

The Turret Clock in the Garage found at Barton Hall  
was built by Whitehurst, & formerly was in use as the  
main clock at West Prison in Kinner Street.

DERBYSHIRE CLOCKMAKERS BEFORE 1850.

## *The Whitehurst Family.*

BY

W. DOUGLAS WHITE.

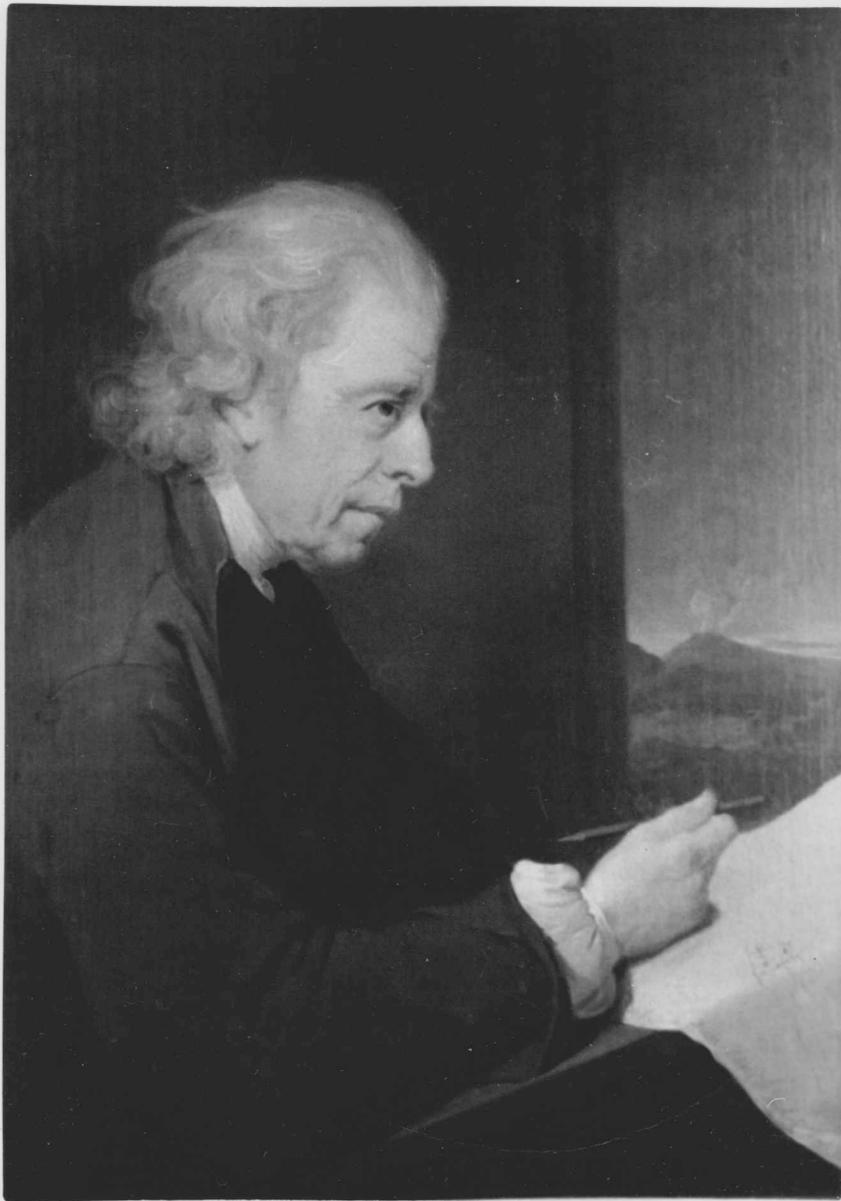
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DERBYSHIRE CLOCKMAKERS

BEFORE 1850

(March 1958)

by W. Douglas White



JOHN WHITEHURST, F.R.S.

1713 - 1788

Painted by Joseph Wright, A.R.A. ('Wright of Derby')

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## DERBYSHIRE CLOCKMAKERS BEFORE 1850

### The Whitehurst Family

by W. Douglas White

At least 60 watch and clockmakers are recorded as practising their craft in Derbyshire before 1850. Of this number probably not more than 25 were capable of making a clock: the remainder being dealers and repairers, who bought movements and added their own name before selling. This is well illustrated by an advertisement in the Derby Mercury for Feb. 23rd 1738. "Charles Mellor employs the best hands in making gold and silver watches, and any county watchmaker may be furnished with new watches with any name upon them, as cheap as in London. "

The manufacture of clocks on any considerable scale was confined in our county to the towns of Ashbourne and Derby and began in the former town c.1740 by the Harlow family. It soon became an important local industry, but towards the close of the 19th century, the craft died out. Samuel Boulton Harlow of Ashbourne, published in 1813 "The Clockmakers Guide to Practical Clockwork". This was one of the first attempts to standardise clock parts.

By and large, clockmaking in Derbyshire before 1850 is remembered by the name, "Whitehurst", the family which established the craft in Derby in 1736, and whose name soon became numbered among leading English makers. So far as I am aware this paper is the first attempt to tell the story of this remarkable family.

Towards the end of the 17th century, a clockmaker named John Whitehurst was in business at Congleton, Cheshire. He had three sons, George who settled at Repton, James who worked with his father, and John, born April 10th 1713, who founded the business in Derby. A contemporary account of this man is the Memoir published in the Universal Magazine for Nov. 1788 (the year of his death). Unfortunately for the would be local historian, his business activities are summed up in these words "His great reputation as a clockmaker has been so long and so universally established that the mention of it is superfluous". This is not very informative !

William Hutton's History of Derby in mentioning eminent men uses this memoir, but adds a personal recollection, "I saw him at Buxton in 1785 and wished his acquaintance. He was near six feet high, straight, thin, and wore his own dark-grey bushy hair; he was plain in his dress, and had much the appearance of a respectable farmer." His portrait by Joseph Wright A.R.A. ("Wright of Derby") confirms Hutton's description. The artist has placed in Whitehurst's hand a sheet of paper on which is depicted "Section of the Strata of High Tor". In the distance is a view of Vesuvius in eruption.

Wright had recently returned from Italy, and while in that country he corresponded regularly with his friends in Derby. A paragraph in one letter runs, "Remember me with respect to all my friends: when you see

Whitehurst tell him I wished for his company on Mount Vesuvius, his thoughts would have centered in the bowels of the mountain, mine skimmed over the surface only. There was a considerable eruption at the time of which I am going to make a picture".

John had little formal education, but an enquiring mind was fostered by his father. As a youth he was excited by the rock structure of N.W. Derbyshire. At the age of 21 he visited Dublin to find out the secret of a curious clock in that city. He was disappointed at first in his quest as the owner kept it locked up in his lodging. John obtained rooms in the same house and eventually by stealth gained the secret. There is no evidence he made use of the knowledge, indeed the story is possibly apocryphal, and a re-hash of John Lombe's discovery of silk spinning.

In 1736 John set up as clockmaker at 22 Irongate, the old gabled premises now occupied by Messrs. Haslam. Not being a burgess he was embarrassed in his attempts to trade in the town, but gained his freedom by making a clock for the newly-erected Town Hall. This clock is shown in Money Penny's engraving (Hutton's History) in the centre of the pediment. It was probably a timepiece only as there does not appear to be room for striking work. This movement disappeared in 1825 when the building was pulled down.

On January 9th 1745 he married the daughter of Rev. J. Gretton, Rector of Trusley and Dalbury. Their only child died in infancy.

John soon made a name in the Midlands as a first class maker of turret and other clocks. Many were supplied to churches and country houses including Clumber Park to the order of the Duke of Newcastle. We shall see later on how this clock was destined to alter his future life.

The Clumber Clock is still working and has a bi-metal temperature compensation of his own design.

He is often credited with making a clock for All Saints (now the Cathedral) where he was churchwarden 1761-2, but evidence of this is lacking in the Cathedral registers:- Item 1731 "Ordered that George Ashmore shall be paid the sum of 8 pounds 8 shillings ..... for the new clock which he lately put up in All Saints' steeple". This clock proved troublesome and John was called in to repair it. He replaced a wheel and on it engraved J. Whitehurst, Derby 1745". He also set new tunes to the old carillon machine in 1745 and again in 1762. In 1747 he was paid £2 - 10 - 0d for annual maintenance of clock. 1754 he received £3 - 3 - 0d per annum for winding and care of clock but out of this had to pay £1 - 11 - 6 to Mr. Frost who wound the chimes.

In his turret clocks he fitted pendulums of both seconds and longer intervals. All pendulums had lenticular bobs.

The majority of the escapements were "recoil" but beautifully made and closely fitted. His best clocks were "dead-beat" of the pin-wheel type, the invention of the pin-wheel is often ascribed to him, but the actual originator was the Frenchman "Amant". However, John Whitehurst was one of the first makers to adopt it for large public clocks.

He did not protect any of his innovations and no patent application for clocks is filed at the Patent's Office under the name Whitehurst.

He invented a tell-tale clock which was widely used in mills to check the night watchman. The system was adopted by the Derby police and was in use as late as 1860. These clocks have narrow oak cases and both 12 and 24 hour rotating dials were fitted. A protruding peg, placed at

each half hour interval, passed under a plunger, which when depressed drove in the peg and so recorded the watchman's vigilance. The pegs were automatically returned to their normal position at a later hour. With a set of these clocks, a finely made 3 train 8 day ting tang  $\frac{1}{4}$  clock was installed to regulate them by.

He also put on the market a clockwork egg-timer with unsprung verge escapement. The principle employed anticipated the modern mechanical egg-timer.

There is an interesting wind-dial by this maker on the staircase of Darley Abbey Mansion. This was driven by rods and bevel gears from a wind vane placed on the roof (gears now missing) and the dial merely showed the direction of wind. He also made in 1762 the sundial in Morley churchyard. This is set for latitude  $53^{\circ}$ .

In 1762 and again in 1775 James Ferguson, F.R.S., the astronomer, and instrument maker, visited Derbyshire, lecturing in various towns including Derby. It was during the first of these tours that Whitehurst became acquainted with Ferguson, the two men corresponded regularly until the latter's death in 1776.

About the year 1925 I was loaned a portfolio of correspondence between Whitehurst and Ferguson; these letters dealt with mechanical and philosophical questions and private matters. Also included were 20 or so beautifully executed coloured drawings of clock parts, such as escapements, complicated astronomical movements and perpetual calendars. All drawings were signed "J. Whitehurst". The collection was the property of the late Frank Woore, antiquarian bookseller, who subsequently sold it

to America. It has not been possible to trace its present whereabouts. The drawings were somewhat puzzling at the time as no complicated movements by Whitehurst were then known. However, the Horological Journal for May 1957 illustrated a very fine bracket clock, signed "Whitehurst Derby" with 24 hour dial, calendar work, and surmounted by a terrestrial globe with certain celestial motions. I have not yet had an opportunity to examine this clock but from the brief details supplied by the owner it can be safely dated 18th century. The terrestrial globe is signed M. Hill who was a London instrument maker 1750. The arrangement of this movement strongly suggests collaboration between Whitehurst and Ferguson.

Benjamin Franklin visited Whitehurst in Derby in 1774. In 1775, the Government created the office of "Stamper of Money Weights" to secure the standard of the gold coinage.

The Duke of Newcastle, evidently impressed by the clock supplied to Clumber Park recommended Whitehurst for the post and John left Derby for London, taking rooms at 4 Bolt Court, Fleet Street, the house in which Ferguson died and in which Dr. Johnson had lived.

Many county clockmakers left their home towns and went to London, which offered better opportunities for the practise of their craft, but when Whitehurst settled in London he forsook his clocks for the philosophical speculations then fashionable.

He published 1778 "Inquiry into the Original State and Formation of the Earth, to which is added an Appendix on the Strata in Derbyshire". This prosy effort saw 3 editions. His most ambitious work of this period was "An Attempt towards Invariable Measures of Length, Capacity and

Weight from the Mensuration of Time". For these experiments he constructed a pendulum said to have cost him "upwards of £20" and for a standard clock to regulate his pendulum he borrowed "Mr. Dutton's Regulator. This would be Matthew Dutton who then lived a few doors away from Whitehurst.

He made "Observations on the Ventilating of Rooms". This system was applied under his direction to the wards of St. Thomas' Hospital. He applied his mind to "Garden Stoves" which was tried out at Kedleston for growing pines. The Duke of Northumberland employed Whitehurst to heat the glasshouses at Syon House.

"The Cure of Smoaky Chimneys" occupied his attention and for his experiments used a fireplace which consumed 2 cwts of coal in 12 hours ! Hutton's History facetiously remarks "Smoaky Chimnies: an evil under which half the world groans. And which every petty builder can cure, but still the evil remains, if it should ever be removed, it must be by a Whitehurst".

In 1779 he was admitted "Fellow of the Royal Society" in which he took an active part until his death.

During the summer of 1783 he visited Giant's Causeway and while there erected an engine for raising water from a well to the summit of a hill in a bleaching ground in County Tyrone.

John Whitehurst died Feb. 18th 1788 at his house in Bolt Court and was buried in St. Andrew's burying ground in Gray's Inn Lane, where Mrs. Whitehurst had been interred Nov. 1784. He bequeathed the greater part of his property and his small estate at Congleton to his nephew and executor John.

His Memoir (Universal Magazine 1788) concluded "His moral qualities were perfection and never did he deviate from the truth".

It is now necessary for us to return to Derby and find out how the business of clockmaking was carried on in the founder's absence. Exactly what happened can only be surmised. John (2nd) nephew and heir of John (1st) was born in 1761 and therefore would be 14 years old when his uncle left Derby. The answer to this problem may be that James, father of John (2nd) left Congleton and came to Derby, and directed the business until his son came of age. James was married and died at Derby.

The firm of Whitehurst continued to prosper and John (2nd) married Jane Howard in 1785 by whom he had three children, William, B.A., who became a clergyman, John born Feb. 3rd 1788 who became the third generation of Whitehursts as clockmakers, and Charles Howard Q.C. The family was now well established. The output of the firm increased and many clocks in churches and country houses date from this period. Fine quality domestic clocks were made although many were housed in unworthy cases. The main wheel of Clumber Park clock was replaced by John (2nd) and is inscribed on the arms "This part made by J. Whitehurst Dec.25 1806". A Masonic emblem is included. In the Mayor's Parlour at Derby is a good Regulator clock of one month's duration, probably made at this time and bearing the following inscription "This clock was J. Whitehurst's clock that he regulated all other clocks by. It was bought at a sale of Mr. Roskills his successor, by Joseph Hall for £4. 10. 0 - John Smith Derby 1844".

Early in the 19th century the firm's title was changed to Whitehurst and Son, John (2nd) having taken into partnership his son John (3rd).

The address was still 22 Irongate when John (2nd) died Oct. 16th 1834. He was buried in a vault in All Saints'. The title was again altered to J. Whitehurst.

In 1843 the business was moved to 1 Cherry Street. This street was demolished when the Gt. Northern Railway came through the town, but part of Whitehurst's premises may still be seen in Messrs. Brown's yard in Lodge Lane.

Clocks were now being supplied to the trade in some quantity and many movements bearing another name than Whitehurst's originated in Cherry Street.

Other things besides clocks were made: the following advertisement is worth quoting in full :-

" John Whitehurst,  
No. 1 Cherry Street,  
Derby.

Manufacturers of Church, Turret, House and Cottage clocks. Alarums, etc., gold and silver watches of every description; self-illuminating and extinguishing dials for church clocks and other public buildings: sun, wind, and miners' dials; weather vanes; spirit levels, barometers, thermometers, philosophical & mathematical instruments: and improved roasting jacks, with single and double spits, church turret, and dinner bells, or old bells recast; brassfounder, etc. Original manufacturer of the Watchman's clock, for protection from fire and robbery; these clocks are extensively used in London, Manchester, Liverpool, and most of the large towns in the United Kingdom, in the establishments of many noblemen and gentlemen, in Mills, Manufactories, wharfs, docks, etc. The nightly watchmen of the town of Derby are regulated by these clocks, upon the Derby system, particulars of which may be known at the Manufactory."

In the year 1844, Parliament decided to provide a clock for the newly erected Houses of Parliament, and Barry, the architect, asked his friend B. J. Vulliamy, Queen's Clockmaker, to prepare drawings. E. J. Dent, a

celebrated clockmaker, appealed to the commissioners to allow him to compete. A heated discussion took place in Parliament and an open competition was decided upon. The Astronomer Royal drew up the specification which staggered the horological trade. - "the first stroke of each hour to be correct within one second, and the clock to telegraph its performance twice each day to Greenwich". The trade said the standard was impossible in a public clock. Only two firms could be induced to tender, viz: Dent of London and Whitehurst of Derby, and Whitehurst's design was declared the better of the two, but the order was not placed immediately and during the delay an amateur horologist and barrister, E.J. Dennison Q.C., afterwards Lord Grimthorpe, perfected the gravity escapement and designed the clock we now call "Big Ben".

John 3rd died Sept. 21st 1855 before Dennison's design was completed. There was, therefore, no competition for the making of the clock and Dent was given the job.

John 3rd married Ann Mansfield in 1828 and had one child William, who became a tobacconist in St. James' Lane. There was now (1855) no Whitehurst to carry the tradition and the following notice appears in a directory of 1858. "The business and goodwill of the late Mr. John Whitehurst was purchased by William Roskell ... of Liverpool. It will be under the personal supervision of Mr. Hind who was 25 years with the late Mr. Whitehurst."

The business did not succeed under Roskell and was soon wound up but the making of clocks from Whitehurst patterns continued for some years by former employees.

Happily the tradition created by the three Whitehursts is still very alive as my final paragraph shows.

The foreman at the Cherry Street Works was James Woodward and an apprentice named John Smith did not get on well with him, resulting in the latter setting up in business on his own in 1856, so founding the present Derby firm of John Smith & Sons. Building on the sure foundation laid by the Whitehursts, they enjoy a world-wide reputation for public clocks which today are made under the direction of the third generation of the Smith family. In 1893 this firm made and installed the clock in St. Paul's Cathedral, London.

This story of a notable Derby family has been made possible and very pleasant by the interest and help of many friends including Mr. J. E. Howard Smith who kindly placed his firm's Whitehurst file at my disposal and who showed such patience with my quest for information. Also Mr. F. H. Pratt of Friargate, Derby, whose knowledge of old clockmakers has been invaluable, the Librarian and Staff of Derby Reference Library and the Curator of Derby Art Gallery.

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Portrait of John Whitehurst F.R.S. by "Wright of Derby"  
(Joseph Wright A.R.A.)

This hangs in the office of John Smith & Sons, Queen Street.