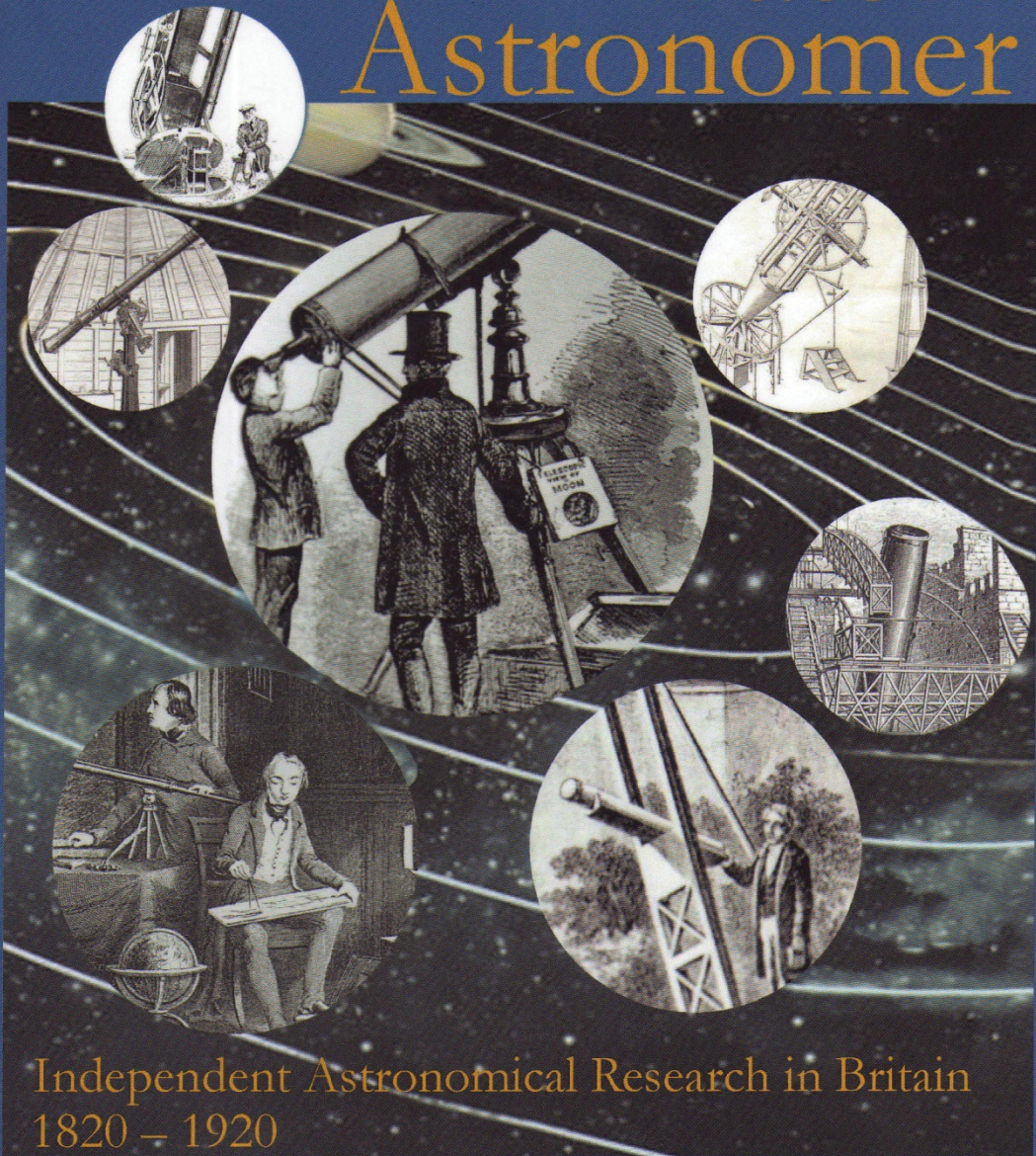


The  
Victorian Amateur  
Astronomer



Independent Astronomical Research in Britain  
1820 – 1920

Allan Chapman

## **The Victorian Amateur Astronomer: Independent Astronomical Research in Britain 1820-1920.**

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In the preface to her little book, *The Telescope: a familiar sketch*, the Rt. Hon. Mrs Mary Ward, wrote these words a hundred and fifty years ago, here slightly paraphrased for brevity: 'The warm interest, the almost personal affection that can be felt for the well-known planet, the familiar constellation, the double star that has been scanned with the little telescope is no matter of speculation. The delight at the first appearance in the autumn of glorious Orion, the satisfaction when Jupiter is again descried after being some months concealed by the Sun's beams, are feelings yearly experienced by us and little influenced by time, place, or even circumstances.'

Mary Ward, as well as being a microscopist, was a lover of astronomy, a keen amateur observer using a two-inch refracting telescope. Her first cousin, William Parsons, 3<sup>rd</sup> Earl of Rosse, was what Allan Chapman describes as a 'Grand Amateur', having the means to fund and operate from 1845 the largest reflecting telescope that the world had ever seen, the 72-inch Leviathan of Parsonstown, in his research of the deep universe. [She also has the unenviable distinction of being the first person to die following an automobile accident.]

Allan Chapman's book, first written twenty years ago and long out of print, describes both aspects of amateur astronomy in Britain in the nineteenth century and puts them into perspective. This book is less about what was discovered as it is about how and who were doing the self-financed fundamental research or those less well-off amateurs who were contemplating the heavens for its own sake.

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The *Victorian Amateur Astronomer* is organised into three parts, totalling fifteen chapters.

### Part 1. The Grand Amateurs:

Following the political successes at Trafalgar and Waterloo, Britain saw no need to invoke the development of science in UK universities to bolster its national self-confidence. Institutionalised science, particularly astronomy, was not funded to the extent that it was on the Continent. At the Greenwich Royal Observatory, positional astronomy as an aid to navigation and time-keeping was paramount, not observational astronomy to study the surfaces of solar system objects or explore the deep sky.

However there were self-made individuals, like those in the Herschel family, for which astronomy was worth paying for out of their own pocket. William Herschel had already made a name for himself by the discovery of the planet Uranus in 1781 and by so doing had attracted Royal patronage and national and international acclaim. He went on to sweep the sky for the elusive nebulae with the great 48-inch reflector at Slough, whilst his assistant, his sister, Caroline, independently discovered eight comets. This fundamental research into the structure of the Milky Way was followed a generation later by William's son, John, financed by William's lucrative telescope making interests but probably from money inherited when William married the independently wealthy Mary Pitt (nee' Baldwin) in 1788. John Herschel extended his father's sky survey into the southern hemisphere, setting precedence for home-grown independent astronomical research.

The high cost of big aperture reflecting and refracting telescopes was prohibitive except to a few Grand Amateurs, a term that the author first introduced in 1988 when describing the work of Liverpool brewer, William Lassell. Lassell's own interest was in observing the planets, particularly Saturn, first with a 9-inch, then a 24-inch and eventually a 48-inch Newtonian reflector paid for by the lucrative business of brewing ale. Inherited money also financed big astronomy; mid-century, the 3<sup>rd</sup> Earl of Rosse had trumped what Chapman calls the big telescope brigade with his 'Leviathan of Parsonstown', a 72-inch Newtonian mounted in the grounds of Birr Castle, Co. Offaly.

Brewing crops up several times in financing home-grown astronomical research in the UK [Whitbread; Carrington] but other industries also financed UK astronomy including engineering [Nasmyth], carpet manufacturing [Common] and even biscuit making [Peake]: these entrepreneurial Grand Amateurs were self-made men, not always possessing a university education but having the wherewithal to travel around in the UK and abroad. They had the flexibility and independence to study whatever aspect of astronomy appealed to them and to discuss their hobby as equals in what was essentially their London club, the Royal Astronomical Society either via its publications and meetings or at table in the R.A.S. Dining Club. Founded as the Astronomical Society of London in 1820, the R.A.S. is the oldest scientific society in the world devoted to astronomy.

It wasn't until the last decades of the 19<sup>th</sup> C that UK universities began to finance fundamental institutional astronomical research and provide professional quality observatories and equipment, sometimes pre-owned and donated by wealthy amateurs, that the age of the Grand Amateur came to an end.

## Part 2. Poor, obscure and self-taught: astronomy and the working class:

While the Grand Amateurs could finance private astronomical research from their own deep pockets, another group of individuals, lacking the resources and leisure time to make a serious contribution to fundamental research and often working in isolation were nevertheless active in observational astronomy. In the first half of the 19<sup>th</sup>C, amateur astronomy rapidly developed as a hobby in Britain. Even the poorer members of the working class society with small refractors, costing several months wages, were studying the night sky. Metal mirrors were difficult to figure and keep polished but after 1860 when the materials and the technology to make silver-on-glass reflectors became available, larger telescope could be home-made. Self-taught astronomy began to flourish in Britain fuelled by the availability of 'popular', non-mathematical, books written for the amateur and that widely-read publication, the English Mechanic, spread the word and encouraged sharing of knowledge among the working class.

Organisations such as the Literary and Philosophical Societies already catered for a growing interest in science among the professional class and the Mechanics Institute promoted similar subjects via the very popular public lectures by leading proponents of a wide range of subjects. But it was after 1860 and the founding of provincial astronomical societies like those at Leeds (1859) and Liverpool (1881) that organised amateur astronomical societies encouraged a spectacular growth in the science at a more affordable level. This culminated in 1890 with the founding of the British Astronomical Association. Manchester AS was the last of the big three in north-west England, being initially founded as the North Western Branch of the BAA, in 1892, following the contraction of Liverpool AS two years earlier. Of particular note is that these societies also included women, some of whom played an active role in the management and running of the societies and were active in giving popular lectures on the subject across the UK. Nevertheless, women were still excluded from joining the RAS until January 1916.

### Part 3. The rise of the leisured enthusiast:

In the last decades of the 19thC, the founding of 'Victoria' universities at Manchester, Liverpool, Leeds and Belfast and elsewhere provided the needs of the growing provincial cities. There was a growth in civic museums and parks and in astronomy the provision of facilities, including observatories that had hitherto only been available to select individuals. Middle-class professionals and business men, neither Grand Amateur nor working class could pursue their scientific hobbies. Clergymen, such as the Reverends Thomas W. Webb, Thomas H. E.C. Espin and Edward L. Berthon, used their leisure time in making observations, writing about amateur astronomy or designing and making affordable equipment, while the provincial astronomical societies catered for both active and 'arm-chair' astronomers. Affordable telescopes by Browning, Dolland and Cooke also furthered the science. By the end of the century an amateur astronomical community had come into being; essentially what we now have today.

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The chapters are liberally sprinkled with references that are compiled into a comprehensive list totalling over a hundred pages of detailed notes and references at the end of the book. These are followed by a page of errata to the first edition. This is the reviewer's only minor criticism: for technical reasons, to avoid major repagination to correct the known errors from the first edition, these remain in the body of the present text. A twenty page index concludes the book.

This second edition of *The Victorian Amateur Astronomer* is still the most readable and comprehensive study on the subject written in the 20<sup>th</sup> century. In 2002, the first edition of this book was the inspiration for the founding of the Society for the History of Astronomy that has since gleaned many more examples of Victorian amateur astronomers and their activities in Britain and in the USA. Two decades on we have completed the circle and this second edition, essentially a re-printed version of the first, with a new Forward, has been long overdue and is most welcome. It is to be hoped that there will be a third, expanded and more fully revised edition in the not too distant future.

The author:

Born and reared in Salford, Allan Chapman is a graduate of the University of Lancaster, receiving his D.Phil. from the University of Oxford. He was the 2015 Jackson-Gwilt Medallist of the Royal Astronomical Society. Author of eleven other books on the history of science, particularly astronomy and medicine, he teaches in the Faculty of History at Oxford University, is a Member of Wadham College and an associate Member of Christ Church Senior Common Room, Oxford. He was elected Honorary President of the Society for the History of Astronomy at its founding at Wadham College in 2002.

Biographical note about the reviewer:

Kevin J Kilburn FRAS is a Hon. Life Member of Manchester Astronomical Society. He was a founder member of the Society for the History of Astronomy, becoming its secretary during its formative years. He retired as SHA vice chairman in 2015. His observing interests include lunar, solar and wide-field astrophotography, from his home in the Staffordshire Moorlands.

This book, originally reviewed in January 2018, is available for loan in the MAS library. A copy of the first edition is held in the special collection.