

XI

William Hardcastle (1794-1860) of Newcastle upon Tyne, and his pupil John Snow

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INTRODUCTION

During recent research into the early life of John Snow (1813-1858), a famous epidemiologist and anaesthetist¹, information about his teacher William Hardcastle and his family of Newcastle upon Tyne was obtained. This account of William Hardcastle and John Snow provides material for local historians and others who may wish to investigate further the Hardcastles who became a well-known medical family in Newcastle.

EARLY YEARS IN YORK 1794-1815

William Hardcastle was born on 5 January 1794 and christened on 12 January 1794 in St John's Ousebridge, a church on the corner of Micklegate and North Street, York (figure 1). He was the second child of "John Hardcastle, translator [cobbler], and Mary (daughter of Thomas and Anne Todd)." No further material about William was found until he began his medical career as an apprentice to Mr Wm Stephenson Clark, surgeon, in Micklegate, York³. John Hardcastle probably chose Mr Clark for William's teacher because he was a well educated and qualified young apothecary. Having been to York Grammar School, Mr Clark was apprenticed to Alexander Mather of York and completed his medical education in London⁴ qualifying as a Member of the Royal College of Surgeons (MRCS)⁵. He later became a prominent figure in the City as a councillor, Sheriff, and an alderman. In 1840, he was Lord Mayor and was knighted in the same year.⁴ The *Medical Directory* of 1847 lists 'Sir Wm S Clarke, MRCS 1827, LSA 1826.' but both qualifications are incorrect and appear to

have been transcribed from an adjacent entry. He qualified MRCS in 1804⁵ and never became a Licentiate of the Society of Apothecaries (LSA).⁶

William probably joined the practice around 1808 at the age of about 14 years, the usual age at which apprenticeships began in the early nineteenth century. York was then a small city virtually unaffected by the industrial revolution. At the 1801 census 16,846 inhabitants were recorded, the population increasing much more slowly than that of northern industrial towns, to 26,260 in 1831, a rise of only 56%. Few people were employed in manufacturing while most worked in agriculture and associated occupations as well as in service in the houses of the well-to-do.⁷ Although York had declined in commercial importance, it had retained its pre-eminence as an ecclesiastical centre and remained an important regional market town. Its port along the banks of the River Ouse was still active, linking the City by river and canal with Leeds and the West Riding and by sea with other ports in Britain and on the European continent. The chief imports were coal and manufactured goods whereas the principal exports were agricultural products.

Micklegate provided the main route out of the City to the south-west through Micklegate Bar, as it does today. The road was continuous with Briggate, now Bridge Street, which led over the river Ouse bridge to Low Ousegate (figure 1). This bridge was then the only one over the river in the City and must have been close to William's home in the parish of St John's Ousebridge and not far from Mr Clark's practice premises in Micklegate. Rebuilding of the bridge began when William was an apprentice and he may well have witnessed the laying

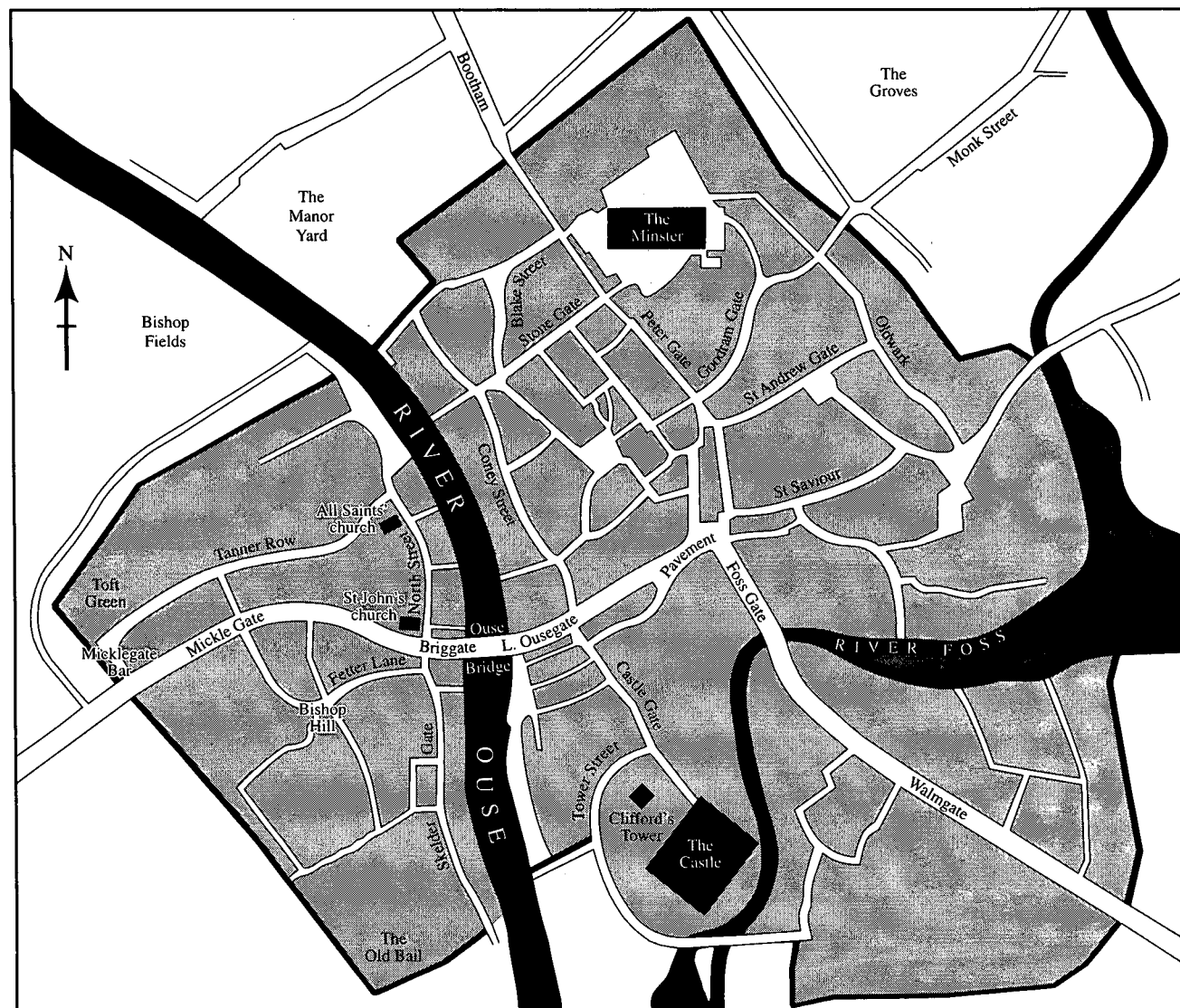


Fig. 1 Plan of the City of York in the early 1800's. Re-drawn and adapted from Hargrove's plan of the City⁸.

of the foundation stone by the Lord Mayor on 10 December 1810⁸. At this time, Micklegate was “undoubtedly the widest and most elegant street in York” containing “many handsome houses; and the situation being elevated, airy, and healthy, it is the residence of many gentlemen.”⁸ Mr Clark probably lived in and practised from one of these handsome houses where William also would have lived and worked as his apprentice.

The practice population probably included people living in the streets alongside the river (figure 1). Skeldergate to the south of Micklegate was “a long narrow disagreeable street” and “when York was a more commercial city was chiefly occupied by merchants, for the purposes of trade”⁸. It seems that many warehouses had closed and some may even have been derelict. They were intermingled with poor dwellings and dismal courts off Skeldergate. For example, Fetter Lane was “a narrow dirty street”⁸. To the north of Micklegate was North Street also a narrow street but containing several good houses as well as warehouses along the river with high walls facing the street.⁸ The northern end of the street was in the parish of All Saint’s where the Snows lived and the southern in the adjoining parish of St John’s where the Hardcastles lived. Hence it is likely that the two families may have been acquainted. John Snow was born here in 1813 during William’s time in the Micklegate practice. If not already known to the Snows, it is possible that William attended the family and may even have been present at John’s birth. William had a particular interest in obstetrics, later becoming an obstetrician (accoucheur) in Newcastle and John’s birth may have been difficult since he was baptised on his day of birth. Happily John survived and was about two years old when William completed his apprenticeship.

WILLIAM HARDCASTLE IN NEWCASTLE UPON TYNE 1815-1827

William Hardcastle would have known that York was already well supplied with medical men and that it would be difficult to set up

a new practice on his own as well as expensive to buy a practice in the City. In contrast, Newcastle must have seemed an attractive town at the centre of the coal and iron industries with a larger and rapidly increasing population which rose from 28,294 in 1801 to 53,613 in 1831. It was probably for these reasons that William became assistant to a Mr Whitfield Burnett of Newgate Street, Newcastle, who also held one of the much sought-after colliery appointments as mining doctor at Killingworth Colliery, about five miles north-east of Newcastle.

Around the same time as William joined Mr Burnett the first legislation to regulate medical practice was introduced. This was the Apothecaries Act of 1815 requiring students to undergo formal training comprising apprenticeship to an established practitioner for at least 5 years, a period of hospital training and attendance at prescribed courses of lectures. On completion of this programme the student was permitted to sit the examination for a licence to practice. Successful candidates were granted the qualification LSA. Many also sat the examination for MRCS.⁹ Apothecaries who were principals in practice before 1815 were exempted from licensing and were known as “pre-1815” medical men. Those in training or working as assistants, however, were required to fulfil the new training requirements and sit the LSA examination. Hence, William later completed this training, attending the Marylebone Dispensary in London for six months. He qualified LSA on 13th November 1817³ and MRCS on 1st May 1818.¹⁰

Soon after becoming MRCS, William placed a notice in the local press in Newcastle which reads, “WILLIAM HARDCASTLE (Three years assistant to the late Mr Whitfield Burnett) Member of the Royal College of Surgeons and Licentiate of the Society of Apothecaries in London, RESPECTFULLY intimates to his friends and the public in Newcastle and its vicinity, that he has REMOVED from Newgate Street, to the House of the late Mr Surgeon, Westgate Street [Renamed Westgate Road in 1873] where he will practise as surgeon, Apothecary, and Accoucheur. May

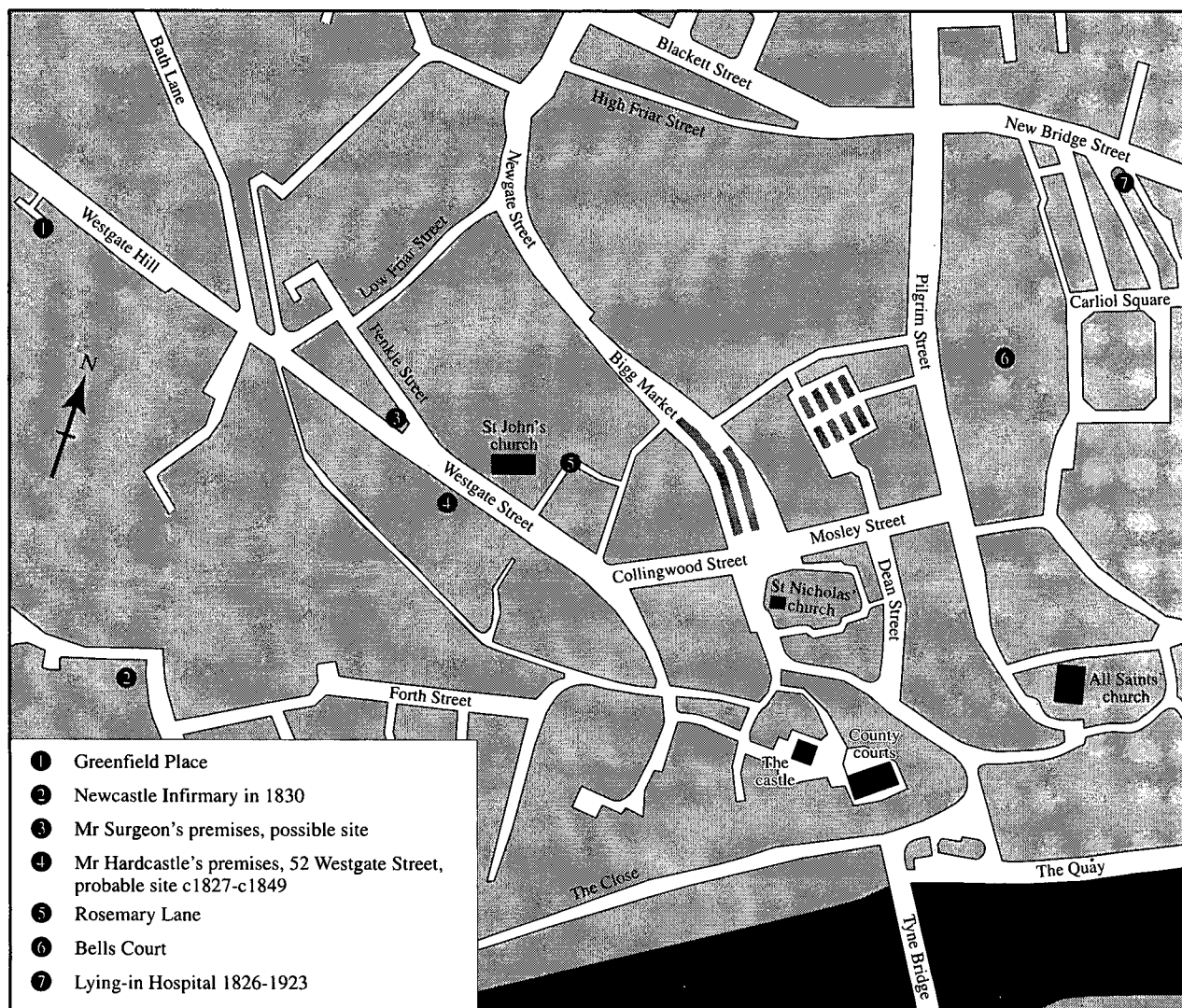


Fig. 2 Plan of Newcastle upon Tyne in 1831. Re-drawn and adapted from Thomas Oliver's Plan of the Town and County of Newcastle upon Tyne, 1831. By courtesy of the Newcastle City Libraries and Information Service.

11, 1818.”¹¹ It seems that William must have settled in Newcastle in 1815 when he would have been aged 21 years. Three years later, it appears that Mr Whitfield Burnett had died and that William had taken on the practice, moving to the premises of the late Mr Surgeon in Westgate Street. This was preferable to Newgate Street since it was a better class area, recently enhanced by the re-development of central Newcastle where many improvements had taken place in the late eighteenth and the early nineteenth centuries, several new streets having been constructed and old streets widened: in 1810, for example Collingwood Street was opened, linking Pilgrim Street via Mosley Street with Westgate Street, lined by new shops “of an attractively appointed type with display windows, generally considered by visitors to be as excellent as any outside London”¹² (figure 2).

By the early 1820s, William had been appointed a surgeon-apothecary to the Lying-in Hospital in Rosemary Lane close to his practice premises. He is recorded as one of three surgeons to the hospital, as well as secretary, on the occasion of the laying of the foundation stone of the new hospital in New Bridge Street on 23 June 1825¹³; it opened in October of the following year. New Bridge Street was another fine modern street which had opened in 1812. Nothing remains of the Rosemary Lane hospital though the shell of the New Bridge Street building still exists, being incorporated within the modern premises of the Newcastle Building Society. A surviving medical report book gives details of some of the patients under William’s care during January 1825, for example “Margaret Woodward aged 27 admitted the evening of this day into the hospital, has some discharge of water ... At six this morning the 15th awoke with severe labour pains; and safely delivered at eight after an easy natural labour, this being her fifth child and third delivery in this hospital. ... Mrs Jeffreys [the Matron] became alarmed on account of severe pain in the lower part of the thorax. I was immediately sent for and found her labouring under pleuritis ... 23rd Patient expired this morning at six o’clock. [the post-

mortem findings showed that death was probably due to pneumonia] Signed William Hardcastle. Dr Smith, Mr Greenhow, Mr Frost, and myself were present.”¹⁴ The surgeon-apothecaries to the hospital were on-call in pairs for periods of three months at a time. William was clearly hard-working in these duties as well as assiduous in his attendance at hospital committee meetings, rarely missing a meeting.¹⁵ He remained surgeon-apothecary to the hospital for over 25 years until August 1847 when the hospital minutes record the receipt of a letter announcing his resignation.¹⁶ The hospital moved a second time in 1923, to converted buildings at Jubilee Road, off City Road (when it was renamed the Princess Mary Maternity Hospital). It moved again, by 1950, to yet another set of converted buildings, overlooking the Great North Road. In 1993 the hospital moved a fourth time to new purpose-built accommodation at the Royal Victoria Infirmary.¹⁷

William moved his practice premises in Westgate Street sometime before 1827. Pigot’s *Commercial Directory of Ireland, Scotland and northern England* of 1821–23 shows him in Fenkle Street, a road leading into Westgate Street to the west of St John’s Church (figure 2) but in Parson and White’s 1827 *History, Directory and Gazetteer of Durham and Northumberland and the towns of Newcastle and Berwick upon Tweed* he was recorded at 52 Westgate Street. The area was re-developed at the end of the nineteenth century and nothing remains of the original buildings today. Consequently, it was not possible to locate their sites with certainty. William’s original premises, acquired from Mr Surgeon, were probably at the junction of Fenkle Street and Westgate Street with frontage on both streets. By 1821, the address could well have been changed from Westgate Street to Fenkle Street. The site of 52 Westgate Street was described by Embleton in 1832 as “opposite to the gate of St John’s Church in Westgate Street.”¹⁸ Presumably he meant immediately opposite the main church gate on the south side of Westgate Street rather than opposite the side gate of the church opening onto



Fig. 3 Westgate Street (now Westgate Road) in 1830. (The Hardcastle practice was probably in one of the buildings on the right hand side of this engraving, opposite the gate of St. John's church.) By courtesy of the Newcastle City Libraries and Information Service.

Rosemary Lane (figure 2, figure 3). Later, Poll Books between 1836/37 and 1846/47 list Hardcastle's surgery and stable in Westgate Street¹⁹ but give no information about the exact location.

WILLIAM HARDCASTLE, THE STEPHENSONS AND CHARLES EMPSON

When William took over Mr Whitfield Burnett's practice in 1818, he was fortunate in obtaining also the colliery post at Killingworth. Mr Burnett had been well-known to George Stephenson (1781-1848) and his son Robert (1803-1859) of Killingworth, both of whom later became famous railway engineers. Consequently, William would have met George and

Robert soon after he joined the practice.

Mr Burnett is recorded as being involved in the controversy about George Stephenson's invention of the miners' safety lamp, now known as the Davy lamp.²⁰ Burnett was alleged to have let Davy know of some of the results of the Stephenson's experiments which led to this dispute. Consequently, Burnett may have become unpopular with the Stephensons; if so this clearly did not affect William's relationship with them. William later became their general practitioner and surviving letters allude to his treatment of both George and Robert. For example, on 18 December 1832, Robert wrote from Newcastle to his father, then in Liverpool, "I have been to Hardcastle about it [the pain in the chest] and would have gone to Headlam [a well-known physician in

Newcastle] but Hardcastle is quite confident it has nothing to do with the lungs."²¹

William married Ann Philipson, the daughter of Nicholas Philipson and Dorothy Annett in St John's Church Westgate on 27 April 1830. The names of the witnesses on the register are indistinct but appear to be Ralph Park Philipson, Mary Scott and Charles Empson.²² Ralph Park Philipson was Ann Hardcastle's brother. He was a lawyer and later achieved local fame as Mayor and Town Clerk of Newcastle for many years.²³ William and his bride resided on the practice premises at 52 Westgate Street. They became close family friends of the Stephensons. For example, the enumerators' returns at the 1841 census show that Ann was not present at home in Westgate Street but was staying at Robert Stephenson's home in London²⁴ where they had moved in 1833. Robert's wife Frances died of cancer in the following year, on 4 October 1842. It seems likely, therefore, that Ann Hardcastle was staying with them to help during her illness.

In 1824 Robert Stephenson left on a mining assignment in South America. Before he sailed from Liverpool, a letter from his father, George Stephenson, to a Mr Longbridge reads "I arrived here [Liverpool] on Saturday and found Mr Sanders, Robert and Charles, waiting for me at the coach office."²⁵ At about this time an undated letter from Robert addressed to his step-mother also mentioned Charles "I have not time to tell you all, my friend Charles is writing a full account to Dr Hardcastle, who will let you know of it."²⁶ This "friend Charles" was Charles Empson (1792–1861) another friend of both families and a maternal uncle of John Snow, who accompanied Robert to South America as secretary and administrator. He was born in Acomb, York and appears to have spent some time in Stockton-on-Tees in his teens. Little else is known of him until he joined Robert Stephenson on his South American venture.²⁷ He is mentioned three times in Jeaffreson's biography of Robert Stephenson, being described as Robert's constant associate in South America, visiting the USA and Canada with him and returning with him to Liverpool in November 1827 and staying at

George Stephenson's house. He is also acknowledged in the preface for providing Jeaffreson with a collection of Robert's early journals and letters.²⁰

Since Charles Empson was on first-name terms with the Stephensons in 1824, he must have been well-known to them for some time, probably for several years. It is not known, however, when or how Empson met the Stephensons. The most likely explanation is that it was William Hardcastle who introduced Charles Empson to the Stephensons soon after he moved to Newcastle and that by 1824 they had come to know each other well. Charles was clearly a long-standing friend and confidant of William because he is recorded as a witness at William's wedding and an executor of his Will (see below). Charles probably visited him several times in Newcastle after he had left York and during these visits is likely to have met the Stephensons. In this way Robert Stephenson would have known that Charles was interested in South America and was fluent in Spanish and thus an obvious choice as his companion. Another possible explanation is that Charles's links with the Stockton area may have brought him in touch with the development of the Stockton to Darlington Railway but no evidence of this was found either in biographies of the Stephensons^{20,25} or in the diaries of Edward Pease, a Quaker banker who had financial interests in the railway²⁸. Charles settled in Newcastle in 1827 on his return from South America and he and Robert Stephenson were said to be ever after close friends.²⁹

The three friends Charles Empson, Robert Stephenson and William Hardcastle lived near each other in central Newcastle, were members of the Newcastle Literary and Philosophical Society and must have met at the Society's meetings as well as on many other occasions, including in each others homes. Consequently, John Snow, who at this time was William's apprentice probably came to know them all well.

Charles Empson opened a shop in Newcastle at 32 Collingwood Street in 1830, one of the modern shops built 20 years earlier¹². Hunt

describing the book trade in Northumberland in the early nineteenth century recorded that in 1830 the *Britannica* traveller found that "Charles Empson commenced only three weeks ago, which accounts for his shop being the only clean one in Newcastle."³⁰ In June, Empson advertised himself at his new premises as bookseller and stationer³¹ but presumably he had been in the business for some time before that. He seems to have been a charismatic figure and must have had a charming personality. Heatherington wrote that "he had a refined and cultivated taste for the fine arts and was fluent in French and Spanish; his company was sought after and he was a welcome guest at the houses of the nobility and gentry around Newcastle; his shop became a meeting place of artists, clergymen, scientific and professional men and many of the nobility and landed gentry were frequent visitors; he usually wore full dress – black cloth and ruffled shirt, and in warm weather he wore a white waistcoat, white trousers and a white hat"²⁹

Heatherington described how Empson left Newcastle in 1833 after he "became the victim of a cruel, malicious, and slanderous report, fabricated and propagated by a vile wretch who he had employed as a tradesman, befriended, patronised, and supported until his habits of neglect and intemperance compelled the transfer of his business to another of the same trade. This was too much for the susceptible bookseller, who disposed of his business and went to reside at Bath."²⁹ He then set up his business in Bath and again prospered, becoming a popular figure in the City. He was held in high regard and after his death the citizens contributed to a stained glass window erected in his memory in the Abbey. The inscription at the base of the window reads "In affectionate remembrance of Charles Empson, of this City, born 1795, died 1861. Erected by public subscription, that the memory of a good and estimable citizen is perpetuated." He died on a visit to London and was buried in the Brompton Cemetery in the grave next to that of his favourite nephew, John Snow.²⁷

JOHN SNOW'S APPRENTICESHIP 1827-1833

John Snow was born on 15 March 1813, the eldest of eight children of William and Frances Snow.³² Little is known of his childhood except that his biographer and friend Benjamin Ward Richardson tells us that he went to a private school in York and was an industrious child fond of mathematics.¹ He began his medical career with his apprenticeship in Newcastle at the age of 14 years in 1827, probably arriving there shortly before his uncle Charles Empson returned from South America. It may have been his uncle Charles and William Hardcastle who suggested a medical career for John. Very probably the choice of apprenticeship followed as a consequence or was simply because William was well-known to his parents and Charles was soon to return from South America and might settle in Newcastle. It is possible also that Charles assisted John with fees and expenses, as was suggested by Ellis,³³ or that William as a close friend reduced or waived the apprenticeship fees. John would have lived in the Hardcastle home at 52 Westgate Street and probably went on his rounds and travelled about Newcastle on foot (figure 3). William is likely to have owned a horse and possibly a horse and carriage, but these would have been the most expensive items in the practice⁹ and unlikely to have been available for the use of his young apprentice.

In 1830, at the age of 17 years, John became a supporter of the temperance movement¹. Presumably, his interest was aroused by the spread of the movement to the north-east and the formation of a temperance society in Newcastle in June 1830. This Society, like many other similar societies, was originally concerned with the abuse of spirits but later with all alcoholic drinks and became a teetotal society³⁴. Six years later, in 1835/36, when John was assistant to Joseph Warburton in Pateley Bridge, he met Mr John Andrew and Mr Pallister, both leading temperance campaigners in Yorkshire.³⁵ Influenced by them he took the pledge.³⁶

John also became a vegetarian in 1830 after

studying Newton's book¹, *The Return to Nature or, a defence of the vegetable regimen*. Newton describes the vegetarian diet of his own family "Our breakfast is composed of dried fruits, whether raisons, figs or plums, with toasted bread or biscuits, and weak tea, always made of distilled water, with a moderate portion of milk in it. . . . The dinner consists of potatoes, with some other vegetables, according as they happen to be in season; macaroni, a tart, or a pudding, with as few eggs as possible: . . . As to drinking, we are scarcely inclined, on this cooling regimen to drink at all; but when it so happens, we take distilled water, having a still expressly for this purpose in our back-kitchen."³⁷ John may well have followed this or a similar regime in the Hardcastle household since Richardson says that he adhered strictly to a vegetarian diet for more than eight years.¹

In 1832, John gained his first experience of cholera soon after the disease entered Britain through the port of Sunderland in October 1831 and reached Newcastle that year in December.^{38,39} Unfortunately, the disease arrived at a time of acute water shortage in the town; Main⁴⁰ recorded that "The summer and autumn of 1831 had been remarkably dry, and had been succeeded by a mild, open winter, during which the Asiatic Cholera, for the first time, made its appearance, and the water company's reservoirs were completely exhausted. In this emergency, the company erected an engine, and pumped water from the river Tyne, conveying it in carts to their tenants. About 120 carts were employed, in this way, for six weeks." Not surprisingly, an epidemic followed. There were altogether 1,330 cases and 801 deaths.³⁹

By August 1832, the vestrymen of the parish of St John's, Newcastle, became alarmed by the epidemic. At a special meeting of the Vestry on 7th August they appointed two surgeons, Mr Annadale and Mr Hardcastle, to attend the sick poor in the parish.⁴¹ At about the same time cholera became epidemic in Killingworth. Ashcroft⁴² analysed the burial register of the local parish of Longbenton showing that there was an average of 100 buri-

als per year until 1832 when the number more than doubled to 235. In the second quarter of 1832 there were 25 burials, increasing to 82 in the third quarter,⁴³ suggesting the arrival of the disease at that time. William must have been fully occupied in Newcastle and so sent John to Killingworth. Richardson describes this event, "In 1831-32, cholera visited Newcastle and its neighbourhood, and proved terribly fatal. In the emergency, Mr Snow was sent by Mr Hardcastle to the Killingworth Colliery, to attend the sufferers from the disease there. In this labour he was indefatigable, and his exertions were crowned with great success. He made also on this occasion many observations relating to this disease, which proved to him of immense account in after years."⁴¹ Ashcroft⁴² also drew attention to John's use of his experience later in a paper in 1853.⁴⁴ John described the mine as one huge privy where the men eat without washing their hands and he recalled men being attacked by cholera at work. This suggests that he suspected as early as 1832 that cholera was probably acquired from the excrement of cases and entered the body through the mouth.

John Snow returned from Killingworth by 1 October 1832 when he began attending the first course of lectures for students of medicine in Newcastle. The most reliable source of information about the early history of the Newcastle School of Medicine is a book by Dr Dennis Embleton (1810-1900),¹⁸ a famous nineteenth century Newcastle physician who was associated with the medical school for over 33 years from 1839.⁴⁵ He says that the first courses of lectures were "held in the years 1832-33 and 1833-34, in a large room over the entrance to Bell's Court, Pilgrim Street, and adjoining the surgery and consulting rooms' (figure 4). Bell's Court is north of the junction of Pilgrim Street and Mosley Street which leads via Collingwood Street to Westgate Street (figure 2). John probably took this route to walk from the Hardcastles' home to and from the lecture hall and must have passed his uncle's shop in Collingwood Street en route. The building in Bell's Court was still standing in 1994 but sadly neglected. The original

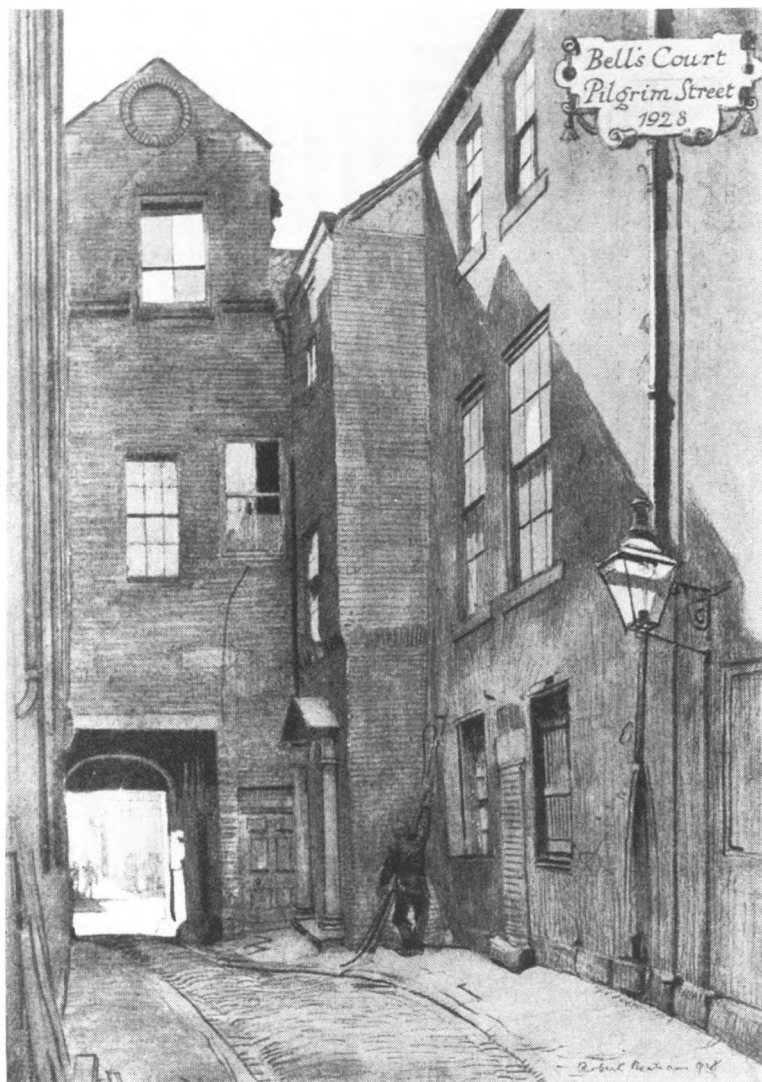


Fig. 4 Bells Court, Pilgrim Street, 1928. From Turner⁴⁵.

wooden doorway, however, is preserved in the new medical school building in Framlington Place.⁴⁶ The date of the first course of lectures is sometimes given in publications as 1833 or 1834. The confusion arises because early

accounts gave the date as 1833 in error and the Medical School was not formally established until 1834.¹⁸

Embleton refers to a letter from a Mr James Miller who was the first student to be entered

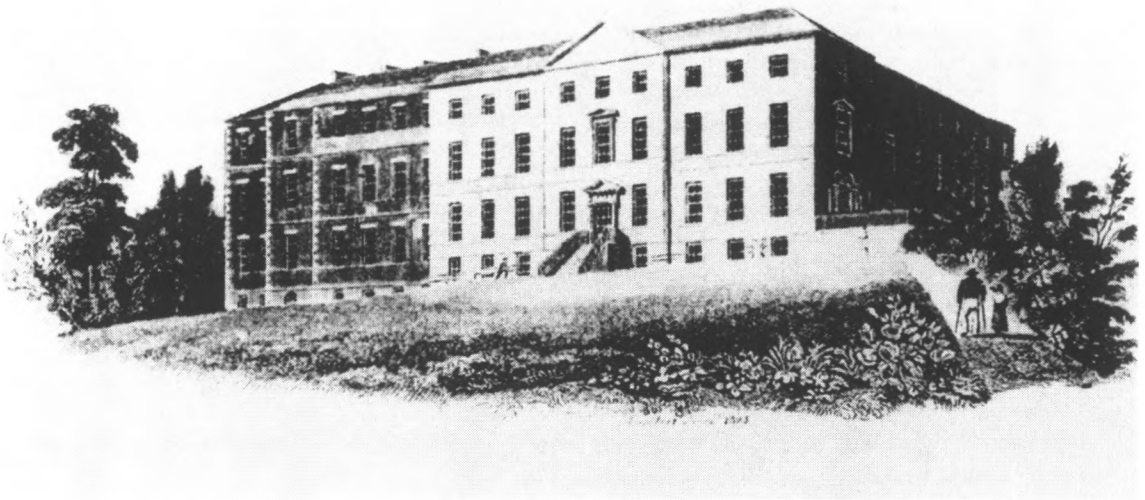


Fig. 5 Newcastle Infirmary, 1830. From Hume⁴⁷.

in the 1832 lectures. The fee for the six-months course was two guineas and an additional five guineas was payable for hospital practice at the Infirmary for the year. Newcastle infirmary was founded in 1751 and by 1832 had been rebuilt and enlarged to include 150 beds⁴⁷ (figure 5). Nothing remains of the original building in Forth Bank, an area to the West of the Central Station currently being developed as an exhibition centre. The hospital became the Royal Infirmary in 1887, and the Royal Victoria Infirmary on moving to its present site in 1906. Embleton quotes James Miller's letter "The opening address was given by Mr John Fife, and the room was crowded with medical men and their pupils". The crowd probably included William Hardcastle as well as his pupil, John Snow. John was one of eight students on the course listed by Embleton, who also gives a brief biography of each of them. He says of Snow, referring to his later career in London "He was celebrated in town as a skilled chloroformist, and it was reported at the time he made £1,000 a year as an administrator of chloroform in surgical cases; he was

the author of the theory supported by facts of the transmissibility of cholera through the medium of water. ... He was a teetotaller when there were only a few, and also a vegetarian."¹⁸

John's strict vegetarian diet did not apparently affect his health at this time. Indeed, Richardson states that he was a noted swimmer and "could make head against the tide longer than any of his omnivorous friends."¹ He would have swum in the River Tyne and may have witnessed Dr Bedale's swimming performance in the river in July 1833 "Dr Bedale, of swimming celebrity, exhibited his aquatic feats in the River Tyne on two occasions during the last week of this month. Many of his positions and movements were very beautiful and scientific. Large crowds attended each day to witness the novelty of the exhibition."⁴⁸ Soon after this event, John completed his six-year apprenticeship and moved to Burnopfield about 8 miles south-west of Newcastle where he became assistant to a Mr Watson.¹

It is not known why John chose to become an assistant instead of following the usual

course for a young apothecary of continuing his training in hospital and attending courses of lectures so that he could sit the LSA examination. Ellis³³ suggested that he was likely to have been short of money and probably wished to earn sufficient funds so as to continue his medical studies in London. A year later John moved to Joseph Warburton's rural practice in Pateley Bridge, near Harrogate in Yorkshire where he remained for 18 months. After spending the summer of 1836 at home in York he travelled to London to complete his medical education. He attended the Hunterian School of Anatomy and the Westminster Hospital. In 1838, he qualified LSA and MRCS; five years afterwards he graduated MB in London University, proceeding to MD in 1844. Later, John Snow achieved national fame in epidemiology by discovering the usual mode of spread of cholera by drinking-water⁴⁹ and in anaesthetics by designing an inhaler for ether⁵⁰. His fame was such that he was called upon to administer chloroform to Queen Victoria at the birth of her son, Prince Leopold on 7th April 1853³³. John Snow died in 1858 at the young age of 45 years following a stroke¹ and was buried in the Brompton Cemetery, London.

This review of John Snow's apprenticeship in Newcastle shows that William Hardcastle gave John an excellent introduction to his medical career: he had a broad experience in medicine, surgery, obstetrics and general practice; he attended the Infirmary and must have accompanied William to the Lying-in Hospital although no reference to this was found in the available records of the hospital^{14,15}; he was a student at the first course of medical lectures in Newcastle; and William provided him with a unique opportunity to investigate the "new" disease, cholera. This experience proved invaluable to John in his subsequent practice, especially when confronted with cholera again in 1849 and 1854. John's biographer,¹ however, devotes meagre attention to John's training in Newcastle, only the paragraph on cholera quoted above, and tells us that John regarded Joseph Warburton of Pateley Bridge as his principal teacher, overlooking the extensive training he had received from William Hardcastle.

John's uncle Charles appears to have remained a life-long friend of Robert Stephenson. Consequently, John must have known Robert in Newcastle and later is likely to have come into contact with Robert through his uncle, especially since John remained close to his uncle throughout his life.¹ Robert was ten years John's senior. Both John and Robert came from poor families, both were given a good education by their parents, both worked very hard to enhance their education and station in life and both eventually became nationally recognised pioneers in their chosen fields. It might be supposed, therefore, that John would have felt a kinship with Robert and could even have been inspired by Robert's enthusiasm, energy and great achievements in railway and locomotive engineering. Richardson,¹ however, does not mention the Stephensons, nor is there any mention of Snow in biographies of the Stephensons^{20,25} or known in any of the Stephenson archives.²⁴

John was a quiet and very reserved young man, in marked contrast to his rather flamboyant uncle Charles. When John adopted Newton's vegetarian diet, he could not have endeared himself to the Hardcastle household, especially to William's young wife Ann after the birth of her first child in 1831. The novel diet must have caused her and the servants inconvenience and possibly irritation. Conceivably, John's unusual lifestyle and reserved character led him to live apart from the main Hardcastle household at 52 Westgate Street and eventually to his alienation from the family and their friends. There is admittedly no evidence for this, but if it were so, it could explain why John did not come to regard William Hardcastle as his principal teacher and the absence of any record of an association between John and the Stephensons.

WILLIAM HARDCASTLE AND HIS FAMILY AFTER 1833

William and Ann Hardcastle had a family of five sons and two daughters. The first two chil-

dren were born while John Snow was in the practice. William John, baptised on 27 April 1831, became an engineer and later may have been a sub-assistant engineer with Robert Stephenson on the building of the Cairo to Alexandria Railway.²⁴ Nicholas, baptised on 7 September 1832, followed his father into medicine. He was apprenticed to Mr John Lane of Newcastle upon Tyne for five years in 1848 and trained at University College Hospital, London qualifying LSA on the 3 February 1854.⁵¹ The third child, Robert Anthony baptised on 18 September 1834, is recorded in the enumerator's return of the 1851 census as a merchant's clerk. The next child Ralph Philipson, baptised on 18 October 1836, is listed in *Ward's Directory comprehending the towns of Newcastle, Gateshead and their localities* of 1867–68, as a chemist at Gibson, Taylor & Co of 30 Bigg Market, Newcastle. The fifth child, Richard Todd, baptised on 7 June 1838, died young on 4th January 1846 and was buried in the family grave in Jesmond Cemetery.⁵² The two daughters were Mary Frances, baptised on 7 August 1839 and Dora Ann, the youngest child, baptised on 19 January 1842.

Soon after the birth of his first child, William Hardcastle made his Will which is dated 3 January 1832. He appointed as executors his friend Charles Empson described as a stationer, and Ralph Fryer, a gentleman, both of Newcastle. The Will sets out in detail how he wishes them to administer his estate for the benefit of his wife and children. Twenty-one years later in November 1853 he changed the executors; Mr Fryer had died and Charles Empson had left Newcastle 20 years before and perhaps had lost touch with the Hardcastle family. He appointed instead his two eldest sons William John and Nicholas. He appointed also Robert Stephenson of the City of London who remained close friends of the family. Ann Hardcastle stayed with the Stephensons in their Hampstead home in 1841 (see above) and it appears that Robert often stayed at the Hardcastle's home when on business visits to Newcastle, for example, Robert wrote in his diary on 12 December 1834, "Arrived in N/castle took up my quarters at Hardcastles"⁵³

There was one other executor, a Richard Welsh Hollon, chemist of the City of York.

The parish register of St John's Church, Westgate records William's home as "Westgate" at the baptisms of all the seven children.⁵⁴ Later around 1849, the family moved to 4 Greenfield Place, next door to the house where Robert Stephenson and his wife lived in the early 1830s. William's wife Ann contracted cholera and died on 28 September 1853 aged 53 years. She was buried in the family grave at the Jesmond Cemetery.⁵² Underwood, describing the 1853–54 cholera epidemic, recounts that it began in Newcastle on 30th August 1853 and by 4th November of that year there had been 1,533 deaths in the town and a further 433 in Gateshead. In 1854, the disease reached London where there were 10,738 deaths.³⁹ It may have been some consolation to William, after his wife's tragic death, to learn of his former pupil's investigations of the outbreak in Broad Street, Soho, demonstrating clearly for the first time that cholera was transmitted by water.⁴⁹

William retired soon after his wife's death, probably when he reached the age of 60 years in 1854, although he retired earlier from the Lying-in Hospital.¹⁶ The 1853 edition of *Ward's North of England Directory* lists in the Newcastle section "Hardcastle Wm. gentleman, 4 Greenfield Place", thereby suggesting that he had retired by 1853. It is more likely, however, that he continued in practice in Westgate Street until his son qualified in 1854. William died 6 years later, on 25 March 1860, aged 66 years and was buried in Jesmond Cemetery, plot H, line 27b, grave number 1082. The inscription reads "The family burial place of William Hardcastle, of this City, surgeon. Richard Todd, fifth and youngest son of the above, died January 4th 1846 in the eighth year of his age. Mary, mother of the above Wm Hardcastle, died June 24th 1850, aged 84 years. Ann, wife of the above Wm. Hardcastle, departed this life, September 28th 1853, aged 56 years. The above WILLIAM HARDCASTLE died March 25th 1860, aged 66 years".⁵² Later a memorial window was dedicated to William and his wife in St John's Church and

was in excellent condition in 1994. The window was described by Fawcett⁵⁵ "A four light window in the south wall of the south transept containing four lights of stained glass. 2nd light – containing a figure of St. Matthias. Sacred to the memory of William Hardcastle of this town surgeon; and Ann, his wife, + he died March 25th 1860. + She died Sept. 28th, 1854, + their remains are interred in Jesmond Cemetery + this memorial is erected by the children of the above in affectionate remembrance of their deceased parents". The year of Ann Hardcastle's death is incorrect in this inscription: it was 1853⁵⁶.

Nicholas Hardcastle (1832-1906) succeeded his father. He was an active and well-known local practitioner who, like his father, was held in high regard in Newcastle. As well as continuing in the family practice in Westgate he had several other appointments. He was medical officer of Newcastle prison for 41 years, medical officer of Newcastle Workhouse for 21 years and Medical Officer of Health (MOH) for Benwell and Fenham Urban District Council for over 25 years.⁵⁷ He must have been appointed MOH soon after the Public Health Act of 1872, when the appointment became mandatory in all local authorities. Only one of his annual reports could be found, that for 1903, the last year before the functions of the Urban District were transferred to the City of Newcastle.⁵⁸ This report, however, provides little information about his 25-years of work in the District. Possibly, Nicholas's interest in public health arose because of his mother's death from cholera in the 1853-54 epidemic and the pioneering work of his father's former pupil John Snow on the mode of spread of the disease at that time.⁴⁹

Nicholas married Mary Sarah. They had one son, William who became a doctor and at least two daughters. Nicholas died aged 73 years on 22 November 1906 and was buried with his wife in Jesmond Cemetery plot H, line 27b, grave number 1083, the headstone of which touched that of Nicholas's parents.⁵² Neither stone could be found in the Cemetery in 1994. Subsequently, a memorial window was erected by their son William in the south transept of St

John's Church, Westgate.⁵⁵ It was in good condition in 1994. William Hardcastle (1872-1924) succeeded his father as Newcastle Prison Medical Officer and was in practice in Westgate. He was also police surgeon for the eastern district of Newcastle and lecturer in Medical Jurisprudence to the Durham College of Medicine. He was noted in Newcastle as an archaeologist and local historian, being a member and the curator of the Newcastle Society.⁵⁹ He died on 2 February, 1924.

William was the last of the well-known and much respected Newcastle family of Hardcastle doctors who together served the people of the City for over a century from 1815 to 1924.

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