

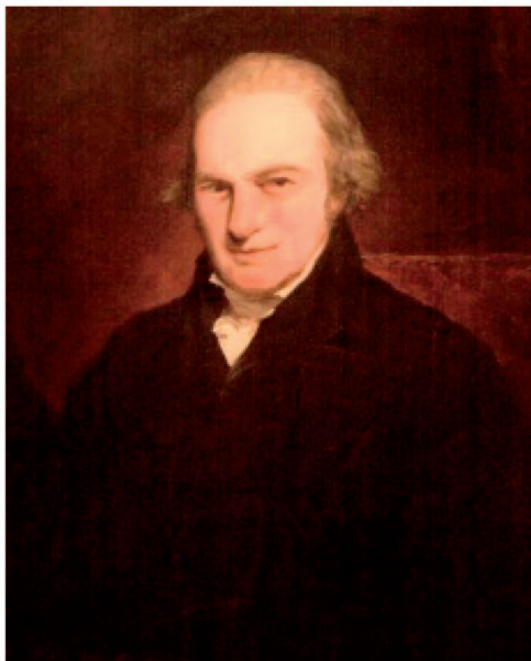
## John Haygarth FRS (1740–1827)

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### Early life

Dr John Haygarth was born in Garsdale, the beautiful valley of the River Clough, in 1740. It was then in northwest Yorkshire and formed part of the bishopric of Chester. His family lived at an old mullion-windowed farmhouse called Swarthgill, and the initials I.H.I. 1712 on a stone above the porch, also carved on the doors of two spice cupboards within, refer to John and Isobell Haygarth, his grandparents. His father William (1709–1774) had married Magdalen Metcalfe in 1737. Sadly she died, probably of puerperal fever, soon after the birth of their only son. His father married again, however, in 1748 and he moved with his new wife to a house nearby called Badgerdub, where he had seven more children. John was probably brought up by his grandparents at the family home.

John Haygarth received his early education at nearby Sedbergh School, where he would have learnt

the classical tongues necessary for a career in medicine. During the summer of 1756, he was also taught mathematics by a remarkable rural genius, John Dawson, a local surgeon who was entirely self-taught and who during the summer months accepted students from Cambridge University, at least 11 of whom graduated with first class honours in mathematics. Haygarth always kept in touch with his highly respected tutor, and statistical data prepared by Dawson formed part of his later writings. Sedbergh School has always had close links with St John's College, Cambridge, and so it was natural that he went on to that College as Hephlethwaite Scholar in 1759.

After three years, Haygarth decided to complete his medical education at Edinburgh, which was then rapidly taking over from Leyden as a place of pilgrimage for young students. He studied in Edinburgh for three years, being greatly influenced by the leading physician of the Edinburgh school, William Cullen, particularly by his teaching on fevers. Haygarth also made important friendships with contemporaries such as William Falconer<sup>1</sup> of Chester, Thomas Percival<sup>2,3</sup> from Unitarian Warrington, and the Virginian Arthur Lee, later to be a figure of significance in the history of American independence.

With Lee and John Berkenhout, a fellow Yorkshireman from a Dutch family, Haygarth went on to Leyden where, with his two friends, he matriculated in 1765, describing himself proudly as 'Garsdala-Anglicus'. The group must have been greatly helped by Berkenhout's linguistic skills. They went on to Paris, then back to London. Haygarth took no degree from either Edinburgh or Leyden, preferring instead to graduate M.B. at Cambridge in 1766.

### Chester

In 1767, Haygarth was appointed physician to the Chester Infirmary. He was to remain for over 30 years in Chester. He married Sarah Vere Widdens in 1776 and built a substantial house in Foregate Street, where his six children were born – four daughters between 1776 and 1781, a son, William, in 1784, and another son, John, in 1786.

For a provincial physician, Haygarth seems to have been highly successful. He wrote later of his clinical work that he 'had constantly recorded a full and accurate account of every important symptom, the remedies which were employed, and, when an opportunity offered, the effects that they produced.' He had an extensive practice. Mrs Cecilia Thrale of Streatham, Dr Johnson's favoured literary hostess, recorded her treatment by Haygarth on two occasions.

Haygarth was to be favoured with important medical friendships, many with dissenters, while he was working in Chester. Thomas Percival, his fellow student now in Manchester, author of *Medical Ethics*,<sup>3</sup> shared many of Haygarth's philanthropic ideals. He founded the Manchester Literary and Philosophical Society, to the proceedings of which Haygarth contributed. James Currie of Liverpool, a Unitarian, became a close colleague, their mutual interest in the prevention and treatment of fevers being an important bond. Haygarth was also befriended by the Quaker physician, John Fothergill of London, a fellow dalesman from Wensleydale, who had also been educated at Sedbergh School and had built up a highly successful practice in the capital. During the last 15 years of his life (he died in 1780), Fothergill took a lease on Lea Hall, a substantial Queen Anne house 20 miles from Chester. Here Haygarth had the opportunity of meeting other Quaker physicians, for example John Coakley Lettson<sup>4,5</sup> and Benjamin Waterhouse, first professor of medicine at the College at Cambridge, Massachusetts, which became Harvard.

Throughout his life in Chester, John Haygarth was deeply committed to the prevention and control of infectious fevers. His first investigation was of the 'inhabitants, annual births and deaths relating to the healthiness of the situation'. His work was carried out with the meticulous care, including mathematical analysis, which he brought in later years to all his work. He was able to conclude that the City of Chester was in general healthy, but was concerned about the high mortalities from fever among the poor, living in close, dirty habitations, where fever spread rapidly. His concern for the poor was shared in London by Lettson<sup>4,5</sup> and by his friend Thomas Percival,<sup>2,3</sup> who was familiar with the grinding poverty that accompanied the growth of the City of Manchester. Haygarth's paper was read to the Royal Society in 1777 and published in the *Philosophical Transactions* the following year, when he was elected a Fellow of the Society, his first nominator being William Heberden.

It was his analysis of the diseases of Chester, among which smallpox was a dreaded scourge of

the young, that led Haygarth to propose the formation of 'The Smallpox Society', in Chester, which was duly set up in 1778. He proposed, first, that the technique of inoculation against the smallpox should be promoted on a large scale, and that it should also be accompanied by 'Rules for Prevention'. He stressed that patients should be isolated, that no one who had not had the disease should enter the house of any victim, that no patient should be allowed out after the pocks had appeared, that the utmost attention to cleanliness was absolutely essential, and that everything to do with the patient's illness must be meticulously washed. The results were so striking that Leeds and Liverpool followed Haygarth's example. His book on this episode was *An Inquiry how to prevent the Smallpox*, which was published in 1784.<sup>6,7</sup>

It was at this time that Haygarth persuaded his colleagues to set up separate fever wards in the Chester Infirmary. The fever wards were an immediate success. The transmission of fevers within the hospital was effectively arrested and at the same time fever did not spread elsewhere in the hospital. The Chester experience was the touchstone that led to the formation of fever hospitals in Manchester, Liverpool and later London.

Haygarth's most ambitious project was a proposal to eradicate the 'casual smallpox' from Britain, using inoculation and by following strictly his rules for prevention. His ideas were set out in two volumes dedicated to the King, George III. Although his suggestions might have been effective if applied with legislation and government diktat, as James Currie wrote to tell him from Liverpool, they were too utopian by far and were in any case superseded by Jenner's promotion of vaccination four years later.<sup>8</sup> The use of numeracy was always a feature of Haygarth's work. He even included an analysis of what increase in population might be expected if 30 or 35 thousand individuals would survive over periods of every decade for 60 years. His mathematical teacher, John Dawson of Sedbergh, provided the detailed calculations.

## Bath

Haygarth retired from Chester in 1798 and moved to Bath where he lived at No. 15, the Royal Crescent, newly built by William Wood the Younger. It was within an easy walk from the house in the Circus of his fellow student friend William Falconer, who had worked at the Chester Infirmary with him and who had moved to Bath in 1770, at the suggestion of Dr John Fothergill. It may have been Falconer who prompted Haygarth's removal to Bath. Whatever the reason, his practice in Chester must have been

successful enough to allow him to purchase a house in what remains one of the most favoured parts of Bath.

It was in Bath in 1801 that Haygarth published his *Letter to Dr Percival on the prevention of infectious fevers*,<sup>9</sup> which set out his experiences in Chester. He particularly emphasised his 'Rules for Prevention', which have been followed to this day. Lettsom, writing in London, greatly applauded this publication, writing that 'adequate attention has not been paid to these subjects' (he was referring to the progress of infectious diseases) 'until my learned and humane friend, late of Chester, now of Bath, suggested a plan and carried it into effect in the City of Chester'.

Though no longer in active practice, Haygarth continued to take an active interest in the medicine of the day. He had always intended to analyse the more than 10,000 case studies that he had amassed during his Chester years. He made a beginning with the publication in 1805 of his *Clinical History of Diseases*,<sup>10</sup> concentrating on rheumatic conditions. With his characteristic numerical analysis, he tabulated in 29 columns the data on 170 cases of rheumatic fever and also showed that 'The Nodosity of the Joints (*osteitis deformans*) had affected 34 out of 10,549 patients, an incidence of one in three hundred and ten. It almost always occurred in women.'

His work at this time also included a remarkable clinical trial.<sup>11</sup> Dr Elisha Perkins of Connecticut had introduced the use of metallic 'tractors' for the treatment of a wide range of disorders. The tractors were supposedly made up of certain metals, but their precise composition was a secret. In an attempt to determine the value of the tractors, Haygarth put to his friend William Falconer, now physician to the General Hospital at Bath, the following proposal:

The Tractors have obtained such a high reputation at Bath, even amongst persons of rank and understanding, as to require the particular attention of physicians. Let their merit be impartially investigated, in order to support their fame, if it be well-founded, or to correct the public opinion, if merely formed upon delusion... Prepare a pair of false, exactly to resemble the true Tractors. Let the secret be kept inviolable, not only from the patient but also from any other person. Let the efficacy of both be impartially tried and the reports of the effects produced by the true and false Tractors be fully given in the words of the patients.

The tests were carried out by Dr Falconer at the Bath General Hospital and by Dr Richard Smith at the Bristol Infirmary, according to Haygarth's suggestion. The true and false Tractors appeared to be

equally successful, and similar effects could be obtained with the use of two pieces of bone, of slate pencil and of painted tobacco pipes. Haygarth concluded that the 'Imagination can cause, as well cure, diseases of the body', and he published a detailed account of his effective dismissal of Elisha Perkins' claims in a pamphlet.<sup>11</sup>

In his later years, Haygarth continued his philanthropic interests, writing to Bishop Porteous of London on the state of schools, particularly in the north. He was instrumental in founding the Bath Savings Bank. His old Liverpool friend, Dr James Currie, mortally afflicted with tuberculosis, came to stay with his daughter. He would attend the weekly meetings held in Haygarth's home until his death in 1805. He also entered into the controversy then raging in Philadelphia on whether Yellow Fever was imported into the United States or whether it was due to something native to America. Haygarth argued strongly that the methods that he had employed for controlling the progress of infectious fevers in Britain should be adopted for dealing with what was known as the 'American Pestilence'. In this, we now know that he was mistaken, illustrating the fallacy of attempting a universal syllogism on the basis of a single proposition.

In 1819, following the death of his wife, Haygarth moved to Lambridge House, on the London Road, as it leaves Bath. The next year he must have been saddened to hear of the death of his old mathematical teacher, John Dawson. John Haygarth died in June 1827 in venerable old age. He was 87 years old. He was buried at Swainswick Church, among rolling green hills that must have reminded him of home.

A detailed account of John Haygarth's life is available in literature.<sup>12</sup>

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