

LEISURE PURSUITS OF A NINETEENTH CENTURY ENGINEER

By Peter Griffin

A manuscript journal kept between February 1835 and July 1838 recently came to light.¹ Its author had not felt it necessary to record his name, even on the flyleaf of the bound volume, but it soon became apparent that he was involved in railway engineering as a pupil and later an assistant of Isambard Kingdom Brunel. It has been established that the young engineer was Charles Richardson (1814-1896), best known for his involvement with the Severn Tunnel project much later in his career.

Although he came originally of a landed Cheshire family,² Richardson regarded Clifton as his home by 1835 since his widowed mother had moved there. Brunel seems to have taken this connection into account when allocating tasks to him for in the years covered by the journal much of his activity was in or near Bristol and Gloucestershire. From the autumn of 1835 until the summer of 1836 Charles was surveying for the GWR between Brislington and Corsham. He then spent a couple of months helping William Gravatt³ with the early stages of the Bristol & Exeter Railway, an assignment interrupted by a secondment to help with the Clifton Bridge.⁴ In the autumn of 1836 Richardson was given greater responsibility as the resident engineer at Gloucester for the Cheltenham & Great Western

Union Railway.⁵ It was to this project that he twice returned after redeployments elsewhere of a few months. In all Charles spent about half the 1835-1838 period in Gloucestershire.

An account of the technical and managerial aspects of Richardson's early civil engineering career will be forthcoming in due course, but in this article I shall discuss what can be deduced regarding his personal life from evidence about religious observance, spending and use of leisure time. The journal was largely a rather laconic factual record; there is virtually no discussion of Richardson's thoughts and feelings and very little comment or judgement. Nevertheless, over the period in question evidence gradually accumulates about his tastes and interests, while inferences can be made about his personality.

Richardson was an Anglican who seemed happy enough to settle into a churchgoing habit when established in a congenial parish for a few months. His eldest brother Richard became a squarson at Capenhurst in Cheshire and was the prime mover in building the church there. Later in his career Charles himself served as a churchwarden at Almondsbury. For much of the period of the journal, however, he was too busy or too peripatetic for church attendance. When surveying the line of the GWR eastwards from



Clifton

Bristol in 1835-1836 Charles was often able to return home to spend Sunday with his family at Windsor Terrace in Clifton.⁶ On some of these occasions he attended "Trinity Chapel"⁷ where the Revd. John Hensman was the incumbent. Other Brunellian employees and associates such as Heise⁸ and Claxton⁹ sometimes accompanied him. However, if the head of the firm was in Bristol on a Sunday and wished to inspect and discuss his projects then churchgoing was not possible. Indeed, some Sundays were treated almost as normal working days. There are signs that Charles was not entirely comfortable with work on the Sabbath.

"Passed thro' Bath, in my working dress, just as the people were going to church."¹⁰ When he made the effort to combine a partially working Sunday, which began for him at 5.30 a.m. and involved a long walk from Twerton to Clifton, with attendance at evening service Charles found himself sleeping through most of Mr. Hensman's sermon.¹¹

In the first half of 1837, when Richardson was acting as resident engineer on the C&GWUR survey, his Sundays were often spent travelling back to Gloucester from Stroud or even Sapperton, sometimes on foot. He might visit Bisley or Brookthorpe church to appreciate the architecture but he did not attend services. One notable exception to this occurred when he met an acquaintance, Mr. Lewis¹² of the County of Gloucester Bank, as he set out from Stroud and was persuaded to return and go to chapel followed by dinner at the Swan before resuming his walk to Gloucester, still in the company of Mr. Lewis. The chapel in question was presumably Nonconformist, but Charles had relatively little sectarian prejudice as he later showed in South Wales by attending Methodist and Baptist chapels. In the following year Charles's life became more settled when he was put in charge of the section of line between Cirencester and Swindon and used first Cirencester and then Flintham House at Oaksey as his base of operations. He went to a service at St. John's at Cirencester only once but

became quite a regular worshipper at Oaksey. Sunday was in any case the major opportunity for leisure activity when railway work was not too hectic. During his first posting to Gloucester from September 1836 Richardson lost no time in exploring the area on foot, first to Robinswood Hill, then along the Severn for some sketching before venturing further afield to May Hill by way of Huntley where he noted a large and ancient yew tree in the churchyard. Charles was very fond of gazing at the landscape from Gloucestershire hilltops and would sometimes divert his route back to Gloucester in order to take in Selsley, Randwick or Painswick. When his brother Ralph visited him in May 1837 they took walks to the top of Churchdown and Leckhampton hills.

One of Richardson's closest friends at this time was Benjamin Herschel Babbage,¹³ a fellow assistant of Brunel and the son of Charles Babbage the mathematician and pioneer of the computer. Herschel Babbage would occasionally travel from Bristol to meet Charles for a Sunday excursion. On one of these Charles met him at a turnpike near Berkeley. They spent the day riding in the area and then sketched the castle while chatting to a member of the Berkeley family.¹⁴ Their next excursion was to Wotton-under-Edge in July 1837 when they assumed they would find a pond in the neighbourhood suitable for bathing. Disappointed in this they fell back once again on sketching. After putting up at the Swan for the night they finished their sketches and walked to the top of Wotton Hill before Babbage returned to Bristol and Richardson



*St Mary Magdalen Chapel 19th c.
Courtesy Gloucestershire Collection GL15-27*

to Sapperton. A third Sunday jaunt with Babbage took place in March 1838: Charles travelled from Flintham House to meet his friend at the Cross Hands near Badminton. After walking in Badminton Park they rode to Sodbury where Babbage was thrown from his horse but apparently not seriously injured.

Richardson's subjects for sketching fell very largely into two categories; trees and ancient or picturesque buildings, usually churches. While based in Gloucestershire he depicted a variety of trees which caught his fancy; yew trees at Horsepools and Sapperton, an oak at Lassington, a snow covered spruce at Stroud, ash trees at Aston Down, a maple at "Prinley Park"¹⁵ and a pollard withy at Gloucester. This interest extended to taking measurements of trees of unusual size. In February 1837 he measured the girth of a yew in Huntley churchyard which he found to be 19 feet around the narrowest part of the trunk (about 2ft. 6in. from the ground). Shortly after this, while at Haresfield on surveying business for the line, he sketched the church and measured the girth of an oak tree (22ft. 6in. at 3ft.). Riding back to Stroud from Sapperton a week later Charles gave the same attention to a plane tree near Bisley (11ft. 9in. at 4ft.). It is quite likely that his sketching materials were carried almost at all times so that he could execute an unpremeditated drawing while in transit such as the one of Brookthorpe Church in the snow late in March 1837 as he returned to Gloucester from Stroud in the company of his colleague R.P. Brereton.¹⁶ The journal does not record whether measurements and sketches forming part of his railway work were kept separate from his recreational efforts.

Brereton later became a more senior figure than Richardson in the Brunel firm, but in 1837 Charles appears to have been in charge of him at Gloucester for much of March and April no doubt to give him experience and to set him technical exercises such as measuring the door of "St. Magdalen Church".¹⁷

For his own sketching Charles preferred the doorway of Llanthony Priory of which he did two versions, each requiring two sessions. Richardson's interest in art may have developed beyond professional requirements for a surveyor and engineer through his contact with Alexander Rippingille,¹⁸ who had been a Bristol artist. In 1835, when Charles was serving his pupillage in Brunel's London office he had lodged with

Rippingille in Dean Street, Soho and had his portrait painted by his landlord. Indeed, he appears to have persuaded Marc Isambard Brunel to sit for Rippingille as well. His interest in art made Charles very appreciative when shown over part of Lord Bathurst's house by his steward¹⁹ after a consultation about the C&GWUR. He was particularly impressed by an equestrian portrait of Wellington and by a tapestry which depicted a scene from *Don Quixote*.

Although Richardson seems to have graduated from his pupillage to become an assistant to Brunel around the end of 1836 he continued to concern himself with theoretical matters. While acting as resident engineer on the C&GWUR he was capable of spending an evening writing about friction and resistance or studying Ritchie's *Differential Calculus*.²⁰ His "fossilizing" expeditions on the clay canal banks at Gloucester and at Westbury on Severn provide further evidence of scientific interests. In addition he seems to have swapped mathematical problems by correspondence with at least one acquaintance.²¹ Apart from his association with technically minded colleagues, his closest Bristol friend from outside the Brunel orbit was Eden Jones, a manufacturing chemist. When his interest was engaged Charles could be very observant: some of the most detailed descriptions in the journal concern natural history and weather phenomena.

"Went to Mr. Hunt's²² yard (at Gloucester) and saw nest in Elm tree with five eggs unbroken until touched - apparently 40 or 50 years growth of tree round it."

He was disappointingly vague about many of his activities, but would devote a hundred words of detailed description to a sighting of the aurora borealis, an exceptional rainbow or an unusual kind of thunderstorm, all experienced at Gloucester in 1837.

The journal also reveals his leisure reading while in Gloucestershire. Newly published instalments of Dickens novels were purchased and shared: issues of *The Pickwick Papers* were loaned to the Kimbers of Sapperton, while excerpts from *Nicholas Nickleby* were read aloud to Babbage. Charles also read Marryat's *The King's Own* to Brereton, who may not have felt able to demur. Newspapers and periodicals such as *The Gloucester Journal*, *The Sunday Times*, *Paul Pry* and *The Spectator* were ordered at various times. In April 1837 Richardson was reading Guilbert

Guernez, perhaps using the fluent French he acquired at school near Paris before the spell at Edinburgh University which immediately preceded his pupillage. He records that he conversed in French with Brunel on an overnight journey returning to London from Stroud in the engineer's famous britzka.²³

For Richardson leisure pursuits involving vigorous exercise were at least as important as more reflective pastimes. As a pupil in Brunel's London office he had often joined with colleagues in rowing wherries²⁴ on the Thames. In Gloucestershire this was largely discontinued. Shortly after returning to the Bristol area Charles "had a pull" one Sunday after church, but other references to the use of wherries could well have been for business rather than pleasure. The most likely to have been an occasion for recreation was when he recorded that he "went in Mr. Claxton's wherry up and down the Float."²⁵ At Gloucester he rowed only once when he had gone to the canal to bathe but found the water too cold. His passages through the Sapperton canal tunnel in May and June of 1837 in the company of Mr. Richard Kimber and others seem to have been for sightseeing rather than exercise, though the first attempt led to some unforeseen excitement when they collided with a barge.

Swimming was a genuine enthusiasm for Charles, who wrote a booklet on the subject in 1856. When in Bristol he could use Rennison's Bath²⁶ but elsewhere he needed to improvise. At Gloucester he swam in both the Sharpness Canal and the Severn, crediting the latter with curing a touch of rheumatism. In the summer of 1837 when he began to spend longer periods at Sapperton he bathed in the Thames & Severn canal at various locations including one of the locks and near Whitehall Bridge. Another favourite bathing place at that period was Cherington Pond, where he was intrigued on more than one occasion by the aquatic skills of snakes. Richardson clearly liked to swim in congenial company and often took his "factotum" Benjamin Chard²⁷ or his Gloucester friend Bebell with him. What he wore when bathing is not fully described, but on July 13th 1837 he mentions taking "indiarubber cloth" with him to the Severn. The previous summer, when at Long Ashton near Bristol, he had cut out a "bathing shirt" and commissioned a woman to make it for him.

During the icy winter of 1837-1838 Richardson made skating his chief outdoor relaxation, first in

South Wales,²⁸ then in London, and finally around Cirencester which had become his base for renewed surveying on the C&GWUR. His first experience of skating near Cirencester was on the Thames & Severn canal but thereafter he preferred to use a pond in Lord Bathurst's park. The only previous skating for him in Gloucestershire during the period of the journal had been on Christmas Day 1835 when he found a pond near Rennison's Bath in Bristol for the entertainment of his younger brother Tom. When the thaw put an end to skating in February 1838 a new enthusiasm for billiards took its place. Before Charles moved out to Oaksey in March he recorded a number of after-dinner games of billiards at the King's Head in Cirencester with his close colleague Crawford,²⁹ and once with George Henet.³⁰

The remaining two outdoor sports in which Charles indulged at this period of his life occur at intervals throughout this volume of his journal, but with notable bursts of activity if his enthusiasm was high and weather and work permitted. He was fond of "gymnasticising" and would rig up some improvised equipment whenever he was relatively settled for a few months. Poles, trapezes and rope ladders are all mentioned, and at Sapperton he began to practice throwing the javelin. Colleagues and brothers



Charles Richardson

were sometimes induced to join in but Charles was quite prepared to gymnasticise by himself at the company's office at Gloucester or near the White Horse Inn³¹ at Sapperton. Pistol shooting was the final major recreation. Richardson bought a pistol at Gloucester on May 23rd 1837, probably the double-barrelled pocket pistol referred to a couple of days later. This purchase led to much shooting practice over the next few months, both at Gloucester and Sapperton. In later years Richardson is known to have taken to cricket with some passion, bringing his inventive skills to bear on the game with the development of a spliced bat and a bowling machine.³² For this period, however, there are only two mentions; a match in South Wales which was rained off, and an unexplained order placed in Cirencester for "cricket jackets."

Richardson's conviviality was well displayed by his love of singing as a parlour entertainment after dinner with the Kimbers at Sapperton, the Lawrences at Cirencester, or with colleagues and acquaintances at his lodgings. While staying at the Ram Inn at Gloucester in the autumn of 1836 before the C&GWUR took Devereux Bowly's house at Barnwood as an engineer's residence and office, Charles spent one Saturday night³³ sitting up smoking and singing with four companions until 3a.m. They liked to sing catches, some of which Charles may have composed himself. This would explain an otherwise obscure reference to trying out a "wasp composition". As an opera lover who had heard leading singers of the day such as Guilia Grisi, Maria Malibran and Luigi Lablache perform in London, Charles may have found local dramatic entertainment somewhat unsophisticated. He certainly regarded the circus³⁴ at Gloucester in 1836 as "very poor", but made no comment on performances when he went to the theatre³⁵ at Gloucester in March and April of the following year except to say on the second occasion that the house was pretty full. He was a little more forthcoming about his visit to the Theatre of Arts in Cheltenham³⁶ in the company of his brother Ralph, mentioning that he saw "the automaton dance the slack rope".

Charles seems to have been a lively and gregarious person, though not usually an excessive drinker. He notes in detached and uncensorious fashion occasions when a drunkard lurched across his path or his faithful assistants Chard and Maynard became "tipsy",³⁷ but his own consumption of alcohol seems to have been

relatively prudent for someone who had to spend a lot of time in various hostelries. He followed I.K. Brunel in his enthusiasm for smoking cigars, however, and was constantly on the lookout for new sources of supply. A good example of this was a transaction with Mr. Ringer³⁸ of Bristol whom he met while based in Gloucester in the spring of 1837, finding in the course of a long conversation one day at the Spread Eagle that they "knew many people mutually at Clifton." An order for half a dozen boxes of cigars was promptly fulfilled at a cost of £9.

There is a good deal of evidence about Richardson's purchases, revealing a considerable concern for sartorial matters. Boots tended to be ordered from Driscoll of London, but Mr. Lewis, a Gloucester tailor,³⁹ was commissioned to make a mackintosh greatcoat, while orders were placed in the town for pantaloons and waistcoats from unspecified suppliers. Lewis was prepared to visit him at the Barnwood office residence to take fittings. However, Charles suffered a common experience of clothes-conscious young gentlemen in receiving a dun⁴⁰ from his previous tailor at Corsham, which was quickly paid. He often borrowed sums of money, sometimes as a result of cash-flow problems within the GWR or the C&GWUR as paydays approached, but at other times apparently on his own account. The probable cause was certain carelessness with money exemplified by finding in a Gloucester pastrycook's,⁴¹ having eaten a number of cheesecakes, that he had only one penny with which to pay for them. His response to this was to order more and obtain credit. Personal charm helped him in situations like this, reinforced by the sort of family wealth which enabled him to remark casually that £4,000 of his was to be invested in mortgages.⁴²

The overall impression given by Richardson's brief accounts of his activities is of a man of varied interests, some of which (mathematics, science, sketching, fossil hunting) may have arisen naturally from his profession. This evidence of serious concerns and earnest study is counterbalanced by indications that he enjoyed strenuous exercise, was willing to try all sorts of sports and games, and was an amusing companion. In the time he could spare from a demanding and responsible job Richardson displayed the mental and physical vigour of a young man approaching his prime.

Notes

- ¹ In private hands, but kindly made available for academic study.
- ² Richardson's father Richard, a gold and silversmith of Chester, purchased the manor of Capenhurst in Wirral in 1790. *Chester Silver 1727-1837* Maurice H. Ridgway, Phillimore. p.179.
- ³ Brunel's Resident Engineer for the Bristol to Bridgewater section of the Bristol & Exeter line.
- ⁴ Richardson was summoned to help with the drawing across the gorge of an iron bar shortly before the first stone of the Leigh abutment was ceremonially laid on 27 August 1836. *Journal*, 18-25 August 1836.
- ⁵ The C&GWUR was formed in 1836 to construct a line between Cheltenham and Swindon. Its amalgamation with the GWR was sanctioned by the Great Western Act (7 Vic c.3) of 1844. *The Swindon to Gloucester Line* C.G. Maggs, Alan Sutton. pp. 2-16.
- ⁶ Richardson's mother lived at 1 Windsor Terrace, Clifton, until June 1836 when she moved the short distance to 11 Paragon, Clifton. *Journal*, 25 June 1836.
- ⁷ Hensman was the Minister of Trinity Church, Hotwells. *Mathews' Directory*.
- ⁸ Heise was an assistant of I.K. Brunel who worked alongside Richardson on the detailed survey for the GWR late in 1835 under the direction of George Frere. *Journal*, October -December 1835 passim.
- ⁹ Captain Christopher Claxton, R.N., the Quay Warden at Bristol, a close friend and collaborator of I.K. Brunel. *Isambard Kingdom Brunel, Engineering Knight-Errant* A. Vaughan, John Murray. p. 44.
- ¹⁰ *Journal*, 20 March 1836.
- ¹¹ *Journal*, 17 April 1836
- ¹² *Journal*, 21 May 1837
- ¹³ Babbage had worked with Frere and Richardson on the GWR survey. *Journal*, January - February 1836 passim.
- ¹⁴ Referred to as "Honble. Berkeley Craven". *Journal*, 26 February 1837.
- ¹⁵ Not positively identified, but within afternoon walking distance from Sapperton. Possibly Pinbury Park.
- ¹⁶ Robert Pearson Brereton, who became Brunel's chief assistant engineer in 1846. *Isambard Kingdom Brunel* L.T.C. Rolt, Penguin. p.143.
- ¹⁷ *Journal*, 27 March 1837. This was no doubt the richly ornamented medieval south doorway to the chapel of the St. Mary Magdalen Hospital near Wotton Pitch on the London Road in Gloucester. The nave was demolished in 1861 but the doorway was reset into the south wall of the surviving chancel. *V.C.H. Glos.* vol. iv pp.353-4.
- ¹⁸ Rippingille had lived at four different addresses in Bristol between 1821 and 1833, describing himself as an artist or as a portrait painter. *Mathews' Directory*. His brother, the better known artist Edward Villiers Rippingille (1798-1859) had also lived and worked in Bristol.
- ¹⁹ Robert Anderson (c.1782-1853) of the Barton, Cirencester, served as Steward to the 3rd and 4th Earls Bathurst for more than forty years. *Wilts & Glos Standard*, 15 October 1853.
- ²⁰ William Ritchie, F.R.S. (c.1790-1837) Professor of Natural Philosophy at London University. He published a treatise on the differential and integral calculus in 1836. *D. N. B.* Vol. XVI p.1212.
- ²¹ Letter from J.B. Williams to Charles Richardson, 13 January 1839. (Private Collection)
- ²² William Hunt, Shipbuilder, Llanthony Wharf. *Pigot's Directory*, Gloucester, 1830 and 1842.
- ²³ *Journal*, 7 July 1835. The britzka was a long black travelling carriage, nicknamed the 'Flying Hearse', designed by Brunel to accommodate plans, instruments, passengers and creature comforts. Rolt, op. cit. p.105.
- ²⁴ Light rowing boats.
- ²⁵ In 1804 the old course of the Avon through Bristol was converted into a long wet dock known as the Floating Harbour, or simply the Float, when the river was diverted into the New Cut. *Rolt*, op.cit. p.94.
- ²⁶ At Montpellier, established by Thomas Rennison in the mid 18th century.
- ²⁷ "B. Chard... my staff holder and factotum for twenty years on the railway, and had been a sailor before that..." Presence of Mind. A Paper read before the Clifton Scientific Club, 2 February 1889 by Charles Richardson. p.27.
- ²⁸ Richardson had been at Merthyr Tydfil supervising the manufacture of rails for Brunel at the Dowlais Works. *Journal*, November 1837 - January 1838 passim.
- ²⁹ A young Scot who had been a colleague of Richardson on the Thames Tunnel project. Charles invited Crawford to join him on the C&GWUR. *Marc Isambard Brunel* Paul Clements, Longmans. p.219. *Journal*, 23 January 1838.
- ³⁰ A Bristol civil engineer who had conducted the preliminary survey for the C&GWUR. Maggs, op.cit. p.2.
- ³¹ Richardson's base for his work at Sapperton in 1837. In the Frampton Mansell part of the parish. *Journal*, April - August 1837 passim.
- ³² See Richardson's biography in the *D.N.B. Missing Persons* ed. C.S. Nicholls O.U.P. p.554.
- ³³ *Journal*, 8 October 1836.
- ³⁴ Mr. Bridges' Company of Equestrians at the Circus in Worcester Street. *Journal*, 10 October 1836. *Gloucester Journal*, 8 October 1836.
- ³⁵ Advertisements for Messrs. Anderson and Penley's 1837 Theatre season in Gloucester do not make clear precisely what was performed each evening. On 8th March Richardson saw a double bill consisting of Shakespeare's *Richard III*, followed by either the melodrama *Robinson Crusoe* or an operatic play *The Mountaineers*. *Gloucester Journal* 4 March 1837.
- ³⁶ *Journal*, 1 April 1837.
- ³⁷ *Journal*, 12 October 1836 (Maynard), and 29 July 1837 (Chard).
- ³⁸ William Ringer, Tobacco and Snuff Manufacturer, 141 Redcliffe St.; Residence, 1 Belle Vue, Clifton. *Mathews' Directory*, 1837.
- ³⁹ James Lewis, Tailor and Draper, 88 Northgate St. Gloucester. *Robson's Gloucestershire Directory*, 1839.
- ⁴⁰ *Journal*, 6 October 1836.
- ⁴¹ *Journal*, 21 March 1837.
- ⁴² *Journal*, 1 May 1837.