

Flamsteed visit to the Caird Library, April 22, 2016

EARLY MILESTONES

Peter Apian "Astronomicum Caesarium" Ingolstadt 1540

- A stunningly beautiful volume published in the time of 'Wolf Hall' – Henry VIII on the throne of England.
- Dedicated to the Holy Roman Emperor Charles V (nephew of Katherine of Aragon, Henry's first wife)
- Remarkable for its 'volvelles' – exquisite circular paper 'slide rules' to demonstrate the ideas being described in the text.

<http://www.rarebookroom.org/Control/appast/>

<https://www.ras.org.uk/library/treasures-of-the-ras/2411-treasures-of-the-ras-astronomicum-caesareum>

<http://gallica.bnf.fr/ark:/12148/btv1b26000395>

<http://www.atlascoelestis.com/ApianusPaginabase1.htm>

https://en.wikipedia.org/wiki/Petrus_Apianus

Copernicus "De Revolutionibus" Nuremburg 1543

- The seminal exposition of the heliocentric theory.
- Presented to Copernicus on his death-bed.

<http://ads.harvard.edu/books/1543droc.book/>

<http://special.lib.gla.ac.uk/exhibns/month/apr2008.html>

<https://digital.libraries.ou.edu/cdm/compoundobject/collection/copernicus/id/4005>

<https://ebooks.adelaide.edu.au/c/copernicus/>

Tycho Brahe & Johannes Kepler "Rudolphine Tables" Ulm 1627

- Culmination of the observational work of Tycho starting in Hven, later Prague
- Mathematical analysis of Kepler, mainly orbit of Mars, to derive his 'laws' of planetary motion.
- Named for the Holy Roman Emperor Rudolph II
- Showing the magnificent frontispiece which celebrates the great astronomers of the past – Hipparchus, Ptolemy, Copernicus, and (of course) Tycho Brahe. Also note world map c p28 ? and Mars tables c p61.

<https://archive.org/details/tabulaerudolphin00kepl>

Isaac Newton “Principia Mathematica” London 1687 (1760 Geneva edition)

- Ultimate milestone – Newton’s mathematical derivation of Kepler’s Laws from the inverse square law of attraction, and exposition of the universal law of gravitation.
- Famously published on behalf of the Royal Society by Edmond Halley who was paid in copies of ‘The History of Fishes’.
- The Caird’s 1713 2nd edition is on display

<http://cudl.lib.cam.ac.uk/view/PR-ADV-B-00039-00001/1>

https://en.wikisource.org/wiki/The_Mathematical_Principles_of_Natural_Philosophy_%281846%29

<https://royalsociety.org/collections/principia-mathematica/>

DEVELOPMENT OF THE OBSERVATORY

John Flamsteed “Historia Coelestis” London 1712

- The ‘pirate catalogue’ edited by Edmond Halley from manuscripts seized by Isaac Newton.
- Said to introduce the concept of Flamsteed Numbers
- 300 copies burned by Flamsteed in 1715

<http://www.rmg.co.uk/discover/behind-the-scenes/blog/historia-coelestis-john-flamsteeds-new-catalogue-fixed-stars>

(No full digital copy found)

John Flamsteed “Atlas Coelestis” London 1729

- Published after Flamsteed’s death by his widow Margaret who sold everything in the ROG to raise money
- Illustrated by James Thornhill of Painted Hall fame

http://ihldigital.lindahall.org/cdm/ref/collection/astro_atlas/id/1200

James Bradley “Greenwich Observations 1750-1762” Vol I Oxford 1798

- Published 36 years late!
- May 1753 Transit of Mercury

No digital copy of Vol 1 found so far

<https://books.google.co.uk/books?id=qqIFAAAacAAJ&pg=PP5#v=onepage&q&f=false>

Letters: Nevil Maskelyne Correspondence with Pigott (date?)

- The discovery of Uranus 1786

No digital copy found so far

Letters: George Airy: miscellaneous collection 1847

- Note journey to St Petersburg Pulkowa Observatory

No digital copy found so far

William Huggins "An Atlas of representative stellar spectra.." London 1898

- Not the Greenwich Observatory but not far away at Tulse Hill
- The birth of Astrophysics by one of the great amateurs
- Also notable for the contribution of Lady Huggins, a great astronomer in her own right.

No digital copy found so far

E Walter Maunder "The total solar eclipse 1900.." London BAA

- A senior assistant at Greenwich and one of the founders of the BAA
- Famous for the 'Maunder Minimum'
- This reports on expeditions organised by the BAA

<https://archive.org/details/eclipstotalsolar00britrich>

1898 eclipse <https://archive.org/details/indianeclipse189015647mbp>

<https://archive.org/details/philtrans03217338>

POPULARISING ASTRONOMY

George Airy "Six lectures on astronomy..." 1849

- Early popular lecture series (cf Faraday at the RI 1827-1860)
- Not what we now expect –
- *I should wish to invite especially the attention of those who are commonly called working-men, to the few Lectures I propose to deliver. The subjects upon which I have to treat are commonly regarded as rather beyond their reach; I take this opportunity of saying that the subjects of the Lectures will not be beyond any working-man's comprehension...*
- *The Lectures will be of what I may call a mathematical kind. But in speaking of this, I beg that the ladies present will not be startled. I do not mean to use algebra or any other science, such as must be commonly of an unintelligible character to a mixed meeting. (Lecture I p3/4)*

<https://archive.org/details/popularastronom03airygoog>

Robert Ball (1840-1913) "The Story of the Heavens" 1886 and many later editions – this 1890

- Royal Astronomer for Ireland at Dunsink and later Lowdean Prof of Astronomy at Cambridge
- Great populariser – est 2500 public lectures

<https://archive.org/details/storyheavenswit00ballgoog>

Edwin Dunkin (1821-1898) "The Midnight Sky: familiar notes on the stars and planets" London 1869 (1891 ed)

- *"One of the principal results of the growing intelligence of the present time is the great interest shown in every direction in the study of subjects of a scientific nature..."* E.D. Blackheath 1891.
- 1838 became a computer at Greenwich, promoted to assistant in 1840.
- 1881-1884 Chief Assistant to Christie
- 'The Midnight Sky' contains charts and descriptions of the sky for each season plus sections on observatories (including several interesting engravings of Greenwich), the solar system, and the stars and constellations.

https://archive.org/details/bub_gb_CDMDAAAQAAJ

<http://www.royalobservatorygreenwich.org/articles.php?article=1117>

E Walter Maunder (1851-1928) "The Royal Observatory Greenwich: a glance at its history and work" London 1900

- See Maunder notes above.
- The 'standard' popular description of the Observatory at the turn of the Century. Describes the history of the Observatory and the work and equipment of each main department, and contains many interesting photographs.

<https://archive.org/details/royalobservatory00maunuoft>

<http://www.royalobservatorygreenwich.org/articles.php?article=1098>

Arthur Eddington (1882-1944) "Stars and Atoms" London 1927

- Chief Assistant at Greenwich 1906-1913
- 1913 Plumian Professor of Astronomy;
- WWI famously conscientious objector (Quaker) – one of the first to study and endorse Einstein's General Theory.
- Much original work on stellar physics – demonstrated stellar interiors are millions of degrees.

<https://archive.org/details/starsandatoms015456mbp>