fabric of spacetime" are not only real, they might actually provide a passage to other universes and travel through time. This book tells the story of the theories and discoveries that have led scientists to these conclusions.</p>
93	ORIGINS	SIMON GOODWIN JOHN GRIBBIN	<p>During the late 1920s Edwin Hubble postulated that the universe is expanding. Gathered together in this study are photographs that concur with the theory, whilst the authors explain for the layman the awesome implications of the Big Bang and our origin.</p>
81	Cycles of Fire	William K. Hartmann & Ron Miller	<p>Superlatives are in order for this fine book covering "stars and galaxies in the stages of their life cycle." Four well-known science writers and artists have combined their considerable expertise to produce this well-written and lavishly illustrated book. Color photographs clarify known phenomena, while a multitude of paintings brings to life possible configurations of planets, asteroids, quasars, and the stars. All aspects of deep space as we know it are addressed. Earth's place in the galaxy is clearly defined in this "big picture" of our vast universe. The question of whether other intelligent life forms exist is also given consideration. Cycles of Fire works on all levels: as a picture book, an enjoyable browsing item, or a research aid, relevant to the serious science student. Anne Paget, Episcopal High School, Bellaire.</p>
100	The Chemically Controlled Cosmos	T. W. Hartquist & D. A. Williams	<p>Simple chemistry governs a host of the exotic objects that populate our cosmos. For example, molecules in the early Universe acted as natural temperature regulators, keeping the primordial gas cool and, in turn, allowing galaxies and stars to form. What are the tools of the trade for the cosmic chemist and what can they teach us about the Universe we live in? These are the questions answered in this engaging and informative guide--the first book for nonspecialists on molecular astrophysics. In clear, nontechnical terms, and without formal mathematics, Hartquist and Williams show how to study and understand the behavior of molecules in a host of astronomical situations. Readers will learn about the secretive formation of stars deep within interstellar clouds; the origin of our own solar system; the cataclysmic deaths of many massive stars that explode as supernovae; and the hearts of active galactic nuclei, the most powerful objects in the universe. This book provides an accessible introduction to a wealth of astrophysics, and an understanding of how cosmic chemistry allows the investigation of many of the most exciting questions concerning astronomy today.</p>
114	Illustrated Brief History of Time	Stephen Hawking	<p>This is Stephen Hawking's updated, expanded and illustrated edition of his celebrated work which includes the most recent developments in the field, many of which were forecast by him. At the same time, he explains his complex theories through a fresh visual dimension. Over one hundred and fifty stunning colour illustrations have been specially commissioned for this purpose to help the reader understand what have become popular mythic images of our century, but which nonetheless remain difficult, abstract ideas to grasp. It includes a new introduction written specially for this edition.</p>
103	The Nature of Space and Time	Stephen W. Hawking & Roger Penrose	<p>Who doesn't love a good argument? When physics heavyweights Stephen W. Hawking and Roger Penrose delivered three sets of back-and-forth lectures capped by a final debate at Cambridge's Isaac Newton Institute, the course of modern cosmological thinking was at stake. As it happens, The Nature of Space and Time, which collects these remarks, suggests that little has changed from the days when Einstein challenged Bohr by refusing to believe that God plays dice. The math is more abstruse, the arguments more refined, but the argument still hinges on whether our physical theories should be expected to model reality or merely predict measurements.</p> <p>Hawking, clever and playful as usual, sides with Bohr and the Copenhagen interpretation and builds a strong case for</p>

Astrophysics & General Science

			<p>quantum gravity. Penrose, inevitably a bit dry in comparison, shares Einstein's horror at such intuition-blasting thought experiments as Schrödinger's long-suffering cat--and scores just as many points for general relativity. The math is tough going for lay readers, but a few leaps of faith will carry them through to some deeply thought-provoking rhetoric. Though no questions find final answers in <i>The Nature of Space and Time</i>, the quality of discourse should be enough to satisfy the scientifically curious. --Rob Lightner.</p>
74	The Mysterious Universe	Nigel Henbest	<p>Birth of the planets, the outer planets, the inner planets, the double planet; earth and moon, cosmic catastrophes, biography of the stars, life in the universe, the still-ticking pulsars, black holes, quasars and the ultimate mystery. B/w and colour illustrations.</p>
137	Hyperspace	Michio Kaku	<p>How many dimensions do you live in? Three? Maybe that's all your commonsense sense perception perceives, but there is growing and compelling evidence to suggest that we actually live in a universe of ten real dimensions. Kaku has written an extraordinarily lucid and thought-provoking exploration of the theoretical and empirical bases of a ten-dimensional universe and even goes so far as to discuss possible practical implications--such as being able to escape the collapse of the universe. Yikes. Highly Recommended.</p>
40	The Little Book of Stars (Little Book Series)	James B. Kaler	<p>The point of this book is to provide a brief, easy-to-read but comprehensive overview of stars: where they came from; what they are made of; what will happen to them, and what they mean to us from a scientific, aesthetic and cultural point of view. The book will focus on stars and astronomy, and will keep technical physics to a minimum.</p>
112	Close Encounters?	R.J Lambourne & M.J Shallis & M Shortland	<p>Currently, science fiction in all its forms is enjoying enormous popular interest. There can be no doubt that science fiction books and films have great influence on the public view of science and scientists.</p> <p>Close Encounters? examines the historical development of science fiction as a genre in books and films, tracing its roots, examining its most common ideas, exploring its relationship to "real" science, and attempting to assess its cultural impact. Discussion focuses on major themes such as time travel, politics, religion, ecology, and disasters. The authors consider the science in science fiction, the images of scientists that science fiction conveys, and some of the political, religious, and social motifs prominent in science fiction. They also discuss pseudo-science and its growing influence on the public perception of science.</p>
126	Astronomy for GCSE	Andrew Lintott & Patrick Moore	<p>This fascinating, thought-provoking study should be read by all those interested in how the nature of science and its role in our society is portrayed in science fiction.</p> <p>Astronomy for GCSE" has guided many students through the astronomical material in the National Curriculum since it was first published in 1990. It is now reissued in a second, updated edition, incorporating new chapters on cosmology, non-optical observing and spectroscopy, to take account of the latest modifications to the GCSE syllabus. The questions at the end of each chapter and recommended practical work have both been modified to fit in with the modern style of examination, and the text has been updated to take account of missions such as Magellan and Galileo, results from the Hubble Space Telescope, and the many other exciting developments of the last ten years. Several new NASA photographs are included.</p>
94	Bang!	Brian May & Lintott & Moore	<p>Rock legend and experienced amateur astronomer Brian May joins the legendary expert Sir Patrick Moore to tell the story of the Universe from the moment time and space came into existence at the Big Bang, through to the infinite future and the ultimate fate that awaits us. Many of the pictures of the Universe obtained by instruments such as the Hubble Space Telescope or the Very Large Telescope in Chile are beautiful enough to be considered works of art in their own</p>

Astrophysics & General Science

115	Savage Planet	Liz Mcleod	right. This book presents them in context, and uses extraordinary new artworks to explain the mind-blowing theories from the cutting edge of astronomy in a way that everyone can understand. A tie-in to the ITV "Savage Planet" series, this book is a compelling account of natural phenomena, a book about the effects of nature's extremes, and a fascinating account of real life stories of tragedy and survival in the face of disaster.
97	Exploring the Earth and Moon	Patrick Moore	<p style="text-align: center;">Illustrated with colour photographs and diagrams throughout.</p> <p>The outer reaches of our Solar System have begun to yield their secrets as a series of interplanetary probes have returned not only a wealth of new and often unexpected data but also a collage of haunting photographs of our planetary neighbours. In the two decades before that, probes landed on Venus and Mars, even sifting their soils and providing vital clues as to how these planets might have been formed and evolved.</p> <p>But what of our Earth and its Moon? How was our planet formed and what course did its evolution take? And where did our Moon come from? Was it formed at the same time as the Earth or is a body later captured by the gravitational pull of the Earth? Did the Moon once possess an atmosphere and if so what became of it? Despite our rapidly broadening knowledge of the Solar System and Man's visits to the Moon itself, many of the questions about our Earth and its satellite remains unanswered.</p> <p>Exploring the Earth and Moon addresses many of these questions and sifts through the theories and speculations that abound concerning our home. The book further investigates the interactions of the Earth - Moon system and what implications and effects it has on the environment we inhabit and on our lives.</p> <p>A wealth of colour illustrations, diagrams and charts complement the author's clear and concise exploration of a subject that will fascinate not only the enthusiasts of astronomy and geology but anyone who wants to know more about the forces that have shaped, and continue to shape, the world we live in.</p>
139 102	The Great Universe Armchair Astronomy	Patrick Moore Sir Patrick Moore	A much-honored British astronomer, Moore was only 11 when, in 1934, he was elected a full member of the British Astronomical Association. A scientist who delights in honoring amateur astronomers of the past and of our own day no less than he reveres the Galileos and the Herschels, here he taps his archival knowledge of astronomical lore and history. A warmly human personal approach informs his book. Often with infectious humor, he ranges from sketches of astronomy's oddballs, like the 17th century astronomer-pirate Basil Ringrose, to explanations of the way modern astronomers "weigh" a black hole or study quasars, pulsars or some newly-discovered galactic mystery, to an analysis of Ptolemy's moon-theories and speculations that our descendants may become Martians. Photos. January 20
121	The Universe	Iain Nicolson & Sir Patrick Moore	<p style="text-align: center;">A lucid essay on the cosmos -- past, present and future -- accompanied by clear diagrams, computer graphics and</p>

Astrophysics & General Science

120 Dark Side of the Universe

Iain Nicolson & Brian Smallwood; Jamie Symonds

luminous telescopic photos... conveys the excitement of scientists tackling the largest problem yet uncovered. --Wall Street Journal

Full of lavish illustrations in beautiful colour -- though not of course of dark matter and dark energy -- it is a first-class overview for the non-specialist, with enough meaty detail for scientists too. --New Scientist

For anyone who was intrigued by Bang!, Dark Side of the Universe is the perfect way to delve deeper into 21st century astronomy. --Brian May (Queen)

I particularly enjoyed how Nicolson explores topics that take a back seat in the main stream media. --Monica Bobra, Sky and Telescope

-- a broad, clear and precise overview of our current understanding of dark matter and dark energy --. It is a challenge to try to make these apparently obscure concepts familiar to any motivated reader without a scientific background. But the author, Iain Nicolson, has been entirely successful in his enterprise. With a pleasant balance between text and colourful illustrations, he guides the reader through a fascinating, invisible and mysterious world that manifests its presence by shaping galaxies and the universe itself. --CERN Courier

I particularly enjoyed how Nicolson explores topics that take a back seat in the main stream media. --Monica Bobra, Sky and Telescope

-- a broad, clear and precise overview of our current understanding of dark matter and dark energy --.

It is a challenge to try to make these apparently obscure concepts familiar to any motivated reader without a scientific background. But the author, Iain Nicolson, has been entirely successful in his enterprise. With a pleasant balance between text and colourful illustrations, he guides the reader through a fascinating, invisible and mysterious world that manifests its presence by shaping galaxies and the universe itself. --CERN Courier.

143 Bad Astronomy

Philip C. Plait

Advance praise for Philip Plait's Bad Astronomy

"Bad Astronomy is just plain good! Philip Plait clears up every misconception on astronomy and space you never knew you suffered from." --Stephen Maran, Author of Astronomy for Dummies and editor of The Astronomy and Astrophysics Encyclopedia

"Thank the cosmos for the bundle of star stuff named Philip Plait, who is the world's leading consumer advocate for quality science in space and on Earth. This important contribution to science will rest firmly on my reference library shelf, ready for easy access the next time an astrologer calls." --Dr. Michael Shermer, Publisher of Skeptic magazine, monthly columnist for Scientific American, and author of The Borderlands of Science

"Philip Plait has given us a readable, erudite, informative, useful, and entertaining book. Bad Astronomy is Good Science. Very good science..." --James "The Amazing" Randi, President, James Randi Educational Foundation, and author of An Encyclopedia of Claims, Frauds, and Hoaxes of the Occult and Supernatural

Astrophysics & General Science

			<p>"Bad Astronomy is a fun read. Plait is wonderfully witty and educational as he debunks the myths, legends, and 'conspiracies that abound in our society. 'The Truth Is Out There' and it's in this book. I loved it!" --Mike Mullane, Space Shuttle astronaut and author of Do Your Ears Pop in Space?</p>
73	BEFORE THE BEGINNING	MARTIN REES	<p>It is now widely accepted that our universe exploded around 15 billion years ago. As the primordial material expanded and cooled, it evolved into the patterns of stars and galaxies now observed. Professor Rees argues that a family of universes could have been created through a similar process.</p>
51	Our Cosmic Habitat	MARTIN REES	<p>The cosmos depicted in this fascinating exploration of astrophysics, now in paperback, is mind-boggling-vast and old and full of supernovae, black holes and mysterious dark matter. But its greatest conundrum is how delicately attuned and "biophilic" a habitat it is. If the laws of nature had been configured just a bit differently-if gravity were slightly stronger, the electron a smidgen heavier, the texture of ripples in the universe a bit rougher or smoother, or the infinitesimal imbalance between matter and anti-matter off by one part in a billion-then galaxies, planets, atoms and life as we know it would have been impossible. Rees, Great Britain's Astronomer Royal and the author of Just Six Numbers: The Forces That Shape the Universe, is a sure guide to the science that illuminates these mysteries, from quantum mechanics to cosmology. He takes us from the Big Bang to the heat death of the universe, exploring along the way how the galaxies gelled, how elements were forged in the furnace of the stars and how planet Earth, ensconced in a warm orbit, stabilized by the Moon and shielded from asteroids by Jupiter's gravitational field, provided a sheltered breeding ground for intelligent life. He also ponders the philosophical significance of a cosmos so finely engineered to support life, asking whether our universe is a big fluke, a miracle of providential design, or just one particularly favored example of an infinite "multiverse." Rees's engaging style, lucid exposition and grand conception make this a wonderful introduction to the biggest of scientific questions.</p>
48	Our Cosmic Habitat	MARTIN REES	<p>The cosmos depicted in this fascinating exploration of astrophysics, now in paperback, is mind-boggling-vast and old and full of supernovae, black holes and mysterious dark matter. But its greatest conundrum is how delicately attuned and "biophilic" a habitat it is. If the laws of nature had been configured just a bit differently-if gravity were slightly stronger, the electron a smidgen heavier, the texture of ripples in the universe a bit rougher or smoother, or the infinitesimal imbalance between matter and anti-matter off by one part in a billion-then galaxies, planets, atoms and life as we know it would have been impossible. Rees, Great Britain's Astronomer Royal and the author of Just Six Numbers: The Forces That Shape the Universe, is a sure guide to the science that illuminates these mysteries, from quantum mechanics to cosmology. He takes us from the Big Bang to the heat death of the universe, exploring along the way how the galaxies gelled, how elements were forged in the furnace of the stars and how planet Earth, ensconced in a warm orbit, stabilized by the Moon and shielded from asteroids by Jupiter's gravitational field, provided a sheltered breeding ground for intelligent life. He also ponders the philosophical significance of a cosmos so finely engineered to support life, asking whether our universe is a big fluke, a miracle of providential design, or just one particularly favored example of an infinite "multiverse." Rees's engaging style, lucid exposition and grand conception make this a wonderful introduction to the biggest of scientific questions.</p>
8	The Tunguska Mystery (Astronomers' Universe)	Vladimir Rubtsov & Edward Ashpole	<p>The purpose of the book is a dual one: to detail the nature and results of Tunguska investigations in the former USSR and present-day CIS, and to destroy two long-standing myths still held in the West. The first concerns alleged "final solutions" that have ostensibly been found in Russia or elsewhere. The second concerns the mistaken belief that there has been little or no progress in understanding the nature of the Tunguska phenomenon. All this is treated by the author in a scholarly and responsible manner. Although the book does present certain unusual findings of Russian and Ukrainian scholars, it is important to stress that this is not a sensational book; it is, rather, a serious exposition of the</p>

Astrophysics & General Science

- 105 Secrets of the Sky Guido Ruggieri results of rational investigations into a difficult scientific problem. We are demonstrating the true complexity of the problem that is now entering its second century of existence. Simple meteoritic models cannot explain all the characteristics of this complicated event, and therefore certain so-called "unconventional hypotheses" about the nature of the Tunguska explosion are to be considered as well.
"From our earth to the most distant limits of the known universe... The mysteries of space clearly explained with colorful photographs, diagrams and drawings.
Ideal for young scientists and astronomers grades 6 thru 12. Profusely illustrated, most in color.
- 113 Cosmos Carl Sagan A companion volume to a popular television series and seventy-week New York Times bestseller places fifteen billion years of evolution in an accessible format and is accompanied by more than two hundred photographs.
- 14 The Shadow of Creation Michael Riordan & David N. Schramm Good exposition of the physics of dark matter and its cosmological significance by a science writer and a theoretical physicist
- 44 Modern Cosmology D. W. Sciama The exploration of the Universe, as conducted by physicists, astronomers, and cosmologists was one of the greatest intellectual adventures of the mid-twentieth century. This book, first published in 1971, tells the story of their achievements and the insight gained into the structure, history, working and scale of our Universe.
- 18 Black Holes John Taylor In addition to the basic information needed to understand what a black hole is, this book also explains what the existence of black holes might mean for the future of our solar system and planet. Scientists' latest findings about the interiors of black holes and our changing understanding of the forces of nature are included in this first-time trade paperback edition. This examination of space and time asks us to contemplate the paradox of a beginning with no beginning and a future with no future.
- 7 Destiny or Chance Stuart Ross Taylor Written by a leading planetary scientist, this engaging book tells the remarkable story of how our solar system came into existence and provides an expert tour of the Earth, its planetary neighbors and other planetary systems. In a whirlwind adventure, we explore how the formation of mighty Jupiter dominated the solar system, why Mars is so small, where comets come from, how rings form around planets, why asteroids exist and why Pluto isn't a planet at all. En route, we discover the role of chance events in shaping the course of the history of our solar system. Dramatic collisions, for example, caused the tilts and spins of the planets, the extinction of the dinosaurs and the rise of man. Finally, we look at how suitable Earth is for harboring life, what other planetary systems look like and whether we are alone in the cosmos. For all those interested in understanding our solar system and its place in the cosmos, this is a lucid and compelling read.
Stuart Taylor is the recipient of numerous academic awards, including the Norman L. Bowen Award from the American Geophysical Union for his important contributions to our understanding of the origins and early history of the Earth and Moon. In 1997, Asteroid 5670 was named Rosstaylor in his honor. He is the author of Solar System Evolution (Cambridge, 1992).
- 24 101 Things You Don't Know About Science James S. Trefil Predicts the course of future breakthroughs over the whole range of physical sciences. It looks at topics such as time travel, why AIDS cannot be cured, how the world will end and what is the exact weight of one kilogram.

Biographies

- 62 Astronomer by Chance (Oxford Letters & Memoirs) Sir Bernard Lovell A chance event in 1939 changed the young Bernard Lovell's life and led him to become one of the pioneers of radio astronomy. From an idea that radar used for detecting enemy aircraft might have larger potential, he developed a telescope capable of investigating the distant regions of the universe. His famous telescopes at Jodrell Bank have played

Biographies

			a critical role in the discovery of unknown objects in the universe and led to questions that lie at the heart of contemporary astronomy and astrophysics. Bernard Lovell's story is one of chance, tenacity and infinite resourcefulness in the face of technical and bureaucratic difficulties. To read his account is also to see how the image and reality of science have changed in his lifetime, partly through his own work.
67 101	The Herschel Chronicle Fred Hoyle	Constance A. Lubbock Simon Mitton	The Herschel Chronicle: The Life-Story of William Herschel and His Sister Caroline Herschel The first astronomer to publicize his subject on radio and television, Sir Fred Hoyle rose to national prominence in the 1950s as a result of his controversial ideas on the origins of the universe. Famous for his work on the thermonuclear reactions inside stars that made possible the beginnings of life, he developed the 'steady state' theory of the universe, soon challenged by the rival 'big bang' theory, which led to a bitter dispute between Hoyle and his rivals - not only fellow scientists but also archaeologists and palaeontologists whose conclusions he had challenged. This is a major scientific biography of one of the greatest, and best-known, scientists of the twentieth century, written in an enjoyable and accessible style.
1	80 Not Out	Patrick Moore	Offering fascinating insight into a man who has significantly raised the profile of astronomy among the public, this autobiography of Patrick Moore spans 80 years of social history with wit and charm. Moore describes his research to map the moon, which began prior to the NASA Apollo missions during his undergraduate years at Cambridge University, and was eventually used by Russia to correlate the first Lunik 3 pictures. Moore also chronicles his work on BBC's The Sky at Night, where he began as the presenter in April 1957 and continues today, the show having landed in the record books as the world's longest-running TV series with the same presenter.

General Reference Materials

145	A Field Guide to Stars and Planets (Peterson Field Guide)	Jay M. Pasachoff Professor of Astronomy & Roger Tory Peterson & Wil Tirion	The fourth edition of this best-selling field guide has been completely revised and updated to include the latest information from leading astronomical sources. All the time-sensitive material is new and valid through 2017: solar eclipses, phases of the moon, positions of the planets, and more. Twenty-four Monthly Sky Maps, all newly revised and in color, show exactly what you'll see when facing north or south in the night sky. Fifty-two Atlas Charts, also revised and in color, cover the entire sky, including close-ups of areas of special interest such as the Pleiades and the Orion Nebula. The hundreds of thousands of devoted users of the previous editions of this guide have been eagerly awaiting this new volume so they can continue to enjoy their hobby in the coming decades.
6	Space Data	Neville J Barter	Charts, diagrams, glossary, and an abundance of other data to assist young engineers, or simply interested observers, in understanding better the principles of the solar system and the mechanics of exploring it. Prepared by a leading aerospace technology company as a study aid and public relations tool.
58 63 64	ON GIANTS' SHOULDERS Celestial Handbook Celestial Handbook	MELVYN BRAGG Robert Burnham Robert Burnham	GREAT SCIENTISTS AND THEIR DISCOVERIES FROM ARCHIMEDES TO DNA Offers comprehensive coverage of the numerous celestial objects outside our solar system. While there are many books on stars, there is only one Celestial Handbook. Now completely revised through 1977, this unique and necessary reference is available once again to guide amateur and advanced astronomers in their knowledge and enjoyment of the stars. After an extensive introduction in Volume I, which gives the beginner enough information to follow about 80 per cent of the body of the material, the author gives comprehensive coverage of the thousands of celestial objects outside our solar system that are within the range of the telescopes in the two-to-twelve-inch range.

General Reference Materials

			<p>The objects are grouped according to the constellations in which they appear. Each constellation is divided into four subject sections: list of double and multiple stars; list of star clusters, nebulae and galaxies; and, descriptive notes. For each object the author gives names, celestial co-ordinates, classification and full physical description. These, together with a star atlas, will help you find and identify almost every object of interest.</p> <p>But the joy of the book is the descriptive notes that follow. They cover history, unusual movements or appearances, and currently accepted explanations of such visible phenomena as white dwarfs, novae and supernovae, cepheids, binary stars, the evolution of a star cluster, and hundreds of other topics, many of which are difficult to find in one place. Hundreds of charts and other visual aids are included to help in identification. Over 300 photographs capture the objects and, in themselves, are works of beauty that reflect the enthusiasm that star gazers have for their subject.</p> <p>Robert Burnham, Jr who was on the staff of the Lowell Observatory, Flagstaff, Arizona, conceived the idea of The Celestial Handbook some 25 years ago, when he began assembling a notebook of all the major facts published about each celestial object. In its former, privately printed, edition this handbook was acclaimed as one of the most helpful books for astronomers on any level.</p>
65	Celestial Handbook	Robert Burnham	Offers comprehensive coverage of the numerous celestial objects outside our solar system.
77	The Reader's Digest Children's Atlas of the Universe	Robert Burnham	The Reader's Digest Children's Atlas of the Universe will revolutionize the way kids learn about the stars. Combining spectacular color art (including maps of the planets) and hundreds of photographic images from space missions and telescopes, the atlas tells the story of the universe as it has never been told before. Every page is a storehouse of riveting, up-to-the minute information. Introductory sections cover Earth's place in space, the history of astronomy and space exploration, and modern observatories and space travel. The atlas then visits each of the planets of our solar system in turn, along with asteroids, comets, and meteors, before proceeding to the stars and galaxies of deep space. Included are detailed star charts for both Northern and Southern Hemisphere stargazers, a universe fact file, a glossary, and an index. Activities and projects provide a hands-on approach to understanding the principles of astronomy. The Reader's Digest Children's Atlas of the Universe continues the high standard in children's reference publishing established by The Reader's Digest Children's Atlas of the World. For children of all ages, this beautifully produced volume is the ultimate resource for learning about the mysteries of the universe.
89	Atlas of the Sky	Vincent de Callaty	
92	1999 UK Space Index	British National Space Centre	
95	The Hatfield Photographic Lunar Atlas	Jeremy Cook	Long regarded as the finest photographic lunar atlas available, The Hatfield Lunar Atlas is a model of accuracy and clarity. This new version updates some of the maps, names and technical data, but uses Commander Henry Hatfield's original - and unexcelled - photographic plates, taken with a purpose-built 30 cm reflector. The Atlas is divided into sixteen sections, each of which is made up of five or more photographic plates together with a map. Each map is based primarily of the facing plate. Where detail is lacking on this primary plate (particularly near the Moon's limb) supplementary detail is provided by one or more of the other plates in a particular section.
142	Astronomy 2006 Australia: A Practical Guide to the Night Sky	Glenn Dawes & Peter Northfield & Ken Wallace	Takes a unique approach to explaining and identifying the sun, moon, planets and constellations. Features in 2006 include an article by world renowned Australian astronomical photographer David Malin, one on The Dish, Parkes Radio Telescope, and another about Auroras seen from Australia.
66	The World Treasury of Physics ,	Timothy Ferris	The writings of more than 60 authors including Isaac Asimov, Albert Einstein, Stephen Hawking, Pierre Curie, Primo Levi

General Reference Materials

- | | | | |
|-----|------------------------------------------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Astronomy, and Mathematics | | and James Gleick, are represented in this volume. Each expresses a perspective on the Sciences. |
| 91 | THE ILLUSTRATED ENCYCLOPEDIA OF SPACE EXPLORATION. A COMPREHENSIVE HISTORY OF SPACE DISCOVERY. | RICHARD S (PRINCIPAL AUTHOR) FOREWORD BY JAMES M.BEGGS. LEWIS | THE ILLUSTRATED ENCYCLOPEDIA OF SPACE EXPLORATION. A COMPREHENSIVE HISTORY OF SPACE DISCOVERY.: Comprehensive History of Space Discovery |
| 109 | A Dictionary of Astronomy | Robert E. W. Maddison & Valerie Illingworth | Astronomy is expanding almost as rapidly as the universe itself, and the proliferating scientific jargon can sometimes baffle even the most dedicated amateur. This dictionary cuts a clear path through the maze of complex technical language, offering full, clear definitions. Compiled by Ian Ridpath, a fellow of the Royal Astronomical Society, and an expert team of contributors, the dictionary contains the most recent entries from astrophysics and cosmology to galaxies and time.
Here are succinct definitions for the Big Bang theory, comets, eclipses, Magellanic Clouds, Mars, quasar, relativity, and variable stars. Entries on telescopes and other measuring devices, observatories, space missions, and recently named solar system objects show how astronomers have explored the universe. There are also biographical entries on eminent astronomers from Copernicus to Edwin Hubble. From black hole to white dwarf, and from spiral galaxies to solar waves, this dictionary opens a window on the universe for amateur astronomers everywhere.

Ian Ridpath is a well-known writer and broadcaster on astronomy. He is the editor of Norton's Star Atlas and author of Star Tales, about the origin and mythology of the constellations |
| 29 | The Messier Album | John H. Mallas & Evered Kreimer | Mallas and Kreimer's Messier album is over 40 years old now, but it is still as useful as ever for the working astronomer. The images were state of the art when they were taken by Evereid Kreimer, and while they cannot now compete with Hubble shots, they still get the job done and are more than good enough for amateur astronomers observing these objects, not "armchair astronomers" intent on seeing pretty colors. |
| 135 | Illustrated Encyclopedia of Astronomy | John Man | A fully illustrated guide to all aspects of astronomy. |
| 70 | Encyclopaedia of Space Travel and Astronomy | John Mann | |
| 146 | Patrick Moore's Yearbook of Astronomy 2012 | John Mason & Patrick Moore | A special 50th anniversary edition of the one book that no stargazer should be without |
| 50 | The Penguin Dictionary of Astronomy (Penguin Reference) | Jacqueline Mitton | A third edition of the title which contains the latest advances in the field of study. The dictionary has over 2,800 entries and encompasses classical and modern astronomy, giving the names of constellations, stars, galaxies, asteroids, comets, nebulae, and information on telescopes, observatories and space missions. |
| 78 | New Concise Atlas of the Universe | Patrick Moore | |
| 136 | The Canopus Encyclopedia of Astronomy | Paul Murdin & Margaret Penston | This authoritative and comprehensive volume will be of interest to armchair and backyard astronomers alike. It is an up-to-date work... |
| 107 | Norton's 2000.0 | Arthur P. Norton | This is considered to be the most famous star atlas in the world - known by generations of amateur astronomers as simply "Nortons". It is designed to be a leading reference handbook for astronomers. The handbook has been revised and redesigned by a team of astronomers, bringing the information fully up-to-date and reflecting new and exciting |

General Reference Materials

			developments in observational astronomy. The star maps have been re-plotted to a new level of accuracy and legibility for the Standard Epoch of 2000.0, using state-of-the-art computer techniques specially developed for this 18th edition.
56	Dictionary of Space	Malcolm Plant	
106	The Encyclopedia of Astronomy and Space	Ian Ridpath	
72	The Monthly Sky Guide	Ian Ridpath & Wil Tirion	The latest edition of Ian Ridpath and Wil Tirion's popular guide to the night sky is updated for planet positions and forthcoming eclipses up to the end of the year 2007. With one chapter for each month of the year, this is an easy-to-use handbook for anyone wanting to identify constellations, star clusters, nebulae, to plot the movement of planets, or witness solar and lunar eclipses. Most of the features discussed are visible to the naked eye and all can be seen with a small telescope or binoculars. Ian Ridpath has been a full-time writer, broadcaster and lecturer on astronomy and space for more than twenty-five years. He has written and edited more than 40 books, including <i>A Comet Called Haley</i> (Cambridge, 1985). Wil Tirion made his first star map in 1977. It showed stars to the magnitude of 6.5 and was issued as a set of maps by the British Astronomical Association in 1981. He has illustrated numerous books and magazines, including <i>The Cambridge Star Atlas</i> (Cambridge, 2001). Previous Edition Pb (1999): 0-521-66771-2
138	Constellation Guidebook	Antonin Rukl	Text: English (translation) Original Language: Czech.
69	Philip's Complete Guide to Stargazing	Robin Scagell	"Philip's Complete Guide to Stargazing" is an inspiring introduction to observing the night sky, written by Robin Scagell, author of the Philip's bestseller "Stargazing with a Telescope", and Vice President of the Society for Popular Astronomy. Scagell first introduces the wonders of the night sky and explains how and why the sky changes during the night and through the seasons. He describes the variety of equipment that can be used - binoculars, telescopes and telescope mounts - with information on what to choose, how to set it up and what to expect to see. There also plenty of tips for those who wish to observe with the naked eye. Next he looks in turn at the Moon, the Solar System, stars and deep sky objects. In each section, he describes how to observe your chosen target and what to look for. The text is illustrated with photographs and observational drawings made by talented amateur astronomers, as well as spectacular images returned by spacecraft or taken by large professional telescopes. A month-by-month guide to the constellations is illustrated with maps showing the constellations on view from both northern and southern hemispheres, as well as more detailed maps of individual constellations. The author describes the most interesting objects on view each month, with the help of photographs. The guide is applicable to any year. Also included is a complete set of star charts, presenting the whole sky in a series of maps that show stars down to magnitude 5.5 - all stars visible with the naked eye in semi-rural conditions. These maps are drawn with black stars on a white background, so that observers can pencil their own observations on to the charts. Opposite each map is a 'photo-realistic' image which shows how the same portion of the sky appears to the eye. The book finishes with an illustrated and up-to-date A-Z dictionary of astronomy. This covers the stars, planets and galaxies, cosmology, amateur astronomy and professional observatories, space exploration, famous astronomers, scientific terms, theories and much more, and is illustrated with photographs, artworks and diagrams. It is an invaluable reference source for astronomers of all levels.
124	Atlas of the Constellations	Giles Sparrow	Atlas of the Constellations
123	Space Encyclopedia (Dk Encyclopedia)	Dorling Kindersley Publishing Staff	The final frontier is conquered in the DK Space Encyclopedia and Eyewitness Encyclopedia of Space CD-ROM, the most beautiful, best organized family information sources yet for our galaxy and beyond. In the section called "Observing the Universe," space buffs will discover detailed diagrams of various telescopes, along with explanations of how they're used to pick up light, radio waves, and other emissions from faraway objects. In "Exploring Space," you'll find out how rockets work to launch satellites, people, and gear into space. If you're curious about what it's like to live in space, check

General Reference Materials

out the information on astronauts' daily routines--did you know one astronaut smuggled a ham sandwich into his capsule after hearing how bad NASA's food was?

"Planets and Moons" introduces all the worlds of our solar system, from Mercury out to Neptune and Pluto. Fantastic photos of the planets taken by fly-by probes and the Hubble space telescope show unbelievable details like mountains, craters, and giant canyons. Moving farther away from home, "The Stars" takes you on a tour of our own sun and our stellar neighbors. The life cycle of a star is shown, as well as such strange things as novas, binary stars, rotating variables, and black holes. "Galaxies and Beyond" introduces basic cosmology, the study of the universe, with sections on the Milky Way and other galaxies as well as the latest theories about the size and age of the universe. Finally, readers get tips on how to observe astronomical objects and events, a time line of discoveries, and short biographies of major figures in the field. The DK Space Encyclopedia and Eyewitness Encyclopedia of Space CD-ROM are packed with amazing pictures, diagrams, and facts that no space fan should miss. (Ages 9 and older) --Therese Littleton.

History of Astronomy

22 The BAA - The First 50 Years
46 The Calendar David Ewing Duncan

110 COMING OF AGE IN THE MILKY WAY Timothy Ferris

34 The Orion Mystery Bauval & Gilbert

96 The Great Copernicus Chase and Other Adventures in Astronomical History Owen Gingerich

The first 50 years of the British Astronomical Society

The Calendar: The 5000-Year Struggle to Align the Clock and the Heavens - And What Happened to the Missing Ten Days

From the second-century celestial models of Ptolemy to modern-day research institutes and quantum theory, this classic book offers a breathtaking tour of astronomy and the brilliant, eccentric personalities who have shaped it. From the first time mankind had an inkling of the vast space that surrounds us, those who study the universe have had to struggle against political and religious preconceptions. They have included some of the most charismatic, courageous, and idiosyncratic thinkers of all time. In *Coming of Age in the Milky Way*, Timothy Ferris uses his unique blend of rigorous research and captivating narrative skill to draw us into the lives and minds of these extraordinary figures, creating a landmark work of scientific history.

In their book *The Orion Mystery* (1994), authors Robert Bauval and Adrian Gilbert made popular the idea that the pyramids of Giza, and other pyramids to the north and south, are laid out in a plan to reproduce the pattern of the stars in the constellation Orion. They propose that there existed a unified "master plan" that originated thousands of years before the pyramid age of the Fourth Dynasty (pp. 50-55; 193-196). The Giza layout is an expression of this plan, the authors assert.

The *Great Copernicus Chase* is an anthology of 36 incidents drawn from the history of astronomy. The chapters range from Stonehenge and ancient Egypt, to the Great Comet of 1965, and to Albert Einstein. In this series of articles, arranged roughly chronologically, Professor Gingerich covers all the important periods and developments in astronomy. The book is generously illustrated throughout, and opportunity has been taken to add illustrations to articles that originally had none. The curious reader will learn of the origin of the zodiac, Islamic astronomy, fake astrolabes, the foundation of modern astronomy in the USA, and the discovery of the spiral arms of our Galaxy. Although Professor Gingerich prepared this material primarily for readers interested in the historical background to astronomy, there are many original research discoveries and insights. This is popularization and intellectual history combined. The *Copernicus Chase* refers to Owen Gingerich's attempt to make a census of all extant copies of *De Revolutionibus*. Some of the many adventures that have befallen him in this quest feature in the book. The majority of the chapters originally appeared in

History of Astronomy

			<p>Sky and Telescope, the monthly astronomy magazine published by Sky Publishing Corporation of Cambridge, Massachusetts.</p>
118	Heaven's Mirror	Graham Hancock & Santha Faiia	<p>This is the sequel to the international bestseller, "Fingerprints of the Gods". In very different parts of the world, evidence exists of a common legacy - shared by cultures separated by hundreds, sometimes thousands of years. From Mexico to Iceland, Cambodia to Easter Island, China to Egypt, we are finding a common astronomical wisdom handed down from a time before history, a time perhaps before the 'Great Flood'. This book addresses a common wisdom from a lost civilisation which might hold the key to our own identity on earth. "Heaven's Mirror" is a personal quest for the answer - the culmination of eight years of painstaking research.</p>
98	Race Into Space	Brian Harvey	<p>The Soviet Space Programme</p>
127	Echoes of the Ancient Skies	Edwin C. Krupp	<p>All over the world, through countless centuries, people have looked skyward for inspiration and guidance in their lives and activities. For most of the history of humankind, going back to the Stone Age, the sky has served as a tool. The regularity of the motions of celestial objects enabled our ancestors to orient themselves in time and space, satisfying their need for human order. How vast this heavenly influence was, and how awesome the human achievements it engendered were, are illuminated in this extraordinary work of investigation and discovery. With hundreds of illustrations and photographs, Echoes of the Ancient Skies is a sweeping look at the world of archaeoastronomy from the prehistoric megaliths of Stonehenge, to the medicine wheels of North America, to the Aztec "Calendar Stone."</p> <p>The intriguing field of archaeoastronomy--the study of ancient peoples' observation of the skies and its role in their cultural evolution--seeks to explore the "universal evidence that people have used astronomy as the model for injecting order and predictability on their behavior and on life." Examining this universal behavior, Dr. E.C. Krupp takes the reader to sites throughout the world (most of which he has personally visited)--from Egypt, China, Babylonia, and Greece, to Turkey, Scotland, Wyoming, and Mexico. He interprets the significance of celestial observation and its relation to the earthly experiences of our ancestors, from practical applications of farming and the measurement of time to philosophical queries into our particular place within the universe. He covers such fascinating topics as how we see the seasons in the sun and stars, possible ancient and prehistoric observatories such as the megalithic Kintraw monument in Scotland, and sky gods and myths around the world and throughout history--from the Egyptian goddess Nut to the myth of Phaethon and the golden chariot of his father Helios. Krupp goes on to examine the ancient parallels between cosmic creation and our lives (as seen in the great pyramids of Egyptian pharaohs) and monuments of transcendental journey (such as the painted rock shrines of California). He shows us that the effects of celestial observation on our ancestors can also be seen in religious vigils--like shamans' transactions with the sky and their access to the sacred--as well as in calendars and clocks used throughout the centuries, mathematics, ancient temples, sources of world order, and the symbols we draw. This edition also includes a new introduction that brings the research completely up to date.</p> <p>A fascinating and authoritative exploration, this around-the-world survey shows how the sky was woven into virtually every aspect of civilization and opens our eyes to the powers that shaped the human past and continue to influence us still.</p>
38	Decoding the Heavens	Josephine Marchant	<p>In 1900, a group of sponge divers blown off course in the Mediterranean discovered an Ancient Greek shipwreck dating from around 70 BC. Lying unnoticed for months amongst their hard-won haul was what appeared to be a formless lump of corroded rock, which turned out to be the most stunning scientific artefact we have from antiquity. For more than a century this 'Antikythera mechanism' puzzled academics, but now, more than 2000 years after the device was lost at sea, scientists have pieced together its intricate workings. In "Decoding the Heavens", Jo Marchant tells for the first time the</p>

History of Astronomy

53	Star of Bethlehem	Patrick Moore	<p>story of the 100-year quest to understand this ancient computer. Along the way she unearths a diverse cast of remarkable characters - ranging from Archimedes to Jacques Cousteau - and explores the deep roots of modern technology not only in Ancient Greece, the Islamic world and medieval Europe.</p> <p>Is the story about the Star in the East true? And, if so, what exactly was the 'star'? While Sir Patrick cannot give a definitive answer, in <i>The Star of Bethlehem</i> he looks at various astronomical theories and comes up with a possible answer of his own. Who has not heard of the Star in the East? It is one of the most famous stories in the Bible, and tells us how the Wise Men came to Bethlehem to seek out the infant Jesus; they were guided by a brilliant star, which 'went before them' and stopped over the place where the child lay. Though all this happened two thousand years ago, the fascination of the Star of Bethlehem is a great as ever. This book presents the astronomical candidates in detail. Was it a star, a planet or planets, a comet, a nova or a supernova, or a shooting star? Unique artwork shows precisely how the sky would have appeared from Jerusalem at that time, so readers can assess for themselves which astronomical phenomena are likely solutions to the puzzle. Everyone who has wondered about this part of the nativity will enjoy Sir Patrick's honest and engaging account.</p>
108	Astronomy Before the Telescope Hb	Christopher Walker	<p>This is a survey of world astronomy before the invention of the telescope. It examines what observations were made, what instruments were used, the effect of developments in mathematics and measurement, and early views of cosmology and astrology. It includes a glossary of astronomical terms.</p>
41	Stargazer: The Life and Times of the Telescope	Fred Watson	<p>The telescope is literally the world's most far-reaching invention. It can unlock nature's secrets in the remotest corners of the universe. It is a time machine, allowing us to look billions of years into the past for answers to some of our most profound questions. In its 400-year history, the telescope has progressed from a crudely fashioned tube holding a couple of spectacle lenses to colossal structures housed in space-age cathedrals. The history of the telescope is a rich story of ingenuity and perseverance involving some of the most colourful figures of the scientific world. It begins in ancient times, gathers momentum through the Renaissance, with the first recorded telescope bursting onto the scene in the middle of a diplomatic crisis in seventeenth century Holland, and takes us to the limits of space with the cutting-edge telescopes of today. Written by Fred Watson, one of Australia's best-loved astronomers, <i>Stargazer</i> brings the story of the telescope to a general readership for the first time.</p>

Life in the Universe

129	The Continuing Enigma Ufo	Readers Digest	<p>Book is about ufo's etc.</p>
88	Alien Lifesearch	David Jefferis	<p>What is an alien? Can extraterrestrial life exist? What will we find in the future? Find out the answers to these and many other questions in <i>Alien Lifesearch</i>, a scientific exploration of whether life might exist on other planets.</p> <p>The Megatech series helps demystify the latest science and technology with titles that focus on today's hot topics. Each book gives fascinating background information along with exciting developments of today and the near-future.</p> <p>Readers will get a glimpse of our exciting future as well as the potential problems that come with the advancement of technology and the consequences for society and the environment.</p>

Photographic Collections

80	Space: A History of Space Exploration in Photographs	Andrew Chaikin	
128	Rainbows, Halos and Glories	Robert Greenler	<p>Over 200 illustrations, many in full colour, capture for both the layman and scientist the beautiful optical effects that we see in the sky. The author describes and explains these effects in non-technical language.</p> <p>From <i>Publisher Weekly</i>:</p>

Photographic Collections

82	The Home Planet	Kevin W Kelly	<p>This is a collection of 150 photographs of Earth taken from space, accompanied by quotes from members of the Association of Space Explorers, a multi-national group of astronauts and cosmonauts. The pictures are spectacular: an "Earthrise," as seen from the moon; the mountain ranges, canyons, coastlines, cloud formations, tropical storms, volcanos, oceans, deserts and deltas of the Earth photographed from thousands of miles above our planet's surface. So precise is the view that we see a plankton bloom, in an amazing inversion of scale, off the coast of New Zealand. The space explorers' comments on their experiences, their common realization of the camaraderie of all of Earth's citizens and of the fact that the Earth is fragile and too precious to be wasted range in eloquence, but are uniformly affecting and well-intentioned: "The first day or so we all pointed to our countries. The third or fourth day we were pointing to our continents. By the fifth day we were aware of only one Earth," says a Saudi Arabian. "We went to the moon as technicians; we returned as humanitarians," declares an American. " . . . I understood that we are all sailing in the same boat," observes a Russian. 166,000 first printing; first serial to Life; Literary Guild alternate . Copyright 1988 Reed Business Information, Inc.</p>
83	A View of the Universe	David Malin	<p>This lavishly illustrated photographic exploration of the universe will delight everyone intrigued by the night sky. This is the finest collection of color photographs of star clusters, galaxies, and nebulae ever published. Working with the world's most sophisticated telescopes and his own revolutionary techniques, world renowned astronomical photographer David Malin captures distant worlds and phenomena in their astonishing natural colors. These unique pictures are accompanied by nontechnical captions and a lucid text accessible and inspiring to the general reader as well as to astronomers and photographers. The foremost astronomical photographer in the world, David Malin is the discoverer of an enigmatic galaxy now known as Malin-1 and the coauthor of <i>Colours of the Stars</i> and <i>Catalogue of the Universe</i>, both published by Cambridge University Press. His photographs have appeared in locations as diverse as Australian postage stamps and the cover of Life magazine.</p>
29	The Messier Album	John H. Mallas & Evered Kreimer	<p>Mallas and Kreimer's Messier album is over 40 years old now, but it is still as useful as ever for the working astronomer. The images were state of the art when they were taken by Evered Kreimer, and while they cannot now compete with Hubble shots, they still get the job done and are more than good enough for amateur astronomers observing these objects, not "armchair astronomers" intent on seeing pretty colors.</p>
134	COLOURS OF THE GALAXIES	MALIN & MURDIN	<p>Collection of colour photographs.</p>
132	Hubble Vision	Carolyn Collins Petersen & John C. Brandt	<p>' ... the most superb encapsulation of modern astronomy I have ever come across ... This is heady stuff indeed. ... This is a book for us all ... The authors, HST and CUP have created a landmark popular book for astronomy.' Derek McNally, <i>Astronomy and Geophysics</i></p> <p>' ... the eagerly awaited second edition ... you will find one of the most comprehensive, authoritative, and expertly illustrated popular books about the HST available ... serves to expand public access to the wonders and treasures held within Hubble's vault of images. The magnificent collection of latest and greatest Hubble images is complemented by a clear and fascinating text ... the pictures alone are enough to make this a must-have.' <i>Astronomy Magazine</i></p> <p>'It is a most beautiful book and should at the very least belong to every school library ... a truly excellent book.' <i>Astronomy Now</i></p>

Photographic Collections

'beautifully illustrated ... Hubble Vision is exactly the type of astronomy book that first captured my imagination as a child: large, glossy pages that offer a stunning tour of the cosmos in pictures. It allows us to ponder and marvel at celestial sights previously hidden ... an engaging and informative introduction to astronomy.' New York Times

'... a good book for schools and libraries with a lot of thoughtful educational material, held together by the stream of classy images.' N. R. Tanvir, The Observatory

'This second edition is probably one of the most comprehensive, authoritative and best illustrated popular books currently available on the Hubble Space Telescope. It contains a magnificent portfolio of the latest and best images from the HST, together with a lucid text which explains some of the most exciting discoveries and places them in the context of our current understandings in astronomy. This new edition has been completely revised, updated and expanded to include many of the latest discoveries - from supernovae and protostars to gravitational lensing, black holes and the early universe. It has yet more illustrations, with the addition of more than 100 new images. The text provides sufficient scientific background to enable readers to appreciate the remarkable discoveries being made which are providing a fascinating new insight into the universe.' Spaceflight

'This book is a stunningly spectacular and visual work of art that will delight the beginner and expert alike. The authors enthusiasm for science and exploration shines through the text making the book a pleasant read. This book is not just a once-off read but it will be dipped into time and time again.' James Maher, Astronomy and Space

'A rich trove of images with explanatory text highlights some of Hubble's greatest hits. The well crafted narrative challenges readers to comprehend a wide variety of subjects studied with Hubble.' Astronomy Magazine.

75 Infinity Rising Nik Szymanek

Nik Szymanek's 100 page book published May '05 is full of his own beautiful new images and infectious enthusiasm for astronomy and astrophotography. It is a helpful guide to photographing all aspects of the heavens. More, it features his unique descriptions of observatories and very large telescopes on La Palma and Mauna Kea.

117 The Cambridge Deep-Sky Album Philip Teece & Jack Newton

Photographs of galaxies, nebulae, and star clusters are accompanied by advice on observing objects in the night sky with a telescope

Practical Astronomy

49 Astronomy (Home Reference Library)

52 Astrophotography H J P Arnold

Capturing the night sky in photographs is usually assumed to be the domain of specialists, but Arnold opens this seemingly remote area to anyone with an interest in photography. He guides the reader step by step through choosing and using a camera; photographing with a telescope; getting the best out of black-and-white and colour film; and processing astrophotographs at home or in a hotel room. He gives instructions on photographing the Sun and Moon, planets, meteors, comets, stars and man-made satellites, as well as capturing rainbows, halos and other earthly phenomena. This new edition has been fully updated to include the various forms of digital imaging, ranging from digital

Practical Astronomy

- cameras to webcams, as well as, of course, dedicated astro CCDs (charge-coupled devices). Such equipment has led to a revolution in observational astronomy, allowing amateurs to image faint nebulae and galaxies quickly and in great detail. Techniques of digital manipulation are also discussed, such that the reader will be familiar with all forms of astroimaging. Lavishly illustrated with more than 100 colour and black-and-white photographs, as well as star charts and diagrams, this book is attractive and approachable as well as highly informative. It concludes with a list of equipment resources and useful contacts.
- 36 Guide to Astronomy David Baker
13 Through the Telescope Patricia Barnes-Svarney & Michael Porcellino
- Explore the craters of the moon, the satellites of Jupiter, and the rings of Saturn. Travel as close as you wish, or as far as your imagination can take you. With this practical, hands-on guidebook for the amateur astronomer as your roadmap, the universe can be more accessible than you ever dreamed. In the ten years since this award-winning book was originally written by Michael Porcellino, the field of astronomy has advanced by leaps and bounds. From the astounding images sent back by the Hubble Space Telescope, to the dramatic visit by comet Hale-Bopp, from the fleet of Martian probes, to the long-distance explorations of the outer planets, the universe has become more accessible than ever. Thanks to this revised and thoroughly updated new edition by amateur astronomer and science writer, Patricia Barnes-Svarney, anyone with an interest in all facets of amateur astronomy can delve into its wonders.
- From the very close up, to the far reaches of space, Through the Telescope presents a uniquely "user-friendly" view of the universe, and offers both novice and advanced amateur astronomers some of the best tools available to watch the nighttime skies.
- You'll learn all about:
- Setting up a good, user-friendly telescope system
 - Spotting comets and asteroids
 - Upgrading your telescope for peak performance
 - How to spot star clusters, nebulae, even a supernova
 - Forming your own network of amateur astronomers
- Complete with a web site appendix and fully updated charts on eclipses and planetary oppositions well into the 21st century, this new edition of an acclaimed book will be an invaluable users guide for aspiring astronomers entering the new millennium.
- 141 All About Telescopes (Popular Optics Library) Sam Brown
148 Turn Left at Orion Guy Consolmagno & Dan M. Davis
- With over 100,000 copies sold since first publication, this is one of the most popular astronomy books of all time. It is a unique guidebook to the night sky, providing all the information you need to observe a whole host of celestial objects. With a new spiral binding, this edition is even easier to use outdoors at the telescope and is the ideal beginner's book. Keeping its distinct one-object-per-spread format, this edition is also designed for Dobsonian telescopes, as well as for smaller reflectors and refractors, and covers Southern hemisphere objects in more detail. Large-format eyepiece views, positioned side-by-side, show objects exactly as they are seen through a telescope, and with improved directions, updated tables of astronomical information and an expanded night-by-night Moon section, it has never been easier to explore the night sky on your own.
- 149 Choosing and Using a Dobsonian Neil English
- In the 1980's, on the sidewalks of San Francisco, amateur astronomer John Dobson began showing throngs of people

Practical Astronomy

	Telescope (Patrick Moore's Practical Astronomy Series)		how to build and use large aperture scopes, often from scraps. The Dobsonian, 'Dobs,' are now the best-selling large telescopes in the world. There are a great variety of different Dob styles, ranging from elaborate and decorative creations to simple mass market designs, and new models appear all the time. In this title, Neil English presents the ultimate guide to buying and using a commercial Dobsonian for recreational astronomy. He provides in-depth accounts of the various models (plus accessories) on the market – both economy and premium – together with describing the wealth of innovations that amateurs have made to their Dobs to optimize their performance in the field. Even after thirty years of innovation, the Dobsonian Revolution shows no signs of abating. Find out where the future lies for these large aperture 'scopes and the exciting avenues John Dobson's vision will take us down in the coming years.
111	Star-Hopping	Robert A. Garfinkle	Star-hopping--using easily seen bright stars to locate fainter celestial objects in the night sky--is a basic and essential technique for all star gazers, novice and veteran alike. Robert Garfinkle shows you how to locate the many stellar objects usually overlooked by the untrained eye. Two or more detailed star hops for each month of the year, which can be read in any order, take you on a trip through the night sky, opening new doors of discovery and reinforcing star-hopping methods and techniques. With Garfinkle's able guidance, learn to take the Messier Marathon--a night-long hop across the skies. Additional basic astronomy skills are carefully outlined, including reading star charts, finding celestial directions, understanding telescope types, and using light pollution filters. A lively history of the universe and the ancient myths and legends of the sky round out the text. This is an essential guide for sky gazers who want to get the most out of their evening sky explorations.
10	Astrophotography	Barry Gordon	
31	The ETX Telescope Guide	Lilian Hobbs	A Guide to using your ETX telescope
5	Handbook of CCD Astronomy (Cambridge Observing Handbooks for Research Astronomers)	Steve B. Howell	This handbook constitutes a concise and accessible reference on all practical aspects of using Charge-Coupled Devices (CCDs). Starting with the electronic workings of these modern marvels, Steven Howell discusses their basic characteristics and then gives methods and examples for determining their values. While the focus is on using CCDs in professional observational astronomy, advanced amateur astronomers, and researchers in physics, chemistry, medical imaging, and remote sensing will also benefit from the material. Tables of useful and hard-to-find data, and key practical equations round off the book's treatment. For exercises and more information, log on to www.psi.edu/~howell/ccd.html . The Handbook is a series of independent volumes. Volume 8 covers the variable stars. Part I first explains the history of variable-star observing, followed by sections on classification, physical description, and observing techniques. Part II then provides an extensive field guide of finding charts covering 110 variable stars. Most of these are suitable for visual observation. Contents: Part I: Introduction. 1. A brief history of variable-star observation. 2. The classification of variable stars. 3. Techniques of observation. 4. The analysis of variable-star observations. 5. Variable stars and the amateur astronomer. Part II: Field guide.
59	Webb Society Deep-Sky Observer's Handbook	Kenneth Glyn Jones	A practical, easy-to-read stargazer's guide to the universe discusses observation techniques, how to use star maps, properly identifying stars, and choosing equipment, as well as presenting checklists, charts, sky maps, and a glossary of terms.
61	The Night Sky	Dennis L. Mammana	Praise for Astronomy For Dummies® "If you have always felt that astronomy is over your head, Astronomy For Dummies is for you." ?Neil deGrasse Tyson, Astrophysicist & Director, Hayden Planetarium, New York City "If you're just starting your journey through the cosmos ? you need this travel guide." ?Leif J. Robinson, Editor-in-chief, Sky & Telescope magazine
104	Astronomy for Dummies	Stephen P. Maran	Star maps and color photos inside!

Practical Astronomy

			<p>Do you know the difference between a red giant and a white dwarf? If you gaze up at the night sky and wonder what's out there, then this is the book for you. From asteroids to black holes, this easy-to-understand guide takes you on a grand tour of the universe and shows you how to get the most out of stargazing, planetarium visits, and other cool astronomical activities.</p> <p>Discover how to: Enjoy sky watching in your backyard Identify planets and stars Explore our solar system, the Milky Way, and beyond Understand the Big Bang, quasars, antimatter, and more Join the Search for Extraterrestrial Intelligence (SETI)</p> <p>Get smart! www.dummies.com.</p>
4	Light Pollution	Bob Mizon	Light-pollution is the modern scourge of optical astronomy. More and more observing sites are being lost as the glare of city lighting blots out the night sky. Professional astronomical observatories are located far from cities, but amateur astronomers often do not have this luxury. This book considers the two available strategies open to astronomers - get rid of the light pollution by lobbying Authorities and Standards Organisations, and minimise its effects by using the correct instrumentation. The book contains an extensive detailed catalogue of deep-sky and other objects that - despite what one might believe - can be seen from variously light-polluted sites, for practical observers.
54	Astronomical Equipment for Amateurs (Patrick Moore's Practical Astronomy Series)	Martin Mobberley	This guide provides useful insight for first-time telescope buyers as well as experienced amateurs. It examines the advantages and disadvantages of different types of telescopes, mountings, and accessories-ranging from refractors and reflectors to computer controlled drives and CCD cameras. The author also covers observation techniques, photographic equipment, astronomical software, as well as equipment care and maintenance.
60	Philip's Stargazing with a Telescope	Robin Scagell	Many people dream about exploring the heavens with a telescope but are often disappointed because they do not know how to use one properly. This guide reveals what to expect from a telescope and how to choose the right one, and gives explanations of how they work, and how to progress from first-time user to hobby observer. It gives practical help for setting up and using any telescope, and provides lists of objects to look at with different sizes of telescope, from both town and country, including the Sun, Moon, planets, comets, asteroids, stars, clusters, variable stars, double stars, novae and supernovae, nebulae and galaxies.
125	New Astronomer	Carole Stott	This is the essential guide that shows you how to get the most from your observations. For thousands of years observers have gazed up at the night sky and wondered at the celestial bodies that occupy the vastness of space. If you have ever wanted to learn more about such phenomena or just how to locate the major constellations and the planets this practical and accessible guide will provide all the information you need. This is a complete guide to the night sky. Covering comets, aurora, asteroids and nebulae as well as the moon stars and planets "New Astronomer" is fully illustrated with drawings and photographs. Detailed sky charts help you to navigate around the heavens and locate the major constellations stellar objects and the planets. For each of the planets there is a specially prepared map to help you pinpoint the exact location of each one up to the year 2010. A Planisphere is included that shows you the entire sky above your head for any time of night and for any time of the year. This title discusses what to use and how to use it. "New Astronomer" offers comprehensively detailed yet straightforward advice on choosing and using the very latest equipment including binoculars telescopes and accessories. It also shows you how to take photographs of celestial objects using an ordinary SLR camera linked to your astronomical equipment. For the real enthusiast this book features state-of-the-art technology such as computer-linked digital imaging. Whether you are already an experienced astronomer or just starting out this essential guide contains all you need to know.
42	Amateur Telescope Making	Stephen Tonkin	This book provides an introduction to the design of a variety of telescopes, mounts, and drives suitable for the home-

Practical Astronomy

(Patrick Moore's Practical Astronomy Series)

- 43 Binocular Astronomy (Patrick Moore's Practical Astronomy Series) Stephen Tonkin
- 33 Astronomy with Small Telescopes Stephen F. Tonkin
- 21 Practical Amateur Spectroscopy Stephen F. Tonkin
- 20 Practical Amateur Spectroscopy Stephen F. Tonkin

constructor. Projects include instruments that range from a shoestring budget to specialist devices that are not commercially available. The skill level of each project is indicated and advice is provided as to what is sensible to construct, given what is commercially available. Hints and tips are included, as well as listings of reputable mail order sources of materials and components.

This book contains everything an astronomer needs to know about binocular observing. The book takes an in-depth look at the instruments themselves. It has sections on evaluating and buying binoculars and binocular telescopes, their care, mounting, and accessories. In addition there is a selection of fifty fine objects to be seen with 50mm and 100mm binoculars.

The advantages of using both eyes for astronomical observing are many and considerable, largely because of the way the human brain processes visual information. This book enables the astronomer to maximize those advantages.

From the reviews: "Astronomy with Small Telescopes offers the amateur astronomer practical 'how-to' advice. Specifically, this book shows the amateur how to get the most performance out of a small telescope. ... The chapter entitled 'Visual Observation of Deep-sky Objects with Small Telescopes' includes information that would be helpful to the novice amateur. ... some readers will appreciate the convenience of having all of this information in one well written and easy to read book. Astronomy with Small Telescopes is recommended for public and school libraries." (Travis Dolence, E-STREAMS, Vol. 5 (10), 2002) "As a regular user of small telescopes to explore the night sky, I was keen to discover if Stephen Tonkin's book would encourage the newcomer to astronomy and provide useful information for the more experienced observer. I am delighted to say that it succeeds admirably in both respects. ... This is a well-produced, informative book which goes a long way to dispel the notion that you need an expensive, large-aperture telescope to enjoy or contribute to the world of astronomy." (Mike Ropelewski, The Deep Sky Observer Magazine, Issue 126, 2001) "This latest book summarizes the experiences of several authors who have used telescopes ranging from a simple 60 mm aperture refractor on an altazimuth mount, through to the workings of the fork-mounted ETX telescope and the portable C5. ... the advice given in this book will certainly help to improve the performances of almost any instrument. ... the individual chapters made very interesting reading ... I would warmly recommend this book to anyone thinking of buying a portable telescope for work or for pleasure." (Neil English, Astronomy Now, April, 2002) "This is a book concerned primarily with astronomical hardware. Each chapter is written by one of eight contributors, all users of small telescopes. ... Kevin P. Daly's account of his Celestron 114-mm reflector and favourite objects to observe is a pleasure to read, containing much that will be of interest to the newcomer. ... this chapter should inspire even the most house-bound armchair astronomer to spend a night under the stars with the telescope." (Nigel Bannister, The Observatory, Vol. 121 (1165), 2001) "The book is part of 'Patrick Moore's Practical Astronomy Series'. It discusses the use of telescopes up to 5-inch aperture (125mm) and thus includes a number of modern popular instruments. ... I found the chapter on the ETX telescopes very useful Apart from the equipment itself, the book contains suggested projects including deep sky and a chapter on 'meteor observing with a small radio telescope'. A useful and very practical book for the amateur astronomer starting with a first scope." (The Astronomer, Vol. 38 (446), 2001)

This book contains everything an amateur astronomer needs to know to begin observing whilst going relatively deeply into the subject for those who are already involved. Covers a very wide range of available equipment, from simple DIY spectroscopes to the most expensive commercially-made instruments. Describes basic principles so that the reader understands how to analyse the spectra he/she sees or records. Contributions by leading amateurs astronomers from the USA and Europe.

This book contains everything an amateur astronomer needs to know to begin observing whilst going relatively deeply

Practical Astronomy

26	Night Has a Thousand Eyes	Arthur Upgren	<p>into the subject for those who are already involved. Covers a very wide range of available equipment, from simple DIY spectroscopes to the most expensive commercially-made instruments. Describes basic principles so that the reader understands how to analyse the spectra he/she sees or records. Contributions by leading amateurs astronomers from the USA and Europe.</p> <p>American artist James McNeill Whistler was invited one sparkling night to step outside and view the panoply of stars. No, he said, "There are far too many of them and they are so very poorly arranged." Upgren, an astronomer at Yale and Wesleyan universities, sets out to make star viewing easier for everyone else who feels as Whistler did and for those who admire the beauty of the night sky but know little about what they see there. He does it clearly and smoothly, describing first the principal stars and constellations as they appear in each season of the year and then the sun, moon and planets.</p> <p>Along the way he supplies an abundance of related facts (the Big Dipper is properly called an asterism, "a name for an easily noticeable group of stars that does not make up a full constellation"; the stars Mizar and Alcor in the Dipper have "long been recognized as a test for good eyesight in many cultures"), discusses Stonehenge and the mysterious Old Stone Mill in Newport, R.I., takes a dig at astrology ("Your horoscope is two thousand years out of date" because the astrological arrangement of the signs of the zodiac was keyed to the celestial alignment of Roman times), and makes a plea for reducing the glare of urban lights that impedes star viewing by astronomers as well as by Whistler types.</p> <p>Getting started in astronomy.</p>
71	Using a Telescope (Getting Started in Astronomy)	Tony Williams	Getting started in astronomy.
Space Exploration			
90	Entering Space: An Astronaut's Odyssey	Joseph P. Allen & Russell Martin	Describes what is is like traveling and working in the space shuttle and looks at highlights of the space exploration program
130	Reaching for the Stars	Peter Bond	In 1961, the Soviet Air Force pilot Yuri Gagarin was the first man in space; since then over 250 men and women of different nationalities have joined this group of astronauts. This volume discusses the future and the history of space travel.
87	To the Edge of the Universe	Bookthrift	The Exploration of outer space with NASA. Illustrated in colour and mono with some of the most spectacular photographs ever taken, many full-and double-page.
76	Pioneer Odyssey	Fimmel, Swindell & Burgess	Illustrated record of the Pioneer Mission.
86	History of Space Vehicles	Tim Furness	Few events in history have been more monumental than the emergence of the Space Age, which began with the Soviet launch of Sputnik in 1957. The History of Space Vehicles uses a combination of high-quality photos, illustrations, fact tables, and authoritative text to describe all the vehicles and equipment used in space, past and present. It covers all types of rockets, satellites, and probes, as well as their equipment and cargo, including radio transmitters, measuring instruments, and cameras.
119	ITN Book of the Race to Mars	Frank Miles & Nicholas Booth	History of Space Flight to Mars
133	Explorers of Space	Patrick Moore	
131	Mission to the Planets	Patrick Moore	This book provides a record of the journeys of spacecraft to all the planets in the solar system. This edition has been updated with pictures from the repaired Hubble telescope. The planets (except the remotest, Pluto) have all been studied at close range. Television astronomer Patrick Moore provides commentaries on the missions right from the very start of

79 Moonflight Atlas Patrick Moore

the space age, and brings together dramatic views of these distant worlds, selected from American and Russian sources. This book also presents information on the astronauts and technicians involved and gives glimpses of the extraordinary conditions found on these worlds in outer space.

Moon Flight Atlas, by Patrick Moore (*George Philip and Son Ltd, 98 Victoria Road, London NW10; illustrated, 36s net*). An easy-to-read, large-format book describing primarily the Moon, lunar exploration and the Apollo programme. Chock-full of line and colour drawings and diagrams, its *tour de force* is the selection of colour photographs of the Apollo 11 flight. While these have already been given wide coverage, the quality reproduction in this book is as good as any seen previously and better than most. Of particular interest is the section describing the landing sites selected for the remaining Apollo flights, each one illustrated by a vertical view as seen from the Lunar Orbiters. The structure of the Moon is discussed, with reference to very recent data returned to Earth from the seismometer left behind by the Apollo 11 astronauts. The book concludes with a description of Mars and a selection of the pictures returned last August from Mariners 6 and 7 during their flypast.