



SHA e-News

Society for the History of Astronomy

Volume 13, no.1, February 2021

Editor: David Sellers

SIR ARNOLD WOLFENDALE, FRS (1927-2020)

We are sad to report the death on 22 Dec 2020 of Professor Sir Arnold Wolfendale, who was the 14th Astronomer Royal and has been an Honorary Vice-President of the SHA for a number years. He was 93 years old.

A Durham University statement described him as ‘one of the finest physicists of his generation and an inspirational teacher to generations of our students.’



Sir Arnold Wolfendale
(image, Wikipedia, Jim Cornmell)

His long-term research interest was in cosmic ray physics, and in particular whether the highest energy cosmic rays, which might have caused mass extinctions, were produced inside our galaxy as well as outside.

However, he had wide-ranging interests including particle physics, gamma ray astronomy, molecular hydrogen in galaxies, solar and geomagnetic variation, cosmology and terrestrial mass extinctions.

GIANT PORTRAIT OF COPERNICUS TO BE SEEN IN UK FOR FIRST TIME



Astronomer Copernicus, or Conversations with God
by Jan Matejko (1873) (image: Wikipedia)

From **25 March – 27 June 2021** the National Gallery in London is to host a [special exhibition](#) - **Conversations with God: Jan Matejko's Copernicus**.

Jan Matejko's (1838–1893) epic painting ‘Astronomer Copernicus’ unites two of Poland's most famous figures. The work will be on loan from Kraków's historic *Jagiellonian University*, one of Europe's oldest founded in the 14th century.

Despite being largely unknown outside his homeland, Matejko is regarded as the national painter of Poland. His huge paintings, showing iconic events from Polish history, are part and parcel of Poland's national identity.

This painting celebrates one of the most important names in the history of science, Polish mathematician and astronomer Nicolaus Copernicus.

Matejko painted the enormous canvas (3 m wide) in 1873 to mark the 400th anniversary of the astronomer's birth. A copy of Copernicus's *De Revolutionibus* (1543) will be part of the exhibition. This is a rare opportunity to see one of Poland's most loved works of art. Entrance is Free

FUTURE SHA MEETINGS

EVENING ONLINE MEETING

On **Thu 11 Mar 2021** at 7 pm the SHA will be hosting the third in its series of **free online evening presentations** for members (using 'Zoom'):

Title: Vera Rubin: A Life

Speaker: Dr Jacqueline Mitton

The talk will be limited to 100 attendees. Places will be offered on a first come first served basis. More details, along with joining instructions, will be sent to all members by email nearer to the date.

To register, please contact our Meetings Secretary, Mike White, at: Meetings@shastro.org.uk

The next online meeting (date to be confirmed) will be William Sheehan and Carolyn Kennett on **Nep- tune: From Grand Discovery to a World Revealed.**

2021 SPRING CONFERENCE

Although a brighter future is now imminent, as the Covid-19 vaccines are rolled out, it is still clear that there is no prospect of holding the 2021 Spring Conference of the SHA at a physical venue (originally intended to be the Institute of Astronomy in Cambridge). Details of alternative, online, arrangements will be announced in due course.

2021 AUTUMN CONFERENCE & AGM

This event is expected (with any luck!) to be at the Birmingham and Midland Institute on **Sat 23 Oct 2021.**

RECENT ONLINE MEETINGS

NOVEMBER 2020 EVENING MEETING

On Wed 18 Dec 2020 Seb Falk (Cambridge University) gave a wide ranging talk on medieval sciences entitled **Monks, astrolabes and equatoria: practical astronomy in the later Middle Ages.**

JANUARY 2021 EVENING MEETING

On **Tue 12 Jan 2021** Ian Glass (South African Astronomical Observatory) delivered a fascinating talk on **200 years of the Cape Observatory.** This was delivered live from South Africa. [A video recording](#) of it can be viewed via *YouTube* for a limited time period.

SHA COUNCIL

The current SHA Officers & Council are:

Honorary Council Members

Hon President Dr Allan Chapman
Hon Vice-President Dr Michael Hoskin

Council Members

Chairman Gerard Gilligan
Vice-Chair (& e-News Editor) David Sellers
General Secretary Mike Leggett
Treasurer Geoff King
Membership Secretary Graham Jones
Editor, SHA Bulletin Kevin Walsh
Publicity Officer Mike Leggett
Survey Coordinator Kevin Johnson
Online Editor John Chuter
Librarian James Dawson
Meetings Secretary Michael White

Co-opted Officers (non-Council)

Editor, The Antiquarian Astronomer Ian Ridpath
Asst. Editor, The Antiquarian Astronomer Peter Morris
Archivist John Chuter
Assistant Librarian Carolyn Bedwell

SHA COUNCIL MEETINGS

The following SHA Council meetings are scheduled for 2020:

Sat 27 Feb 2021 11 am, remotely via 'Zoom'

When physical meetings are able to resume, SHA members are very welcome to attend Council meetings as observers. Please let the General Secretary know in advance, if you wish to do so.



Title slide of Ian Glass's January presentation

SHA PUBLICATIONS

SHA e-News

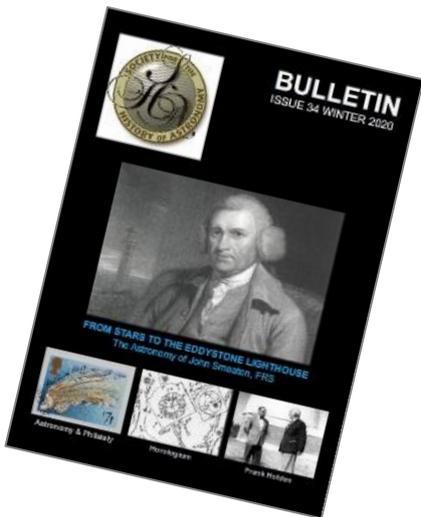
The next issue of the *e-News* is due in early May 2021. If you know of any meetings, publications, exhibitions or events pertaining to the history of astronomy that might interest other members, please email brief details to the [Editor](#) (David Sellers).



Back issues and guidelines for contributions are available from the [e-News web page](#).

SHA BULLETIN

Issue 34 of the *Bulletin* (Winter 2020) was successfully distributed to SHA members before Christmas.



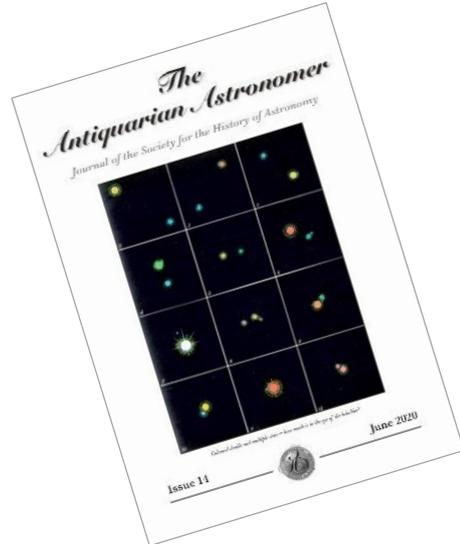
Contributions to the *Bulletin* are most welcome, including letters which can be on any aspect of the Society or the history of astronomy.

Back issues (except for the last 2 years) and guidelines for contributions are available from the [Bulletin web page](#).

It is usually prudent to check with the [Editor](#) (Kevin Walsh) before preparing items where duplication is a possibility (e.g. book reviews).

THE ANTIQUARIAN ASTRONOMER

Issue 14 of *The Antiquarian Astronomer* was published close to timetable in mid-July 2020, which is quite an achievement, given the current unusual circumstances. All members should have received a copy.



This is a ‘bumper’ issue, running to 108 pages. The contents include: an assessment by Simon Mitton of Georges Lemaître’s role in what is now known as the Hubble–Lemaître law; Paul Haley on the life and work of Henry Cooper Key, a pioneer of silvered-glass mirrors; the story of W. H. Smyth’s telescopes told by Rob Peeling; a study of colour perception among past and present observers of coloured double stars by Peter Morris and Bill Sheehan; and the final part of Richard Schmidt and Paul Dearden’s in-depth history of the Liverpool Observatory, from the time when it became the Greenwich of the north to its eventual removal to Bidston.

Because the printed version has been successfully delivered, a PDF of the issue will not now be made available for download from the SHA website as announced in the last *e-News*. Members and others wishing to submit material for future issues of *The Antiquarian Astronomer* should contact Ian Ridpath (Editor) at aaeditor@shastro.org.uk. Guidance for authors and some back issues can be found on [The Antiquarian Astronomer web page](#).

SHA ON THE ROAD

For obvious reasons, the SHA has not been able to have any publicity stalls recently.

If you are aware of future events, which would be suitable for a SHA stall, please let us know.

SHA LIBRARY NEWS

The SHA library now has over 2700 books dedicated to the history of astronomy and related subjects, numerous journals, as well as miscellaneous items including letters, meeting programmes, conference proceedings and the like.

Outside the legal deposit libraries, the SHA Library has one of the most extensive history of astronomy collections in any library in the British Isles. It is *unique* in having a collecting policy, totally focussed on history of astronomy, that includes not only the latest popular and scholarly works, but also the active acquisition of second-hand books, astronomical ephemera, and the preservation of the works of lesser known British astronomers and authors.

The SHA Library remains closed for the time being, but we continue to help members and others who send enquiries to the Library email account. If there is any help you want with research or finding material please do contact me or Carolyn Bedwell.

We also continue to look for and obtain new items for the Library, which are awaiting transportation to the Library when restrictions are lifted.

Some of the Library's new additions:

Adds, Peter, [The transit of Venus : how a rare astronomical alignment changed the world](#), 2007

Agar, Jon, [Science and Spectacle : the Work of Jodrell Bank in Postwar British Culture](#), 1988

Alperin, Morton (ed), [Vistas in astronautics. Annual astronautics symposium. \[Vol. I\]](#), 1958

Alperin, Morton (ed), [Vistas in astronautics. Annual astronautics symposium. \[Vol. II\]](#), 1960

Barentine, John C, [The Lost Constellations: A History of Obsolete, Extinct, or Forgotten Star Lore](#), 2015

Barentine, John C, [Uncharted Constellations: Asterisms, Single-Source and Rebrands](#), 2016

Bartlett, Montgomery R, [Young ladies' astronomy : a concise system of physical, practical, and descriptive astronomy designed particularly for the assistance of young ladies in that interesting and sublime study though well adapted to the use of common schools ; this work treats, in questions and answers, of the science of astronomy in general, of the most prominent incidents in its history, and of the solar system and its constituent parts in particular](#), 1825

Bennett, James A (James Arthur), [The divided circle : a history of instruments for astronomy, navigation and surveying \(Christie's collectors library\)](#), 1987



BMI (Birmingham): home of the SHA Library

Brown, R Hanbury, [Man and the Stars](#), 1978

Callatay, Vincent de, [Atlas of the Planets](#), 1974

Callatay, Vincent de, [Atlas of the Moon : astronomy - astronautics](#), 1964

Callatay, Vincent de, [Atlas of the sky](#), 1958

Dalziel, Edward, [Half hours in air and sky : marvels of the universe](#), 1877

Davies, RD, [Radio Studies of the Universe](#), 1959

Edge, David O, [Astronomy transformed : the emergence of radio astronomy in Britain](#), 1976

Evans, John Silas, [The Marvels of the Sky. An introduction to popular astronomy](#). [With illustrations, including a portrait.], 1931

Gaythorpe, Sidney Bertram, Jeremiah Horrocks : the pride and boast of British Astronomy, 2020

Graham-Smith, Francis, [Radio Astronomy](#), 1960

Harley, Timothy (Rev), [Lunar Science : Ancient and Modern](#), 1886

Hawkins, Gerald S, [Beyond Stonehenge](#), 1973

Hey, JS (James Stanley), [The Radio Universe](#), 1971

Hind, J Russell, [The Solar System : a descriptive treatise upon the sun, moon and planets, including an account of all the recent discoveries](#), 1852

Hind, JR, [The Illustrated London Astronomy. For the use of schools and students](#), 1853

Howe, Herbert A, [A study of the sky](#), 1896

Jones, Brian, [Yearbook of Astronomy 2021](#), 2019

Lockyer, Norman, [The Dawn of Astronomy. A study of the temple worship and mythology of the ancient Egyptians](#), 1894

Nall, Joshua, [News from Mars: Mass Media and the Forging of a New Astronomy, 1860-1910](#), 2019

Peck, William, [The observer's atlas of the heavens : containing catalogues of the accurate positions, magnitudes, &c., of over 1400 double stars, star clusters, nebulae, variable stars, radiant points of meteor systems, &c., together with 30 large scale star charts, in which 9000 objects are accurately depicted, embracing the whole star sphere, and showing nearly every constellation complete in itself](#), 1898

Pendray, G Edward, [Men, Mirrors, and Stars](#), 1935

Pfeiffer, John, [The Changing Universe : the story of the New Astronomy](#), 1956

Piper, Roger, [The Story of Jodrell Bank](#), 1972

Powell, Jonathan, [From Cave Art to Hubble : A History of Astronomical Record Keeping \(Astronomers' Universe\)](#), 2019

Smyth, William Henry, [Aedes Hartwellianae, or notices of the manor and mansion](#), 1851

Steinicke, Wolfgang, [Nebulae, Star Clusters, Galaxies : History - Astrophysics - Observation](#), 2019

I am still not going to advertise opening dates for the time being as we are still watching the national picture. However, if any member wants to visit the Library, get in touch with me and I am sure we can arrange a date where your visit can be undertaken safely.

The revised catalogue of books in the library is available and a link to this can be found on the library page of the SHA's [website](#) as a downloadable Excel spreadsheet – if you have trouble viewing the catalogue let us know and we can arrange to send it to you in an alternative format.

If you want to know more about the library or its stock, or if you'd like help with your research or finding a book or article, or other library-related matter, please do contact [James](#) and [Carolyn](#) who would love to hear from you.

James Dawson, SHA Librarian
library@shastro.org.uk

SHA RESEARCH GRANTS

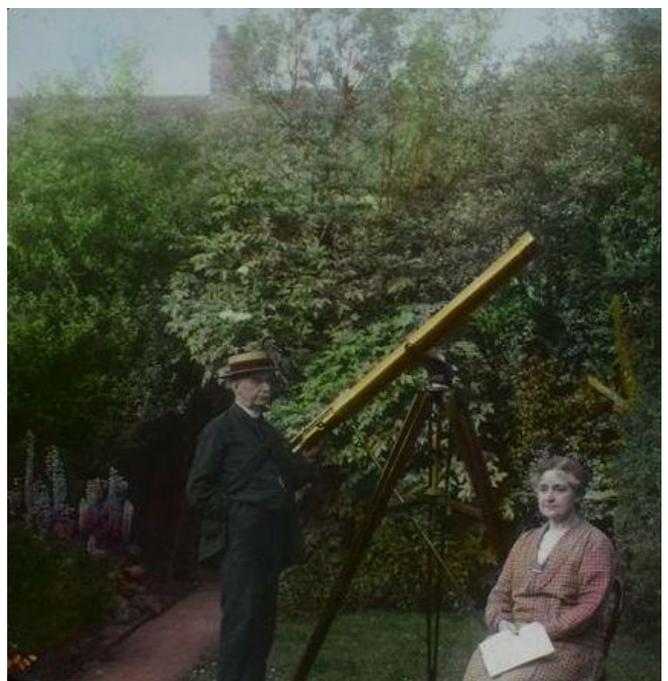
SHA *Small Research Grants* are available for the period **1 Nov 2020 to 31 Oct 2021** and applications are solicited. The total amount allocated by the Council for the current round is £1500. These grants are made available to provide limited financial support for members' research.

Links to the [application form and regulations](#) for applicants are available on the Society's Web site. Appli-

cations must be made using the application form. Appended to the regulations are some guidelines for completing the case for support that forms part of every application.

REV F.G. TAYLOR (1868-1935) LANTERN SLIDES ACQUIRED BY SHA LIBRARY

As part of its ongoing campaign to preserve historical records – not least those relating to amateur astronomy in the UK – the SHA has acquired a couple of lantern slides showing Rev. Frederick G. Taylor with his observing equipment in 1930. Taylor, a United Methodist minister, who was living at Harton Village, South Shields, joined the BAA in 1922



SHA SURVEY

Over the winter months 75 new observatory entries have been added to the [SHA Survey website](#). There are now 378 separate entries for observatories. Over the same period 13 new astronomer entries have been added: notable are Will Hay, two women astronomers (Mary Elizabeth Woolston, Ruth Mary Brook) and John Reginald Ryle - grandfather to Sir Martin Ryle.

Members are encouraged to submit new entries – however brief – where they spot gaps in the record.

SCHOOL OBSERVATORIES

There are now 23 school observatories included in the SHA Survey, but we know that many more exist and have existed. Some of these were impressive and featured significant domes, fitted with professional standard telescopes, clocks, and other equipment: Others were of more modest proportions, but introduced generations of children to astronomy. We are mounting a campaign to rescue information about all of these observatories – large and small.

We are interested in observatories old (like the Monkton Combe School Observatory, see below) and new (like, for example, the stunning [Malcolm Parry Observatory](#) at The Long Eaton School).

In some cases, schools are unwittingly in possession of quite historic telescopes—maybe now in need of restoration and repair—and have links to notable astronomers of which they are unaware. School observatories must surely be a rich vein to mine for fascinating revelations concerning British grass-roots astronomy up to the mid-20th century, perhaps most of all for the period 1850-1920. Some surviving observatory records, observation books, etc would be fascinating and some, surely, must have survived?

Please help us by submitting information about any such observatories that you know. Our [Survey Coordinator](#), Kevin Johnson, would love to hear from you.

MONKTON COMBE SCHOOL OBSERVATORY

In the August 2019 issue of *SHA e-News* we included an appeal from Simon Holbeche (Bath Astronomers) following an approach from Monkton Combe School, near Bath, regarding the restoration of a large refracting telescope. The mount had the nameplate of ‘John Browning of London’ and the focuser was inscribed ‘Troughton & Simms’.

Bath Astronomers wished to find someone with knowledge of instruments from these manufacturers and guidance on how one might approach the conservation work. As a result, SHA member Christopher



Monkton School observatory dome and refractor, before renovation commenced

Taylor (Director of the Hanwell Community Observatory) and Simon started a collaboration in September 2019, which is [already bearing fruit](#).

The objective and cell were removed, disassembled completely, and subjected to a full optical clean. An extensive series of optical, spherometer, etc, tests have now been done and, after some remedial machining on the brass cell (now burnished and relacquered), reassembly has been completed.

The objective is $6\frac{15}{16}$ ins. clear aperture in British measure, which is exactly $6\frac{1}{2}$ Paris inches, the unit universally used by continental makers until sometime around 1870-75, so is almost certainly by one such, probably Merz of Munich. Interestingly, it is not a Fraunhofer aplanat—the design of achromatic doublet which had become industry-standard by the late c19th—as it has a concave rear face. Despite this it is mounted in a cell bearing the legend *Troughton & Simms* (who were not primarily known for their optical work and are known to have mounted Merz objectives of this sort of size on a number of occasions). The instrument as it stands, therefore, appears to be a hybrid of major work by 3 different famous makers, perhaps circa 1860.

[A video of the observatory](#), posted by Bath Astronomers, can be seen online. Since this was made, the observatory and telescope have been spruced up considerably.

CHAIRMAN'S CHAT



Hello, and may I wish you a Happy New Year, which I hope will be filled with hope and optimism for us all as we continue to fight to contain the Covid-19 pandemic.

I for one will be happy to consign last year to the history books and move on to see everyday life re-

turning to normal, we hope, by the end of the year. The introduction of widespread vaccination will hopefully make this year a happy one.

However, it is sad to report that in the past 12 months many of us have lost close family and friends, not just to the Covid-19 infection but maybe for other reasons. My sincere condolences to you, your family, and close friends, if that is indeed the case.

The SHA is still not immune from the effects of this current pandemic, and several prominent members have sadly left us as a result. Also, as reported elsewhere in this e-News, we have the recent sad news of the loss of our valued and now much missed Vice-President, Sir Arnold Wolfendale. I had the honour of meeting and speaking with him over many years at various meetings—not just of national organisations like the BAA and SHA, but also of local astronomical societies here in the North West. I remember his well known lecture on the History of Cosmic Ray Observations, which was educational, but also filled with funny stories. He will be very sadly missed by not only the professional astronomical community but also the amateur one, which in his retirement years he supported so well.

The Society continues to operate successfully despite these dark circumstances we are currently in, and I can report an excellent hour long webinar by Ian Glass, of the South African Astronomical observatory, who spoke on the two hundred year history of the Cape Observatory. It continued a series of excellent lectures organised by our meetings secretary Michael White, supported by John Chuter, who provided IT support and has now successfully uploaded the recorded webinar onto YouTube™ for those members who may have not been able to join the other 35 members live on the night. The best is yet to come.

During the month of February we remember and celebrate another point in the history of lunar exploration and observation. Apollo 14 was the eighth crewed

mission in the United States Apollo program, the third to land on the Moon, and the first to land in the lunar highlands. It was the last of the "H missions," landings at specific sites of scientific interest on the Moon for two-day stays with two lunar extravehicular activities (EVAs or moonwalks).

The mission was originally scheduled for 1970, but was postponed because of the investigation following the failure of Apollo 13 to reach the Moon's surface, and the need for modifications to the spacecraft as a result. Commander Alan Shepard, Command Module Pilot Stuart Roosa, and Lunar Module Pilot Edgar Mitchell launched fifty years ago on their nine-day mission on Sunday, January 31, 1971, at 4:03:02 p.m. EST, following a weather delay of forty minutes and two seconds. En route to the lunar landing, the crew overcame a series of malfunctions that might have resulted in a second consecutive aborted mission, and possibly, the premature end of the Apollo program.

Shepard and Mitchell made their lunar landing on February 5 in the Fra Mauro formation – originally the target of Apollo 13. During the two walks on the surface, 94.35 pounds (42.80 kg) of Moon rocks were collected, and several scientific experiments were deployed. To the dismay of some geologists, Shepard and Mitchell did not reach the rim of Cone crater as had been planned, though they came close. In Apollo 14's most famous incident, Shepard hit two golf balls he had brought with him with a makeshift club.

Landing on the Moon would appear to be a challenge even today, fifty years after Apollo 14, and landing on the planet Mars is still a great challenge. The Martian surface is festooned with the wreckage of failures, from several countries and agencies. We hope, however, that on February 18th NASA's *Perseverance* rover and the *Ingenuity* helicopter successfully land on this hostile surface. This is yet another page in the history of our exploration of the solar system, and the wider universe.

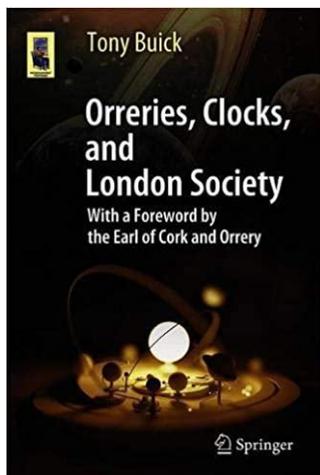
The need to have questions answered regarding what is out there, what it looks like, and what it is made of, will continue to fascinate me—as will researching those in the past who have tried to provide answers to these many questions.

I would like to end by wishing you good health. Take care, but importantly make sure you are protected from this illness that has now been part of our lives for almost a year. We should also remember all health workers and supporting staff who work tirelessly to preserve life.

Gerard Gilligan,
Chairman

FORTHCOMING BOOKS NOTICED

[**Orreries, Clocks, and London Society: The Evolution of Astronomical Instruments and Their Makers**](#), by Tony Buick (Springer), Jan 2021, pp.348 (paperback, £24.99), ISBN 9783030617769



Orreries, mechanical models of the Solar System and its motions, are found everywhere. They appear in paintings, on computers, across natural landscapes, and in museums all over the world. The more you look, the more you find, yet their significance is often overlooked aside other great astronomical inventions.

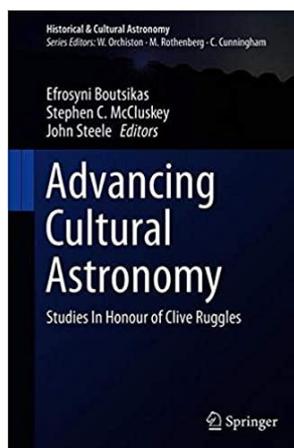
This book reclaims the history of the orrery, offering a fascinating look into its evolution over the centuries. With a particular focus on London society and clockmakers, it weaves together historical narrative with practical know-hows and scientific fact, showing how the orrery changed from a fanciful toy to a high-tech instrument to a vessel for art and education.

The first edition, *Orrery*, explained what an orrery is and how it got its name. This revised edition goes several steps further, tracing the instrument back to the time of Ptolemy and forward to planetariums and star projectors. In addition, it features new sections on how to construct your own orrery at home.

This book will appeal to anybody interested in astronomical mechanical devices, scientific instruments, horology, or the history of clocks.

[**Advancing Cultural Astronomy: Studies In Honour of Clive Ruggles**](#), by Efrosyni Boutsikas, Stephen C. McCluskey, and John Steele (Editors) (Springer), Feb 2021, pp.323 (hardback, £109.99), ISBN 9783030646059

This collection of essays on cultural astronomy celebrates the life and work of Clive Ruggles, Emeritus Professor of Archaeo-astronomy at Leicester University. Taking their lead from Ruggles' work, the papers present new research focused on three core themes in cultural astronomy: methodology, case studies, and heritage. Through this framework, they show how the study of cultural astronomy has evolved over time and share new ideas to continue advancing the field.

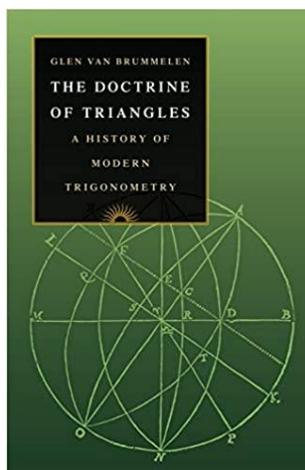


Ruggles' work in these areas has had a profound impact on the way that scholars approach evidence of the role of sky in both ancient and modern cultures. While the papers span many time periods and regions, they are closely connected by these three major themes, presenting methodological investigations of how we can approach archaeological, textual, and

ethnographic evidence; describing detailed archaeo-astronomical case studies; or stressing the importance of global heritage management.

This work will appeal to researchers and scholars interested in the history and development of cultural astronomy.

[**The Doctrine of Triangles: A History of Modern Trigonometry**](#), by Glen van Brummelen (Princeton University Press), Jun 2021, pp.392 (hardback, £25.00), ISBN 9780691179414



The Doctrine of Triangles offers an interdisciplinary history of trigonometry that spans four centuries, starting in 1550 and concluding in the 1900s. Glen Van Brummelen tells the story of trigonometry as it evolved from an instrument for understanding the heavens to a practical tool, used in fields such as surveying and navigation. In Europe,

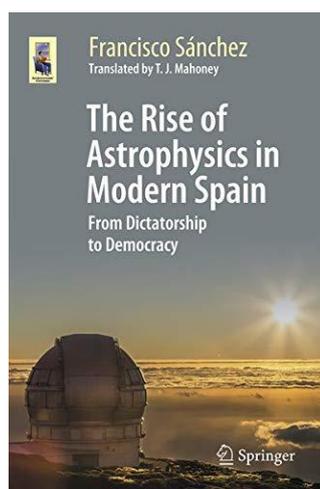
China, and America, trigonometry aided and was itself transformed by concurrent mathematical revolutions, as well as the rise of science and technology.

Following its uses in mid-sixteenth-century Europe as the "foot of the ladder to the stars" and the mathematical helpmate of astronomy, trigonometry became a ubiquitous tool for modeling various phenomena, including animal populations and sound waves. In the late sixteenth century, trigonometry increasingly entered the physical world through the practical disciplines, and its societal reach expanded with the invention of logarithms. Calculus shifted mathematical reasoning from geometric to algebraic patterns of thought, and trigonometry's participation in this new mathematical analysis grew, encouraging such innovations as complex numbers and non-Euclidean geometry. Meanwhile in China,

trigonometry was evolving rapidly too, sometimes merging with indigenous forms of knowledge, and with Western discoveries. In the nineteenth century, trigonometry became even more integral to science and industry as a fundamental part of the science and engineering toolbox, and a staple subject in high school classrooms.

A masterful combination of scholarly rigor and compelling narrative, *The Doctrine of Triangles* brings trigonometry's rich historical past full circle into the modern era.

[The Rise of Astrophysics in Modern Spain: From Dictatorship to Democracy](#), by Francisco Sánchez (Springer), Mar 2021, pp.296 (paperback, £22.99), ISBN 9783030664251



This book describes the unlikely development of astrophysics in Spain, set against the final decade of Franco's rule and the country's transition to democracy.

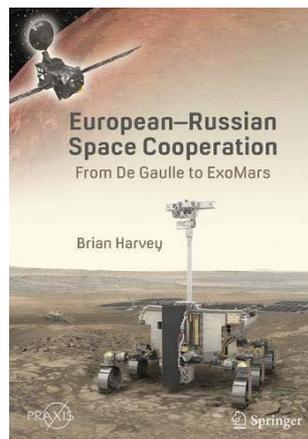
The author, Founding Director of Spain's *Instituto de Astrofísica de Canarias*, gives a firsthand account of his own and others' odyssey in establishing the field in Franco's Spain, showing

how in a mere half-century, Spain was able to transform from a scientific backwater to a world player in astronomy and astrophysics. The book is a behind-the-scenes, warts-and-all depiction of how Big Science gets done, showing the motivations—sometimes as entertaining as they are infuriating—that drive scientific institutions and the scientists who work for them.

Many astronomers, both professional and amateur, and historians know of the great scientific work being done in Spain, but there is very little published information available about the complex story underlying it. This English edition now makes that story accessible for the lay reader. With its casual, yet captivating narrative, the book is a rare and inspiring contribution to the history of astrophysics, science policy, education and outreach.

[European-Russian Space Cooperation: From De Gaulle to ExoMars](#), by Brian Harvey (Springer Praxis), Apr 2021, pp.377 (paperback, £24.99), ISBN 9783030676841

The story of European-Russian collaboration in space is little known and its importance all too often

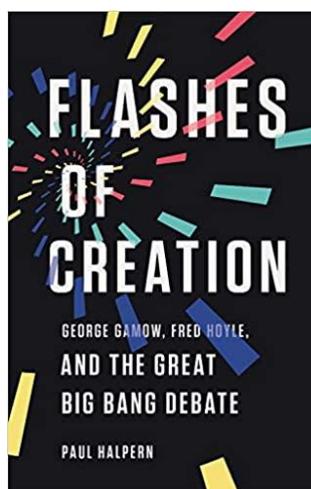


understated. Because France was the principal interlocutor between these nations, such cooperation did not receive the attention it deserved in English-language literature. This book rectifies that history, showing how Russia and Europe forged a successful partnership that has continued to the present day.

Space writer Brian Harvey provides an in-depth picture of how this European-Russian relationship evolved and what factors—scientific, political and industrial—propelled it over the decades. The history begins in the cold war period with the first collaborative ventures between the Soviet Union and European countries, primarily France, followed later by Germany and other European countries. Next, the chapters turn to the missions when European astronauts flew to Russian space stations, the Soyuz rocket made a new home in European territory in the South American jungle and science missions were flown to study deep space. Their climax is the joint mission to explore Mars, called *ExoMars*, which has already sent a mission to Mars.

Through this close examination of these European-Russian efforts, readers will appreciate an altogether new perspective on the history of space exploration, no longer defined by competition, but rather by collaboration and cooperation.

[Flashes of Creation: George Gamow, Fred Hoyle, and the Great Big Bang Debate](#), by Paul Halpern (Basic Books), Aug 2021, pp.304 (hardback, £21.95), ISBN 9781541673595

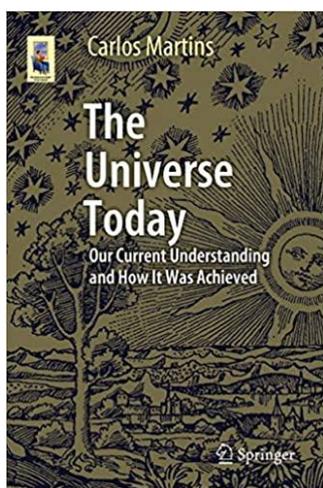


Today, the *Big Bang* is so entrenched in our understanding of the cosmos that to doubt it would seem crazy. But as Paul Halpern shows in *Flashes of Creation*, just decades ago its mere mention caused sparks to fly. At the centre of the debate were Russian-American physicist George Gamow and British astrophysicist Fred Hoyle. Gamow insisted that a fiery explosion explained how the elements of the universe were created. Attacking the idea as half-baked, Hoyle countered that the universe was engaged in a never-ending

process of creation. The battle was fierce. In the end, Gamow turned out to be right—mostly—and Hoyle, along with his many achievements, is remembered for giving the theory the silliest possible name: “The Big Bang”. Halpern captures the brilliance of both thinkers and reminds us that even those proved wrong have much to teach us about boldness, imagination, and the universe itself.

RECENT BOOKS MISSED

[The Universe Today: Our Current Understanding and How It Was Achieved](#), by Carlos Martins (Springer), Sep 2020, pp.324 (paperback, £22.99), ISBN 9783030496319



Starting out from humankind's earliest ideas about the cosmos, this book gives the reader a clear overview of our current understanding of the universe, including big bang theories and the formation of stars and galaxies, as well as addressing open questions. The author shows how our present view gradually developed from observations, and

also how the outcome of ongoing research may still change this view. The book brings together concepts in physics and astronomy, including some history in both cases. The text is descriptive rather than technical: the goal is to present things rigorously and without oversimplification, by highlighting the crucial physical concepts. The only prerequisite is a qualitative knowledge of basic physics concepts at high-school level.

Note: *The descriptions of the books above are largely taken from the publishers. They are not reviews and do not imply endorsement by the SHA.*

OTHER MEETINGS, COURSES & EXHIBITIONS NOTICED (non-SHA)

Given the uncertain situation with the pandemic, anyone interested in the following events is advised to check regularly whether they are still going ahead.

An astronomer at work: Lewis of Caerleon and his personal notebook

This online lecture Laure Miolo on **Wed 3 March 2021** is part of the forthcoming [Medieval Encounters](#) interdisciplinary seminar series. It is supported by the Trevelyan Fund and the History Faculty of Cambridge University. Seminars normally take place in St Catharine's College twice a term. Dr Miolo been working on an [astronomical notebook](#) made by the fifteenth-century astronomer Lewis of Caerleon. A 'Zoom' link is given on the webpage.

History of Astronomy Workshop (NDXV)

Due to the Covid-19 outbreak, [the Fifteenth Biennial History of Astronomy Workshop \(NDXV\)](#), originally scheduled for July 2021, has been postponed until the following year on June 8–12, 2022.

VOLUNTEER A PRESENTATION?

Do you have a mini-presentation that you would like to make to an online SHA meeting? The SHA Council would like to organise occasional online meetings featuring several short talks, where members can present topics that they have been researching. If you have something up your sleeve and would like to give it a go, please let Mike White, our Meetings Secretary, know:

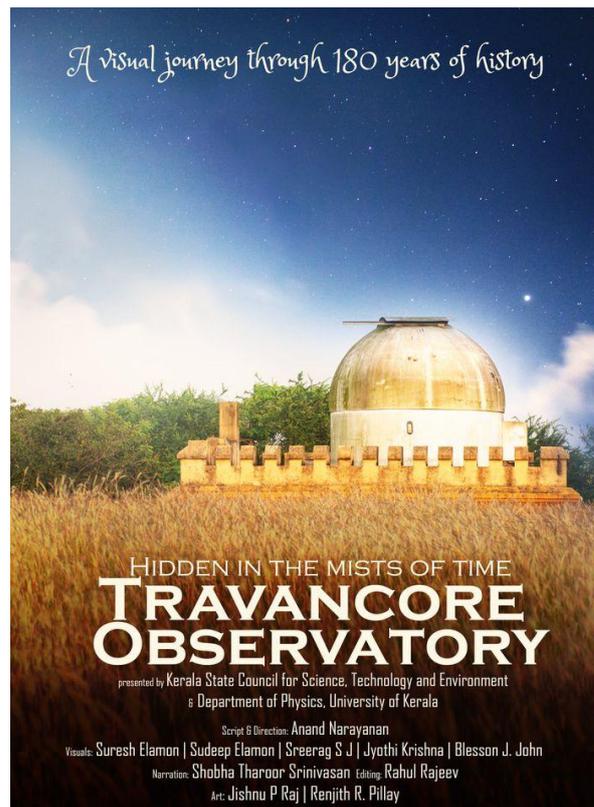
Meetings@shastro.org.uk

'Hidden in the Mists of Time - The Travancore Observatory'

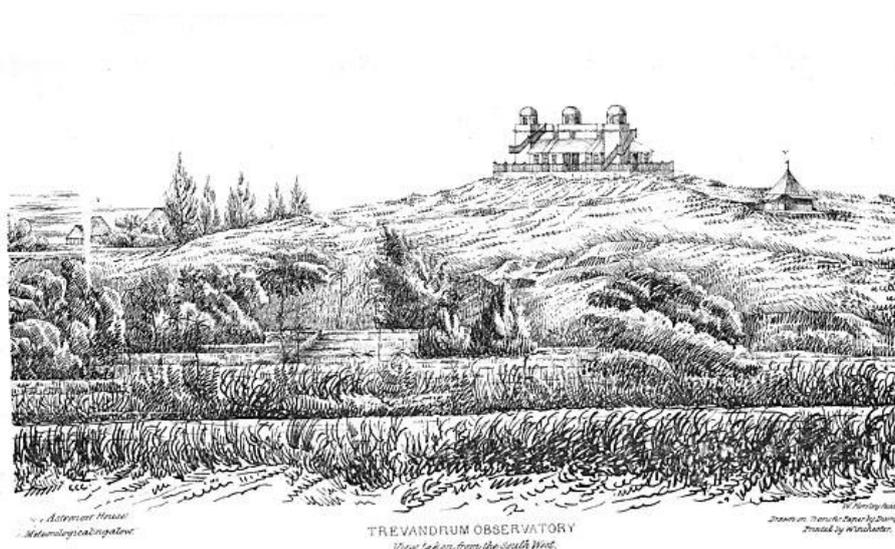
The documentary film *Hidden in the Mists of Time: The Travancore Observatory*, scripted and directed by Dr. Anand Narayanan, of the Indian Institute of Space Science & Technology, has won two awards in the recently concluded *10th National Science Film Festival of India* organized (in virtual mode, from 24-27 Nov 2020) by the **Vigyan Prasara**, New Delhi. The awards are for the best-researched film, and for the best technically visualised film. [The film can now be watched online.](#)

It tells the story of the 180-year-old Travancore Observatory. This observatory, commissioned in 1837, was the second modern astronomical observatory in India (after the Madras Observatory). The observatory traces its origins to Maharaja Swathi Thirunal, who was keen on having a facility built for the scientific edification of his people. Once a prominent landmark in the erstwhile state of Travancore, the observatory contributed in many ways to the growth of science and education in Kerala. In the 19th century itself, the observatory carried out several scientific works of distinction, the publication of astronomical almanacs, observations of solar eclipses, computations of orbital elements of comets, magnetic field measurements along the geomagnetic equator, climate and meteorological studies. For a long time, the observatory also served as a beacon for signalling time to the residents of the state of Travancore. The film calls to attention the support required for the restoration of what was once a prestigious facility.

The **National Science Film Festival** was a four-day long film festival, jointly organized by [Vigyan Prasara](#), an autonomous agency under the **Department of Science and Technology, Government of India** and the



Tripura State Council of Science and Technology, Government of Tripura. The science film festival offers a unique platform to showcase the science films made by professionals, amateur and student filmmakers under various themes, to promote science films in India. Wouldn't it be nice if we had such a festival in the UK? Or maybe we have? Let us know, if you are aware of one!



Travancore Observatory in the nineteenth century (image: Wikipedia)

WEB-LINKS NOTICED

100 Years of Cosmic Rays

A series of videos of a Royal Society lecture from 2012 on the history of cosmic rays by our late Hon. Vice-President, Sir Arnold Wolfendale ([pt 1](#), [pt 2](#), [pt 3](#), [pt4](#)).

Whipple Museum Collection online

Like most museums, only a small proportion of Cambridge's Whipple Museum collection is on display at any one time and, in the current public health situation, physical access to museums has become very challenging. Now, however, you can remotely search and browse through records and images of almost 7,000 objects, as well as records of Trade Literature.

The '[Collections Portal](#)' also allows you to download images, book research visits, request permission to publish images.

The project to create this online offering was a collaboration with the Museum of Archaeology and Anthropology (MAA), funded by Arts Council England, through the Designation Development Fund.

National Archives – free images

The National Archives are making digital records available on their website [free of charge](#) for the time being, as the reading room service at Kew is suspended in line with national restrictions in England.

Registered users will be able to order and download up to ten items at a time, to a maximum of 100 items over 30 days. The limits are there to try to help manage the demand for content and ensure the availability of our digital services for everyone.

HAD News

The latest issue of *HAD News* ([no. 96, Dec 2020](#)). The newsletter of the Historical Astronomy Division of the American Astronomical Society is now available for download as a PDF file.

Journal of Astronomical History and Heritage

The latest issue of the *Journal of Astronomical History and Heritage* (v.23, no.3, Dec 2020) is now [available online for download](#).

History Day at the Royal Astronomical Society Library

[A short video](#) about the rare book, manuscript, photograph and instrument collections of the Royal Astronomical Society for *History Day* on 19 November 2020 is available. *History Day* is organised by the Institute for Historical Research and Senate House Library, and is an opportunity for students and researchers to discover archives, libraries and other organisations with historical collections from the UK and beyond.

A Chance Encounter: The Pechell Family and their Interest in the Stars

In [the final session of conversations](#) about the collections of the RAS Library and Linda Hall Library, Sian Prosser and Jason Dean focus on astronomy education. To start with, they discuss an astronomical manuscript held by the Linda Hall Library written by Charlotte, Lady Brooke Pechell. Her youngest son, Samuel, was a fellow of the Royal Society. Sian and Jason also discuss the development of astronomy education in Britain using two sets of cards in their collections.

Early History of Astrophotography

An edited video of the excellent BAA Historical Section webinar (21 Nov 2020) by Dr Geoff Belknap on the [Early History of Astrophotography](#) is now available. Dr Belknap is Head Curator of the National Science and Media Museum in Bradford.

Not Yet Imagined: A Study of Hubble Space Telescope Operations

The new, fully-illustrated, NASA book, [Not Yet Imagined](#), by Christopher Gainor, is available for free download as a PDF file. It documents the history of HST from its launch through its first 30 years of operation in space. The book focuses on the interactions among the general public, astronomers, engineers, government officials, and members of Congress during that time.

The decision-making behind the changes in Hubble's instrument packages on servicing missions that made HST a model of supranational cooperation amongst scientists is chronicled, along with HST's contributions to our knowledge about our solar system, our galaxy, and our universe. This book also covers the impact of HST and the images it produces on the public's appreciation for the universe, and how HST has changed the ways astronomy is done.

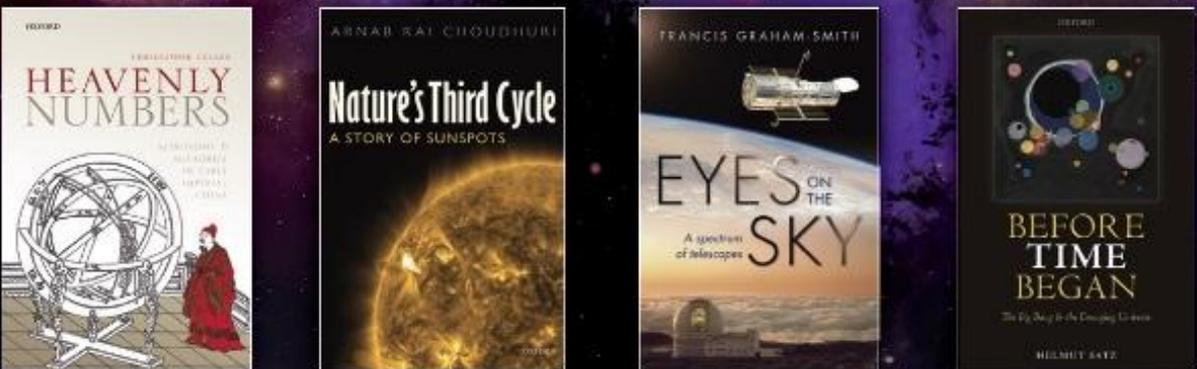
IAU Commission C3

The latest IAU Commission C3 (History of Astronomy) *Newsletter* is [now available](#) from the website of the Secretary, Sara Schechner.

SHA CALENDAR 2021

MONTH	SHA EVENT OR PUBLICATION	VENUE
2021		
JAN	SHA Online lecture No. 2, by Ian Glass (12 Jan)	via 'Zoom'
FEB	SHA e-News (1-5 Feb)	
MAR	SHA Online lecture No. 3, by Jacqueline Mitton (11 Mar)	via 'Zoom'
APR	SHA Bulletin 35 (1 Apr) SHA Spring Conference (Apr) ONLINE	Via 'Zoom'
MAY	SHA e-News (1-5 May)	
JUN	The Antiquarian Astronomer 15 (Jun)	
JUL	SHA Summer Picnic (20 Jun) CANCELLED	Lacock Abbey, Wiltshire
AUG	SHA e-News (1-5 Aug)	
SEP		
OCT	SHA Autumn Conference & AGM (24 Oct) TBC	
NOV	SHA e-News (1-5 Nov)	
DEC	SHA Bulletin 34 (mid-Dec)	

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