I.K. Brunel was a thoroughly Metropolitan man. Despite having been born in Portsmouth, where his father, Marc Brunel, had been commissioned to install an ingenious series of block-making machines in the Royal Dockyard, the family moved to London when he was only a child, and his home remained there for the rest of his life. He travelled widely, both on his professional business and on journeys of exploration when the opportunities occurred, but once he had set up house in Duke Street, Westminster, above the offices of his busy engineering practice, this became his permanent home. Many business commitments, from bridges and railways to docks and ship-building, drew him to Bristol and the West Country, but he did not make his home there. During the last decade of his life he bought an estate at Watcombe, near Torquay, and spent a great deal of effort on planning its garden and the house which he intended to occupy on his retirement. When he died in 1859, however, at the age of 53, work on the house had only just begun and the scheme was abandoned by his family, even though the house subsequently built upon the site bears his name. It is, in any case, hard to imagine Brunel settling comfortably to the life of an English country gentleman.1

The implication of this metropolitan emphasis is that any associations between Brunel and Bath were incidental to his major preoccupations, and dependent mainly on professional considerations. It was only as the result of an accident that he came to the West Country in the first place, as he required a long convalescence after nearly drowning in the inundation of the Thames Tunnel in January 1828. He had been working on the tunnel, as Assistant Engineer to his father, for three years when this occurred. The accident enabled him to submit an application to the competition for a bridge across the Avon Gorge in Clifton, and when he emerged successfully from what turned out to be a rather convoluted process, he applied his youthful energy to its construction. The fact that the funds ran out and the bridge was not finished in his lifetime did not prevent Brunel from making some crucially important contacts in Bristol, and these led on to a series of formative professional commitments. First, he was engaged to recommend improvements to the Bristol docks, which were urgently in need of measures to overcome silting. Then came the commission to become engineer of the Great Western Railway. This led on
Fig. 1  I.K. Brunel as a young man, from the portrait by his brother-in-law John Horsley, painted c. 1844.
to Brunel’s involvement with ship construction, as the s.s. *Great Western* was conceived explicitly as an extension to New York of the enterprise after which it was named. The dock works undertaken by Brunel in Bristol were not large, but they included his successful solution to the silting problem of the Floating Harbour and the renewal of the southern entrance lock at Cumberland Basin, both of considerable significance to the prosperity of the mercantile community in Bristol. The Great Western Railway quickly became one of the huge railway systems which grew in Britain in the middle of the nineteenth century, and Brunel presided over every detail of its design and operation. Brunel’s initiation into shipbuilding, moreover, led on to the superbly innovative s.s. *Great Britain*, the first large iron ship, and the first to be powered by a screw propeller, and ultimately to the gigantic s.s. *Great Eastern*, which obsessed him in his closing years in the 1850s. In a very real sense, therefore, it was the Bristol region which launched I.K. Brunel on his extraordinarily meteoric and creative career, and the city of Bath played a significant part in this relationship.

There can be little doubt that Brunel’s family had a special affection for Bath. His father is on record as having spoken approvingly of the city, and seems to have considered it as a retirement home because in 1832 he described a visit to Bath in his diary: ‘Went round to inspect houses – found many that would suit and very moderate in rent – a splendid town Bath is’.

I.K. Brunel himself seems to have found it a congenial place for a stop-over on busy journeys connected with his engineering business. On Census Night in 1841 (7th June) he was staying at the *Lion Hotel* in High Street, presumably in connection with preparations for the opening throughout of the Great Western Railway from Paddington to Bristol Temple Meads which occurred at the end of that month. The hotel was in Market Street, on the site later occupied by the northern extension of the Guildhall, and it had previously been known as the *White Lion*. Brunel is given as ‘Civil Engineer’, aged 35, and he is listed alongside two Solicitors, two Merchants, a Surgeon, and a ‘Short Hand Writer’.

Brunel did a lot of travelling by stage coach before he became engaged on railway work, and even then it was several years before enough track had been laid to make railway travel a satisfactory alternative. He liked horses, and wrote a short treatise on the horse as a draught animal for the Society for the Diffusion of Useful Knowledge. When it was feasible he enjoyed riding, although from the surprising number of accidents which he reports he does not seem to have been an accomplished horseman.
Fig. 2 Page from the Census Returns for 1841 showing the entry for I.K. Brunel who was staying at the Lion Hotel, demolished in the 1890s to make way for the northern extension of the Guildhall. (Microfilm in the Podium Library, B&NES Library Services)
For the most part, therefore, he depended on coaches to get him around the country. He particularly enjoyed travelling on top of the coach, and regarded this as the only seemly way for a young man to travel, inside accommodation being intended for ladies and the elderly. His diaries contain many references to long journeys, frequently in most inclement weather, and there is a delightful account of a journey which he made from Paris to London in the hard winter of 1828-1829, when with two companions he contrived to maintain warmth and high spirits by filling all the space around them with straw picked up at the inns where the coach stopped. At the height of his railway work, he designed a coach for himself which contained all his office services and a bed, so that he could live in it for days if necessary.5

It is likely that Brunei frequently stayed in hotels in Bath, although the first visits to the West Country of which we have any record took place when he was staying in Bristol, to promote the Clifton Bridge scheme. He won the competition for this in March 1831, with the design for the elegant suspension bridge that was completed on the site as a memorial to him in 1864. Interesting accounts survive of two of his early visits to Bath. The first of these was on 17th September 1830, when he drove over from Bristol to canvass support for the Clifton Bridge and called on William Beckford (1759-1844), the fabulously rich eccentric antiquarian who had built the fantastic Gothic mansion at Fonthill in Wiltshire but then moved to Bath, where he lived in Lansdown Crescent. Brunei probably had an introduction from one of the powerful circle of Bristol Merchant Venturers who had befriended him and may have been amongst those who accompanied him. We are fortunate in having the young engineer’s own account of the meeting in his Private Diary:

After Breakfast went to Acraman’s and all started for Bath. Called on English’s. Went to Beckford. Well received – an agreeable [sic] gentlemanly well informed man – talking a great deal, evidently very warm and always in motion – his house a pattern of elegance – splendour rendered agreeable and unostentatious by purity of taste – and well studied luxury in the highest degree – painting gems and articles of virtu crowded in costly cabinets and on beautiful tables – He entered warmly into the bridge affair admiring much the giants hole plan and praising strongly the architecture I had adopted – approving of Egyptian but condemning in strong terms all the others. On the whole I was highly delighted and only regretted that Benyon was not with us.6
It is not apparent whether or not Beckford’s moral support was subsequently given any substance, and I have no record of any other communication between the two men. But Brunel was back in Bath in June 1831 – to attend the Bath Races on Lansdown where he ‘met a number of Bristol people – did a little bridge business’. The previous day, he recorded: ‘rode over to Bath – called on Mr Ellacombe in my way – Arrived late in Bath’. Henry Thomas Ellacombe (1790-1885), Vicar of Bitton, between Bath and Keynsham, had served as an Assistant Engineer to Marc Brunel, before going into Holy Orders and acquiring a considerable reputation as a local historian and antiquarian. A month later, Brunel came over from Bristol again, to visit the Murhill quarry near Winsley, in the Limpley Stoke valley, as a possible source of stone for his bridge: ‘some excellent stone – very hard and durable but too white’. He chose instead for the two towers some grey pennant sandstone.

The other substantial visit in these early years in the relationship between Brunel and Bath was the occasion in 1833 when he was consulted in connection with the arbitration of a dispute between the trustees of the Black Dog Turnpike Trust and the trustees of the Kennet & Avon Canal. The point at issue appears to have been the anxiety of the Canal proprietors and their officers about the risk of landslipping which could be triggered off by the construction of the new Black Dog Trust road, up the Limpley Stoke Valley from Bath to Warminster. The danger was not imaginary, as the canal builders had themselves struggled with the instability of the ground in this valley, and the imposition of road works on the hillside above them could not be construed as a benefit to their property. So it was agreed to seek the advice of two prominent engineers, the veteran tramway and mechanical engineer William Brunton, and the young Brunel who had just been appointed Chief Engineer to what was soon to become the Great Western Railway. On a Monday morning in March 1833, the week after his appointment to the GWR had been confirmed, Brunel took a day off from the task of surveying the route for his masterpiece by making a site visit. He had an appointment with McAdam, acting for the Black Dog trustees, so this was probably William McAdam Sr, who was Surveyor to the Trust. In this post he was somewhat at loggerheads with his father, the venerable John Loudon McAdam, who was Surveyor to the Bath Turnpike trustees, who had their own reasons for being suspicious of the Black Dog project. And William McAdam’s son, William Jr, would also have been in difficulties, as he had responsibilities to the Bath Trust whilst contriving to help his
father on the Black Dog. Brunel’s appointment with the two Williams was probably at their office in Westgate Buildings, although it could have been at the elder William’s home in Norfolk Buildings.

Started at 6½ on horseback to Bath – had a fall at starting – arrived at Mr McAdams at ¼ 9. After waiting a little for Brunton, breakfasted. Brunton came, proceeded with him & Mc & Son on foot to Claverton. The proposed road runs for a short distance parallel to the Canal. The side of the Hill is a rotten disruption [?] oolite laying on clay. Many slips have occurred owing no doubt to the washing of the clay by the rain and considerably assisted by the bad management of the canal. Blackwell, the Canal engineer, a bigotted obstinate practical man, says the road will make the hill slip – but would not tell us why. Cotterell, a quaker (?) surveyor attending on the part of Vivian the Landowner who opposes, could not or would not either say how or why. Merriman the Canal solicitor appeared to think his advisers rather uninfluenced (?) by reason. After a useless discussion during which Merriman twice said that Mr B[lackwell] would not of course be convinced and did not come to be convinced (Mr M the last time tried to say this as a joke tho’ perfectly true) we parted. Mr Tring our solicitor took my card and promised to let me know in good time when they went into Committee. Brunton & I then returned to McAdams, wrote our opinions separately & sealed. Rice (?) & I returned to Bristol.

From this diary entry it is clear that Brunel had resolved the dispute in favour of the proposed road, which was duly built but which has had trouble with landslipping on this stretch ever since.

Once Brunel had begun to tackle the railway project which he was determined to make ‘the finest work in England’, it became by far the most important contribution which he made to the landscape and social life of Bath. But before going on to consider this contribution, there is a curious link between Brunel’s family and the Bath district which is worth mentioning. Brunel’s mother, from whom he acquired his middle name, had been Sophia Kingdom (1775?-1855), the daughter of William Kingdom, a naval contractor in Plymouth. Sophie was the youngest of sixteen children, and although little is known about her family, one of her sisters, Elizabeth Kingdom (1761-1856), had married Thomas Mudge (1760-1843), a lawyer with an interest in clock-making derived from the fact that he was the son of Thomas Mudge (1717-1794), a celebrated
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Fig. 3 Page from I.K. Brunel's Private Diary for March 1833 regarding his visit to adjudicate between the Black Dog Turnpike Trust and the Kennet & Avon Canal Company. (Brunel Collection, Bristol University Library)
Fig. 4 Family Tree, showing the relationships between the Brunels and the Marchants of Chilcompton.
maker of clocks and watches. It seems that Thomas Mudge the younger and Elizabeth, who had a large family of their own, moved at some time to live in the countryside in Somerset, and it was there that their second daughter Sarah (1786-1859) met and married a well-to-do farmer from Chilcompton called William Marchant (1789-1839). It is likely that this is the same William Marchant as the one named as the occupier of Norton Green Farm in 1822. He had died in 1839, so that Sarah was a widow at the time of the visit by the Brunels. William and Sarah had at least one son, Robert Mudge Marchant, who trained under I.K. Brunel, served as an assistant engineer to him, and subsequently quarrelled with him. Before that, however, Sarah and her family had probably been the hosts of Marc and Sophia Brunel on at least one country holiday, and possibly more.

The visit about which we know was in 1843. Sir Marc Isambard Brunel, who had been knighted the previous year as the Thames Tunnel works approached completion after eighteen years of epic labour and anxiety, had been advised by his doctors to take a rest. He was already 74 years old and had suffered a stroke from which he had made a reasonable recovery, but both he and his wife needed some respite from the pressures of a busy professional life. It seems probable that Sophia, Lady Brunel, got in touch with her widowed niece Sarah Marchant, who invited the senior Brunels to spend several weeks with her family in Chilcompton. The village is six miles south of Bath, towards the Mendip hills, in undulating farmland which was then enjoying additional prosperity from the exploitation of the coal measures beneath its fertile soil. It consists mainly of small farms, but it has a pleasant church and churchyard in the bottom of the valley, and provides abundant rural calm. So it was here that Marc and Sophie came to spend much of what was for them an eventful and exciting summer near Bath. It could not have been very restful, but it certainly made a change.

Marc Brunel was a diligent diarist, although most of the entries in his journal were concerned with business and professional matters. Even when he was supposed to be relaxing on holiday, he recorded little about his place of residence or his hosts except for some brief and perfunctory references. He records the journey down to Bath on 3rd June 1843: 'Journey to Bath by the Railway... agreeable company in the coach, the Bishop of Rippon [sic] Yorkshire and Lord Barrington.' Three days later they moved on to Chilcompton: 'reached this place in good time. Fine but Hilly Roads'. But once established, his diary continued to be preoccupied with business matters. Marc waited anxiously for the post
every day, expecting to be kept informed regularly about activities at the Tunnel, and he became very restless when there was no news. He kept a particular check on the number of visitors to the Tunnel, which had been opened to the public in March. Amazingly, by July a million people had paid to walk through it – which is all they could do, because the approaches allowing vehicular traffic through it had still to be built, and were indeed not built until the Tunnel became part of the London Underground system in the 1860s.\(^{18}\)

On 18th July, Marc (and Sophie?) travelled into Bath ‘by the Chilcompton conveyance’ on the invitation of a Mrs Brake who had hired the whole carriage for herself and friends, and then on into Bristol (by Railway?) to Watt’s Hotel, ‘The Hotel where Isambard has put up his family and friends’.\(^{19}\) The next day, 19th July, they attended the launch of the s.s. *Great Britain*, which was floated out of the dry dock in the port of Bristol in which it had been constructed, with due pomp conducted in the presence of HRH Prince Albert. Marc was understandably impressed and proud of his son’s achievement, which led him to reflect on his own experiments with screw propulsion many years before. The party returned to Chilcompton via Bath on 21 July, although a passage has been excised from the journal at this point. On Sunday 23rd July, Marc recorded: ‘At Chilcompton – in very good health and much improved by the Trip to Bristol and Clifton’.\(^{20}\)

Five days later, however, Marc Brunel was thrown into a panic when news reached him that the Queen had made an informal visit with her husband to the Thames Tunnel. Apparently Prince Albert had returned to Windsor greatly enthused with the engineering skills of the Brunels, and had promptly persuaded the Queen to accompany him on a visit to the Tunnel, and they made the expedition on 28th July. As conceiver, inspirer and engineer of the Tunnel, Marc was mortified at being absent on the occasion of her visit, and immediately felt constrained to seek a Royal Audience in order to explain what he regarded as his dereliction of duty. So on the morning of 31st July he was given a lift into Bath in Mr Marchant’s gig and caught a train to London. Three days later he managed to encounter the Royal Train at Slough, and ‘secured a brief audience’.\(^{21}\)

I.K. Brunel did everything he could to look after his father on this occasion and to facilitate the Royal meeting. When that had been achieved, however, Marc did not immediately return to his wife in Somerset, but found business to detain him in Town until the end of the month. Then, on 30th August, he returned to Chilcompton:
'Set off at 6 from Paddington – a very agreeable run – reached Bath at 10 o.c., long before Mr Marchant could be there according to the notice sent – But he had come early and we set off at 2 p.m.'

Reunited with Sophie, they appear to have spent the autumn quietly in the countryside, with occasional outings to Cheddar (on 12th September); to Hornisham, for Longleat (on 25th September); and to Bath (on 1st November), when he was pleased to meet his son’s chief assistant engineer, Mr Hammond, who could bring him up to date with IKB’s movements.

Then, on the 10th November, old Thomas Mudge (Sarah Marchant’s father) died, and Marc Brunel records attending the funeral: ‘of our old friend and relative Mr Mudge who departed this life at the age of 82, 10m, 4 days. Buried in Chilcompton Churchyard’. The following week he records ‘an agreeable ride’ to the neighbouring village of Clutton, about six miles away:

CLUTTON – went to this place with Mr Marchant, Mrs Marchant and Mr Robt. Mudge and self for the object of obtaining a Tomb Stone to be laid over our friend and relative ...

But Marc was restless to return to the London scene, and just before Christmas 1843 he left Sophie to spend several more weeks with the Somerset family and returned to town. On Christmas Day he wrote to his wife: ‘giving her some more correct particulars of every thing before us chiefly what is expected from me at this moment’. He had effectively spent half the year in Chilcompton.

I.K. Brunel figures in the background of his parents’ activities in the summer and autumn of 1843. There is no indication that he ever visited the Chilcompton relatives himself, although it is difficult to imagine that he would not have done so at some time. One curious link, however, is that Robert Mudge Marchant, the son of William and Sarah, did join his staff and worked as an assistant engineer for him. But Marchant quarrelled with Brunel and appears to have left in something of a huff. He took up railway contracting and entered into some dubious partnerships which then came to grief, most notably in the case of the Mickleton Tunnel. This was undertaken for the GWR extension from Oxford to Worcester, and when in 1851 the contractors failed to complete the tunnel on time, Brunel raised a large band of railway navvies to evict them from the site in an operation that became known as the Battle of Mickleton Tunnel.
It was an act of risky legality, but it seems likely that Brunel knew his man and correctly surmised that Marchant would back down if pushed hard enough.\textsuperscript{28} Brunel certainly received abusive letters from his cousin-once-removed, to which he responded in February 1852 by threatening to return further letters unread.\textsuperscript{29} But as far as the tunnel was concerned, Brunel achieved his objective.

Which brings us back to railways and to the main contribution of Brunel to the Bath landscape – the Great Western Railway. As we have seen, from the moment he was appointed Chief Engineer to the putative company in March 1833, Brunel was involved with the line which he projected, with Bath as an important stop on the route between London and Bristol. The line was built from both ends, with stretches opening as soon as they became usable. The Eastern Division, out of Paddington, was under the supervision of a London Committee of directors, while a Bristol Committee was responsible for the Western Division. The two sections met at the Box Tunnel, which was the final link to be completed in 1841. Here we are only concerned with the Western end, and particularly with three parts: the approach to Bath from Bristol; the line from Bath to the Box Tunnel; and, in between, the Bath Spa Station, situated on the north side of the River Avon, with a bridge at either end.

Brunel quickly resolved any doubt about the best route between Bristol and Bath by opting firmly for that following the River Avon for most of the way rather than the northward swing though Downend and Mangotsfield favoured by his assistant Townshend and some of the directors. A preliminary survey was rapidly made, taking the line east from the site in Temple Meads where the terminus to the new railway would be built, across the Feeder Canal and the River Avon, and then keeping south of the river all the way to Bathford except for the short excursion north of the river to what became the site of Bath Spa Station. Brunel took care to keep the line throughout this section well above possible flood levels, with embankments through the river meadows and long viaducts in Bath itself. As with all the early main railway lines, the construction work was done by many small contractors, and Brunel struggled with several of indifferent quality on this stretch. With two of them, Ranger and David McIntosh, he subsequently became involved in tortuous claims for compensation.\textsuperscript{30} Despite these difficulties, the engineering work was eventually accomplished to Brunel’s complete satisfaction.

Eastwards from Temple Meads Station in Bristol, no attempt was made to follow the river through the Crews Hole valley. Instead, the line passed through Brislington in a series of short tunnels, before emerging
on the river bank and following it to Keynsham. At Saltford it cut through the low ridge of Liassic limestone on which the village stands by a short tunnel, and then swept across the river meadows to approach Bath through Twerton. In doing so, it went under the Bath-Bristol Turnpike Road at Newbridge, with a skew bridge carried on iron posts giving it the name ‘Cross Post Bridge’ (see the drawing shown in Fig.11 on p.175). Here, quite unexpectedly, the assistant engineers conducting the excavation found that they were driving the line through a Roman Villa site. Brunel’s Resident Engineer for the Bristol Division was G.E. Frere who, together with the Assistant Engineer T.E.M. Marsh, showed considerable archaeological perception, and managed to persuade Brunel to allow a short delay so that the site could be surveyed. Marsh, who went on to become an accomplished amateur archaeologist, was then only nineteen. He was allowed two months to excavate and record the site, and supervised the raising of two mosaics, one of which was installed as a feature on Keynsham Station for several years before being removed to Bristol Museum. It has the popular ‘Orpheus’ motif, with surrounding animals. 31

Another short tunnel and cutting brought the line into Twerton. This previously detached village had become in effect an industrial suburb of Bath in the eighteenth century. There had been several industries based on water power from the two large weirs, including a brass mill and a logwood mill, but the dominant enterprise in the early nineteenth century was woollen textile manufacture. 32 There was a large mill on the south bank of the river, with many small streets of artisan housing running at right-angles to the river. There can be no doubt that Brunel’s railway was a major disruption to the community of Twerton, as it cut through this network of streets with a long brick and masonry viaduct of 28 arches. Some compensation was provided by building homes into several of the arches, and these appear to have remained in use for many years. The viaduct alongside the re-aligned Lower Bristol Road was faced in masonry, and a platform was built on the viaduct for Twerton Station, no longer in use. 33 After a low cutting at Oldfield, there was another viaduct of 73 arches which carried the line to the timber-arched skew bridge by which Brunel crossed the river to approach Bath Spa Station.

Immediately to the east of the station, St James’s Bridge carried the line back to the south side of the river with a single masonry arch over the water and two subsidiary arches. Thereafter, the line made a graceful sweep to the north-east, involving a surprisingly tight-radius curve which was only acceptable on a high-speed route because trains would
Fig. 5 Map showing the route of I.K. Brunel's Great Western Railway through Bath.
be slowing down in the vicinity of the station. This stretch carried the railway over Pulteney Road by a neat three-arch bridge faced in Bath stone. This was somewhat disfigured by subsequent restorations using blue engineering brick instead of stone, but it survived until replaced in the 1970s by the present box-girder single-span viaduct which is less elegant but provides for an easier flow of modern traffic on the main road route through the city from east to west.
Fig. 8 Lithograph of the timber skew bridge approaching Bath Spa Station from the west, from J.C. Bourne, *History and Description of the Great Western Railway*, 1846.
Fig. 9 Lithograph depicting the construction of the Great Western Railway as it approached Bath Spa Station from London, also from J.C. Bourne, History and Description of the Great Western Railway, 1846.
A short cutting and tunnel brought the railway into Sydney Gardens, where Brunel contrived a vista of great theatrical quality, with promenaders having an opportunity of seeing trains on his railway, gliding – as it were – across a stage. It is sobering to reflect that, only a generation before, the Kennet & Avon Canal had taken a parallel cut through the Gardens, and that neither engineering exercise appears to have aroused effective resistance. But whereas the canal company had been content to hide their intrusion in a carefully executed cut spanned by small iron bridges, Brunel had sought maximum presentation of the railway as a piece of public relations. Every effort seems to have been taken to supplement rather than detract from the recreational amenities provided in the Gardens, even though a maze was destroyed in order to accommodate the railway. A drawing in Brunel’s Sketchbooks of a single-storey pavilion with a veranda, placed directly alongside the railway lines, shows a grandstand that would have provided fine views of passing trains, perhaps with refreshments available, that was sadly never built.\(^\text{34}\)

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**Fig.10** A drawing from I.K. Brunel’s Sketchbooks showing the pavilion designed for Sydney Gardens but never built. (Brunel Collection, Bristol University Library)
Emerging from Sydney Gardens, it was necessary to arrange a short alteration in the course of the K & A Canal where both railway and canal turned eastwards again, with the canal being at the higher level at this point. This modification was accomplished by moving the canal several yards to the east and by building a substantial retaining wall alongside the railway. Then across the meadows, but still comfortably above the flood levels, and over the Avon for the last time with an elegant masonry bridge, and on with another bridge across the Bradford-on-Avon road, and so up the valley of the By Brook to Box. There was a wrangle over property rights at Bathampton which caused a small deviation from the original alignment, and provision was made for a junction with the line which eventually went up the Limpley Stoke valley to Frome and Westbury. Brunel had avoided this route for his main line, but with its links through the Vale of Pewsey to Newbury and Reading it eventually became part of the GWR network.35

![Fig.11 A drawing from I.K. Brunel's Sketchbooks showing the Cross Post Bridge. (Brunel Collection, Bristol University Library)](image)
Fig. 12 A drawing from I.K. Brunel's Sketchbooks showing the facade of Bath Spa Station. (Brunel Collection, Bristol University Library)
Fig. 13 A drawing from I.K. Brunel's Sketchbooks showing St. James' Bridge. (Brunel Collection, Bristol University Library)
The Box Tunnel, 1 3/4 miles long, was the last section of the original GWR main line to be completed. It was a major excavation, involving many teams of navvies over several years, working simultaneously from both ends and from faces at the bottom of the six ventilation and supply shafts sunk along the line of the tunnel. One important by-product of the work was that it opened up another supply of excellent quality Bath stone from the beds of oolitic limestone through which the tunnel was cut. As with most civil engineering works of any magnitude in the nineteenth century, there was a price to pay in human suffering and loss of life. There may have been as many as a hundred fatalities during the course of the construction of the Box Tunnel, but it is a curious reflection of the indifference to such matters at the time that there is no exact record of the number. The work was finished, and the line opened throughout, on 30th June 1841.36

Perhaps in deference to Bath, Brunel chose a muted classicism to present the western portico of the Box Tunnel, twice the height of the internal bore, but providing a fine landscape flourish to the line on its departure from the Bath region. But maybe not, because the vagaries of Brunel’s styles represent exuberance rather than any consistent pattern, and in Bath Spa Station itself, where he might have been expected to show some deference to Palladian influences, there is no such influence to be seen. The style adopted for the façade, which in all its essential features was as it is today, is the same Tudor Cottage/Romantic that he had used on the Temple Meads offices (see the drawing shown in Fig.12 on p.176). The station was built with a shed-roof, again like that at Temple Meads, using timber beams balanced on iron columns, meeting corresponding beams from the other side in the middle and anchored at the outer end in the external walls.

The point of this arrangement was to avoid undue loading on the external walls, which were carried over the arches of the viaduct on which the station was built. It was less satisfactory than the Bristol station, with the columns too near the edge of the platforms, and the whole roof was removed in the 1890s and replaced by the canopies over the two main platforms. Other modifications have been made, such as the removal of the two additional sets of rails that allowed for by-passing and parking rolling stock, and of course the whole track was re-laid with the conversion from the broad gauge to standard gauge, which was completed in 1892. Brunel’s brilliant innovation had enabled the GWR to achieve the regular high-speed passenger services that he had envisaged, but his success had stimulated the standard gauge engineers to improve
their own performance, with the result that the broad gauge had become increasingly uncompetitive and expensive to maintain. But one welcome legacy of the broad gauge was the comparative spaciousness of its tunnels, viaducts and stations, at a time when standard gauge speeds were being increased by the introduction of High Speed Trains in the last quarter of the twentieth century.

Amongst other features of Bath Spa Station which have changed since Brunel’s time, the removal of the large water tank which was a standard feature of nineteenth century stations is worth a mention. Also, the signal-box incorporated in the canopy above the ‘down’ platform has gone fairly recently, and the goods yard has been obliterated. This was awkwardly built at right-angles to the main line at the western end of the ‘up’ platform. Access was by means of a turn-table taking one wagon at a time. It was convenient for servicing the power generating station when this was built on the adjacent site in the 1890s, but when that closed down after the Second World War, the goods yard was closed and became a car park.

Changes have also been made in the bridges between which the station stands. Small but unsightly repairs have been made to the main masonry arch of St James’s Bridge, although it is otherwise unaltered (see the drawing shown in Fig.13 on p.177). The timber skew bridge (shown in the lithograph in Fig. 8 on p.172), however, was replaced by a wrought-iron girder bridge in 1878. This had been a remarkable specimen of Brunel’s virtuosity, demonstrating his mastery of timberwork in large structures. He used the same skills later on timber viaducts to carry his Cornish railway over the deep valleys in that county. The bridge in Bath, crossing the river at an acute angle just upstream from the ancient Bath Bridge, had been built in two arches of laminated timber, across cast-iron columns in the middle of the river, and it had done good service. But the directors of the GWR had been alarmed by the collapse of the ‘Halfpenny’ Footbridge behind the station in 1877. This had been a timber bow-structure, which fell into the river with a considerable loss of life when it became overloaded with people streaming across to attend the Bath & West Show being held that summer on Beechen Cliff, the hill immediately south of the river.\(^{37}\) It led to some nervousness about large timber structures, and the main line bridge was consequently replaced. The new footbridge, also an iron girder construction, was built by T.E.M. Marsh, Brunel’s Assistant Engineer who had conducted the excavation on the Roman villa at Newbridge, and who had acquired a practice in the city as a Consulting Engineer.
Bath Spa Station survives as a distinct Brunel feature in the townscape. We have already observed Brunel’s penchant for theatrical flourishes in the display of the railway in Sydney Gardens, and an element of the same quality can be found in the station, with its approach from the city via Manvers Street, although he was not able to carry out the idea of a ‘grand approach’ in detail. It occurs also in the façade which the railway viaduct presents across the river to Southgate, with its turrets and castellations in good quality Bath stone. These features show Brunel’s understanding of the Bath market. He does not adopt its Palladianism, but neither does he try to impose himself and his railway on the city: he salutes it respectfully but a little jauntily as he passes by, inviting its citizens to travel out into a wider world. The citizens of Twerton who had been bulldozed out of their homes by the advent of the railway would not have appreciated it in the same way. But they had less voice and, more significantly, less money than the visitors who would come flocking into the city through the new mode of high-speed passenger transport. From their point of view, as from that of posterity, Brunel’s Great Western Railway was comfortably assimilated into the Bath landscape as a desirable and agreeable feature.

I.K. Brunel thus made an impressive mark on the City of Bath, with his great railway to the West sweeping gracefully through its parks and across its river, and with its elegant station and viaducts. His descendants retained the family attachment to the city: his son Henry made several visits, and his granddaughter Celia, who became Lady Noble, made her home in the Royal Crescent. Brunel has been commemorated in the city with a plaque in Sydney Gardens, recalling the opening of the line from Bristol to Bath in 1840. In addition to all its other charms and claims to fame, Bath is justified in taking some pride in its association with this dynamic man who did so much to stimulate the industrialisation of the nation and to demonstrate the value of the new modes of rapid transport which he put at the disposal of society.
Fig.15 Celia Brunel, Lady Noble, granddaughter of I.K. Brunel, from an oil on canvas painting by Walter Sickert in 1905. (Victoria Art Gallery, Bath & North East Somerset Council)
Fig. 13 The unveiling of the Brunel Society plaque to I.K. Brunel in Sydney Gardens, 30th June 1977: the Mayor and Mayoress of Bath, Councillor and Mrs R.C. Rosewarn; the President of the Brunel Society, R. Angus Buchanan; and, in the pale coat, Cynthia, Lady Gladwyn, great-granddaughter of I.K. Brunel.

(Reproduced from the Brunel Society Newsletter, No. 24, October 1977)
Notes and References

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1 For a general account, see R. Angus Buchanan, Brunel: The Life and Times of Isambard Kingdom Brunel (Hambledon and London, 2002). The system of referencing used in the book has been adopted here, viz: PLB = Private Letter Books, PerD = Personal Diary, PriD = Private Diaries. Most of the archival material on the Brunel family is in the Special Collections at the University of Bristol Library and, as ever, I am indebted to the Archivists, Michael Richardson and Hannah Lowery, for their skilful assistance.

2 Paul Clements, Marc Isambard Brunel (Longman, 1970), p.201: no reference is given for this citation, and I have so far failed to identify it in the Diaries of Marc Brunel, which are in the archives of the Institution of Civil Engineers. But I have no reason to doubt its authenticity.

3 I am grateful to William and Pauline Hanna for drawing my attention to this entry. It is from the 1841 Census transcript, Enumeration District No.5, p.3 of 20: Registration District: Abbey, Parish St Peter & St Paul, ED 5, p.59. A copy is available on microfilm in the City of Bath Library.

4 William Youatt (ed.), The Horse (Baldwin and Cradock, 1831).


6 IKB's Private Diaries, in the Bristol Collection: PriD, 17 Sept 1830: Brunel's idiosyncratic spelling has been retained, but the punctuation has been tidied up slightly. Acraman, English and Benyon were all Bristol businessmen with an interest in the Clifton Bridge. The reference to the 'giant's hole' is to a feature in the limestone cliff at Clifton known by this name which appears in one of the drawings for the projected bridge made by Brunel.

7 PriD, 17 June 1831.

8 PriD, 16 June 1831.

9 For Ellacombe, see R. Beamish, Memoir of the Life of Sir Marc Isambard Brunel (Longman, Green, Longman and Robert, 1862), pp.115-124.

10 PriD, 11 July 1831.


12 The Bath Directory for 1841 gives the address of William McAdam, General Surveyor of Roads, as 13 Norfolk Buildings (p.107). But there was also a 'General Office of Roads', at Westgate House, 17 Westgate Buildings (p.220), with 'Wm. McAdam, gent.' being given as the General Surveyor, so it seems probable that the rendezvous was here.

13 PriD, 11 March 1833.

14 David J. Strawbridge, Meandering through Chilcompton, (Strawbridge, Chilcompton, 1985), p.92. For background information about the Mudge and Marchant families, I am grateful to the late Frank D. Smith of Bolton, Lancs, who sent me some long com-

The date of death, 1839, is given on the Marchant family tree provided by Frank Smith.

15 MIB Diaries, 3 June 1843.
16 MIB Diaries, 6 June 1843.
17 MIB Diaries, 11 July 1843, mentions the millionth visitor.
18 MIB Diaries, 17-18 July 1843.
19 MIB Diaries, 23 July 1843.
20 MIB Diaries, 3 August 1843. The Marchant mentioned here was probably Robert Mudge Marchant, his father having died in 1839.
21 MIB Diaries, 30 August 1843.
22 MIB Diaries, 1 Nov 1843.
23 MIB Diaries, 16 Nov 1843.
24 MIB Diaries, 22 Nov 1843.
25 MIB Diaries, 25 Dec 1843.
26 IKB: PLB 5, 26 and 29 March 1847.
28 IKB, PLB 8, 16 Feb 1852.
30 For an excellent summary of IKB’s work on the Bristol-Bath stretch of the GWR, see MacDermot, *op.cit.*, esp.pp.54-58 of vol.1 of the revised edition. See also Colin G. Maggs, *The GWR Bristol to Bath Line* (Sutton Publishing, Stroud, 2001). For the excavation of the Twerton Roman Villa, see *History of Bath Research Group Newsletter* 34 (September 1997), reporting the meeting on 15 May 1997 when James Russell gave an account of the work: see also his article in *Bath & Avon Archaeology*, vol.9 (1992), pp.2-23.
32 See Maggs, *op.cit.*, p.68 for an illustration of this station; also p.66 for a picture of the masonry face of the viaduct and a cross-section of the internal arrangement of one of the dwellings.
33 The maze had been a popular feature of the Gardens until it was destroyed to make room for the GWR. The drawing of the pavilion is in the Brunel Collection, *Sketchbook*, vol.8, folio 43, and is dated 3rd January 1840.
34 There is a plan of the Bathampton deviation in the Bristol Collection.
36 Lady Noble (1871-1962) moved to No. 22 Royal Crescent towards the end of her life, and became a well-known figure there and in the Pump Room. Her portrait by W.R. Sickert, painted in 1905, is in the Victoria Art Gallery, Bath. It pre-dates Lady Noble’s residence in Bath, but it has found an appropriate home in the city.