

# Lord John, 2nd Baron Wrottesley and the Wrottesley Hall Observatory

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Lord John Wrottesley (1798-1867) was a man of considerable importance in the field of 19th century science, particularly during the first three decades of the Victorian era. He held a number of important offices during this time, including being President of the Royal Astronomical Society (1841 to 1843), of which he was a founder member in 1820; President of the Royal Society 1854 to 1857; and President of the British Association for the Advancement of Science for 1860. He was always to seek a good understanding between scientists and government, and also to promote the general public understanding of science. Although today the name of Lord John Wrottesley is largely forgotten, he created a legacy that remains with us to the present day.

The Honourable John Wrottesley (Figure 1) was the son of Lord John Wrottesley (9th Baronet, later 1st Baron Wrottesley 1771-1841). He was born at Wrottesley Hall in South Staffordshire on 15 August 1798. He entered Westminster School, which had been attended by many members of the Wrottesley family, in 1810, and matriculated to go up to Christ Church College, Oxford in 1816. He obtained a B.A. degree in 1819 and M.A. in 1823<sup>1</sup>.



**Figure 1**

**Lord John, 2nd Baron Wrottesley**

Courtesy of the Royal Astronomical Society

It seems that it was whilst he was at Oxford that a life-long interest in astronomy was aroused, under the influence of the work of Dean Cyril Jackson (1746-1816) and of Stephen Peter Rigaud F.R.S. (1774-1839), who was then Reader in Experimental Philosophy, but later became Savilian Professor of Geometry, then Savilian Professor of Astronomy, at the University.

The Hon. John Wrottesley initially worked as a lawyer in London, entering Lincoln's Inn in 1819, and practicing as a barrister from 1823. Whilst still only 22 years old, he was involved as an early member of the Astronomical Society of London, which was to become the Royal Astronomical Society (R.A.S.), of which he was Secretary 1831 to 1833, and President 1841 to 1843<sup>2</sup>.

Whilst living in the London area, he settled at Blackheath, where between 1829 and 1831 he constructed an observatory. Observations started there in the spring of 1831. He was at that time particularly interested in the positional astronomy of 6th- and 7th-magnitude stars, a task that occupied him from 1831 to 1835. In 1838 he presented to the R.A.S. a catalogue of the Right Ascensions of 1318 stars<sup>3</sup>, a work that was well received: in February 1839 he was awarded the R.A.S. Gold Medal for his work in positional astronomy.

The year 1841 was one of great significance in many ways for him. In February of that year he was elected President of the R.A.S. In March his father, by then the 1st Baron Wrottesley, died and the Hon. John Wrottesley succeeded to the title, becoming the 2nd Baron Wrottesley. In April he was elected a Fellow of the Royal Society, a body of which he became President in 1854, and on whose Council he served until his death in 1867<sup>4</sup>.

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In November 1854 he succeeded the 3rd Earl of Rosse, as President of the Royal Society, a position he held until he resigned in 1857. In 1860 he was elected President of the British Association for the Advancement of Science (B.A.A.S), succeeding The Prince Consort. He had always been active in promoting scientific matters to government, and for 16 years was the Chairman, and most active member, of the Parliamentary Committee of the B.A.A.S. He was always keen to promote to the wider public an understanding of science, and was a founder member of the Society for the Diffusion of Useful Knowledge<sup>5</sup>.

After the death of his father, the 2nd Baron returned to Wrottesley Hall, where between 1841 and autumn 1842, he constructed an observatory in the grounds. It was "... on an elevated position, about 500 yards to the N. by W. of the mansion."<sup>6</sup> (location 52° 37' N; 2° 13' W) overlooking the present-day A41 (an old coaching road), which runs north-west from Wolverhampton (Figure 2).



**Figure 2**

**View from the A41 looking south-east towards the site of the Wrottesley Hall observatory**

The observatory site is in the grove at the position arrowed.  
Photograph by the author in September 2006.

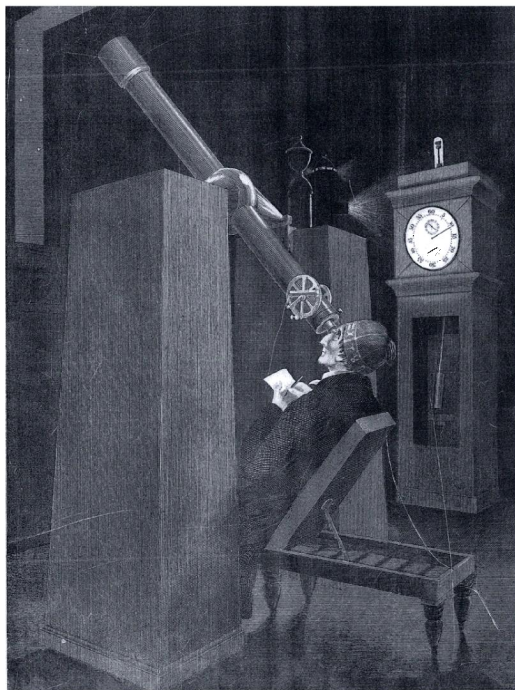
Some instruments were transferred from Wrottesley's Blackheath observatory; others were newly acquired. Three main instruments known to have been in the Wrottesley Hall observatory are<sup>7</sup>:

1. A 3¾-inch transit telescope of 62 inches focal length (focal ratio (f) 16.6) made by Thomas Jones of Charing Cross, London in 1831, which had been transferred from the Blackheath observatory.
2. A 7¾-inch achromatic equatorial refractor having a focal length of 129 inches (f 16.6). The flint glass was "... by Guinand."<sup>8</sup> The elder George Dollond (1774-1852) supplied the crown glass, and also "... gave the curves to the glasses ..." <sup>9</sup>.

3. The 'Lee Circle', which was loaned by the R.A.S. in 1842, and installed in 1843. This altazimuth transit circle was made by Edward Troughton (1753-1852), mathematical instrument maker, of London in 1793. It had a 2-inch objective lens with a focal length of 30 inches (f 15.0). The circles were 24 inches in diameter. The instrument had been donated to the R.A.S. in 1828, becoming instrument No. 17. It had been installed first at the Bedford (England) observatory of William Henry Smyth (1788-1865), then at the observatory of Dr John Lee (1783-1866) at Hartwell House, near Aylesbury, England.

At the time of writing, we have not located images of the Wrottesley Hall observatory or of its transit and equatorial telescopes. However, we may deduce the appearance of the instruments from information available about other observatories.

The transit instrument was probably very similar to that commissioned by Smyth for Lee's observatory (Figure 3). They have very similar specifications, and both were constructed by Thomas Jones of Charing Cross, in successive years: Wrottesley's in 1831; Lee's in 1832.



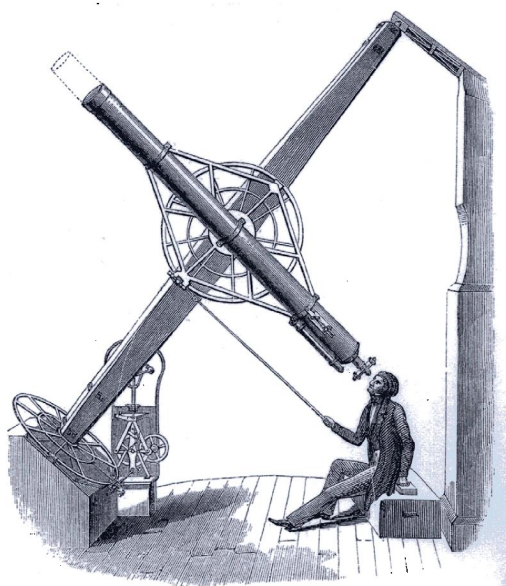
**Figure 3**

**Dr Lee using his transit instrument in his Hartwell Observatory**

This transit instrument was built by Thomas Jones in 1832.  
For the source of image see Note 10.



The equatorial telescope was mounted in the ‘English’ style by George Dollond, who made three similar mounts: for Smyth (Figure 4), for the Regent’s Park Observatory of George Bishop (1785-1861) and for Lord Wrottesley. Smyth states<sup>11</sup> that the hour and declination circles of all three were “... cast from the same moulds which were cut for me; ...” However, Wrottesley states<sup>12</sup> that he purchased the telescope and the equatorial piers from a Mr Beaumont of Finningley, Yorkshire, which may mean that Dollond originally made the mount for Beaumont. This possibility is still being investigated.



**Figure 4**

**The Dollond equatorial mounting for W. H. Smyth's Bedford Observatory**

Image is from Reference 13, Page 338.

In the early days of the Wrottesley Hall observatory, Lord Wrottesley's observer was Mr Richard Philpott (dates not known). Census information from the 1850s indicates that he and another member of Lord Wrottesley's staff, possibly Mr Frederic Morton, his “... second assistant ...”<sup>14</sup> resided in the observer's quarters at the observatory. Work on positional astronomy continued at the new observatory, resulting in 1851 in a report of attempts to measure stellar parallax using measures of double stars<sup>15</sup>; in a catalogue of the Right Ascensions of 1009 stars in 1854<sup>16</sup>; and in 1861, a study of 398 double stars<sup>16</sup>. The latter was to be Lord Wrottesley's final major work. He died at Wrottesley Hall on 27 October 1667.

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In the later part of the 19th century, the Wrottesley Park observer was Joseph Hough, M.A. (1838-1924), who came to the Staffordshire area having previously been a master at Burnley Grammar School in Lancashire. He married a local girl and settled at Park House in Codsall Wood. Park House had an Annexe that served as a school-room. It was here that children from nearby Wrottesley and Chillington Halls would tend to be sent to be tutored by Hough, who thus fulfilled a dual rôle - school-master and observer.

In the early 20th century, the observatory was no longer operational, but Hough continued to look after it on a ‘caretaker’ basis. He died in 1924 at the age of 86. Whilst at Codsall Wood he had always been an active member of the small mission church of Saint Peter's, where a memorial to him in the form of a stained-glass window that depicts the three wise men, said to have been astronomers.

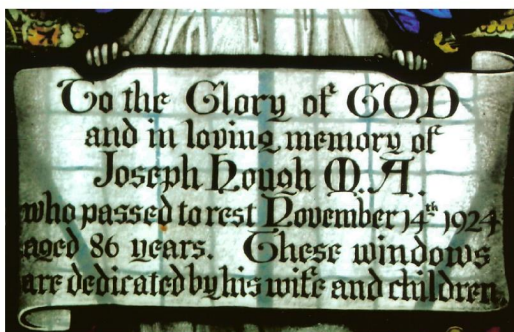


**Figure 5**

**Memorial window to Hough in St Peter's church, Codsall Wood, Staffordshire**

The lower image is a detail of the dedication seen at the foot of the middle light.

Photographs by the author, September 2006



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The 2nd Baron Wrottesley also held the title of Lord of the Manor of Sedgley, a few miles away in the Black Country. It seems that he might have maintained astronomical interests there, as well as at Wrottesley Hall. On Sedgley Beacon, at 247 metres above sea level the highest point in the area, stands a ‘folly’ known as Beacon Tower (Figure 6). It is said that the present structure is the result of rebuilding by Lord Wrottesley in 1846. He is said to have used the tower subsequently for the purpose of astronomical observation<sup>17, 18</sup>. Some dispute this claim, but it is possibly true. From the top of the tower there is certainly a commanding and a totally unobstructed view. The tower is now in need of significant and costly restoration work, particularly internally.



**Figure 6**

**Sedgley Beacon Tower from the north-west**

Photograph by the author, September 2006.

The current state of the Wrottesley Hall observatory can be gleaned from Figures 7 and 9. All parts of the original structure shown in the plan (Figure 8) can be seen and identified, though they are in a ruined state and overgrown with vegetation. In places the walls still stand to a height of about 1 metre. Some of the bricks and the stone facing from the walls is still on the site, but it is known that much has been removed.

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The most impressive part of the structure still standing is the two massive pillars, in the location of the transit room. These presumably were used to mount the transit instrument. Notice that the west pier is now shorter than the east one. This is because these piers are not monolithic, as were those at Hartwell Observatory, but comprise stone components cemented together. At least one component of the west pier is still on site.



**Figure 7**

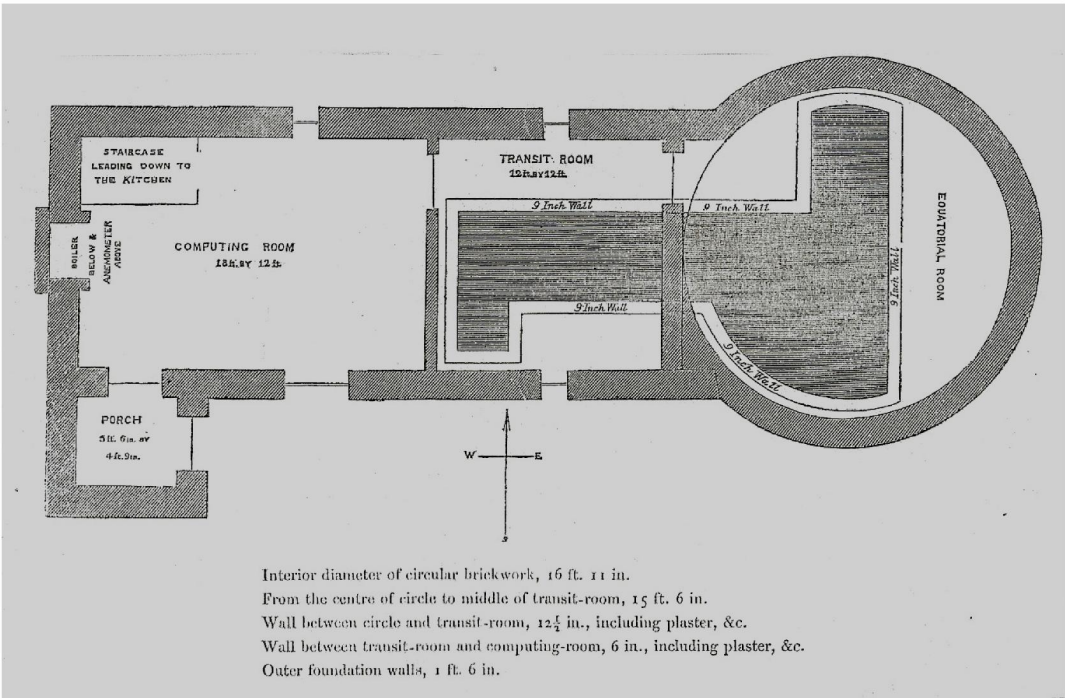
**The remains of the transit piers at the site of the Wrottesley Hall observatory**

The upper image shows the piers from the east; the lower image is from the north. Notice the damage to the east pier, and the height difference between the two piers. In the background of the upper image can be seen part of the track on which the dome rotated (see also Figure 9).

Upper photograph taken by Mr D.J. Holden, September 2006, and published with his permission. Lower photograph by the author, September 2006.

In the area of the former equatorial room can be seen the remains of the track on which the dome turned (Figure 9). It is complete, but much rusted. Also obvious are the remains of what could have been the north pier of the equatorial telescope. This is hard to confirm. So far, examination of the site has had to be limited to a broad over-view because it is not possible to enter the ruins in the comfort and safety necessary to conduct a proper archaeological examination. This will be undertaken in due course.





**Figure 8**  
**Plan of the Wrottesley Hall Observatory**

The source of this image is given in Note 6.  
By courtesy of the Royal Astronomical Society.



**Figure 9**  
**A view from the south-east of the equatorial  
room area of the Wrottesley Hall Observatory**

Photograph by the author, September 2006.

The floors of the computing room, the transit room and the equatorial room have disappeared, so parts of the observatory are many feet below present ground level.

The site of the Wrottesley Hall observatory is now in the care of the Pendrell Hall Observatories Group, which is based a short distance away, at Pendrell Hall in Codsall Wood (location 52° 38' N; 2° 13' W). The site is not only in a ruined state,

but also considerably overgrown. However, conditions have been improved, such that those inspecting the site can now walk freely around it. The prospect of re-building the observatory is considered to be out of the question, both now and in the foreseeable future. In the meantime, the fact that the site is now cared for of a group of enthusiasts, who have its well-being at heart, ensure that not only will its deterioration be minimised, but its story, and that of the 2nd Baron Wrottesley, will become more widely known.

**Acknowledgements**

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**Notes and References**

1. For more detail see the obituary notice of Lord Wrottesley. E.W.B. John, Second Baron Wrottesley. *Monthly Notices of the Royal Astronomical Society*. 1868, 28, 64-68.
2. J.L.E. Dreyer, M.A., Ph.D., D.Sc. and H.H. Turner, M.A., D.Sc., D.C.L., F.R.S. Editors. *History of the Royal Astronomical Society 1820-1920*. London: Royal Astronomical Society. 1923.

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3. Lord Wrottesley. A catalogue of the Right Ascension of 1318 stars in the Astronomical Society's catalogue, being chiefly those of 6th and 7th magnitudes. *Memoirs of the Royal Astronomical Society*. 1838. X. 157-234.
4. See Reference 1.
5. Layton, David. Lord Wrottesley F.R.S., pioneer statesman of science. *Notes and Records of the Royal Society*. 1986, 23 (2), 231-246.
6. Lord Wrottesley. A Catalogue of the Right Ascension of 1009 stars contained in the catalogue of the British Association. *Monthly Notices of the Royal Astronomical Society*. 1854. XIV (3), 69-74. Page 69. The catalogue was published in full in: Lord Wrottesley. A Catalogue of the Right Ascension of 1009 stars contained in the catalogue of the British Association for the Advancement of Science, being chiefly those of the 6th and 7th magnitudes. *Memoirs of the Royal Astronomical Society*. 1854, XXIII, 1-32. The plan of the Wrottesley Hall Observatory shown in Figure 8 above is on page 2 of this second publication.
7. Lord Wrottesley. Reference 6. Pages 69 and 70.
8. Lord Wrottesley. Reference 6. Page 69.
9. This assumed to be H. Guinand, son of Peter Louis Guinand (1784-1824), who was then working in France.
10. Captain W. H. Smyth, R.N., K.S.F., D.C.L., F.R.S. &c. *Aedes Hartwellianae, or Notices of the Manor and mansion of Hartwell*. London: Printed for private circulation by John Bowyer Nicols and Son, Parliament Street. MDCCCLI. Plate XI, facing Page 231. Much of the astronomical content of this book, including the engraving of the transit room of the Hartwell Observatory, is also included in a later book by Smyth: Vice-Admiral W.H. Smyth, K.S.F., D.C.L., F.R.S., F.R.A.S. etc. *The Cycle of Celestial Objects Continued at the Hartwell Observatory to 1859. With a notice of recent discoveries, including details from the 'Aedes Hartwellianae'* London: Printed for private circulation by John Bowyer Nicols and Sons, Parliament Street. M.D.CCC.LX. This book is commonly known by the only words present on its spine - *Speculum Hartwellianum*. It is frequently confused with the 1851 publication.
11. W.H. Smyth. Reference 10. Page 244.
12. Lord Wrottesley. Reference 6. Page 69.
13. Smyth, Captain W. H. *A Cycle of Celestial Objects, for the use of naval, military, and private astronomers*. London: John W. Parker, West Strand. 1844. 2 volumes.
14. Lord Wrottesley. Reference 6. Page 72.
15. Lord Wrottesley. On the Results of Periodical Observations of the Positions and Distances of Nineteen of the Stars in Sir John Herschel's Lists of Stars, Favourably Situated for the Investigation of Parallax, Contained in Part III. Of the Philosophical Transactions for 1826, and Part I. 1827. *Philosophical Transactions of the Royal Society of London*. 1851, 141, 333-356.
16. Lord Wrottesley. A Catalogue of the position and distances of 398 double stars. *Memoirs of the Royal Astronomical Society*. 1861, XXIX, 85-168.
17. Green, D. Beacon Tower, Sedgley. *West Midlands Follies*. Issue 58 Summer 2004.
18. [www.sedgleylocalhistory.org.uk/Etshl/beacon](http://www.sedgleylocalhistory.org.uk/Etshl/beacon). Accessed November 2006.

