Reinventing the inventor

Richard Trevithick is acknowledged as the inventor of the railway locomotive, but there are those who believe his achievements have been unfairly, or deliberately, played down in favour of other steam pioneers, and his status today accordingly is far less than it should be. **Robin Jones** visits Cornwall's mining landscapes World Heritage Site and looks at the huge wealth of railway and industrial relics still to be found, and asks is it time for a major revaluation of Trevithick as one of the greatest British heroes of all time, giving a major boost to the duchy's tourist market.

Last year, the Shakespeare Birthplace Trust attracted more than 800,000 visits, many of them from overseas tourists, to its five properties in and around Stratford-upon-Avon.

In the Cornish hamlet of Penponds, near Camborne, a similar picture-postcard cottage owned by the National Trust is open for just half an afternoon each week, during which time a handful of people turn up to be shown around the spare interior.

There is no questioning the place of William Shakespeare in world culture, although the extent of his genius did not begin to be as widely appreciated as anything like it is in modern times until David Garrick's Jubilee Festival celebrating the bicentenary of the playwright's birthday in 1769.

Few readers would question the fact that the inhabitant of the Penponds cottage made a similar impact on world history. Indeed, it could be argued that had Shakespeare's plays been lost in history like those of so many of his contemporaries, Ben Jonson or Christopher Marlowe might well be considered the greatest of all Elizabethan dramatists today. Yet there is no doubt that the Cornish mining engineer who lived in that whitewashed cottage now concealed from view by a giant hedge produced an invention that changed the entire world forever.

His name, of course, was Richard Trevithick.

He was not the first man to toy with the idea of a self-propelled vehicle, one that could replace the state-of-the-art form of traction, the horse. However, the big turning point came with his invention of the cylindrical boiler.

That one crucial step provided the bridge link between the Industrial Revolution and the modern world.

The cylindrical boiler was the key ingredient in the formula which could turn the mass of steam engineering knowledge used to build the giant pumping engines which kept Cornwall's tin and copper mines dry to produce a revolutionary and efficient form of transport. High pressure steam on wheels was the end result.

Backward technology for 1500 years had seen Britain all but lose the art of road building that the Romans had imported with them, so Trevithick's first vehicle, designed to run on the public highway, immediately sank into the mud and potholes. He then looked at the railway concept, which for several centuries had been a tried and tested method of carrying bulk loads from a mine, quarry or place of manufacture to a transhipment point, and put his vehicle on rails.

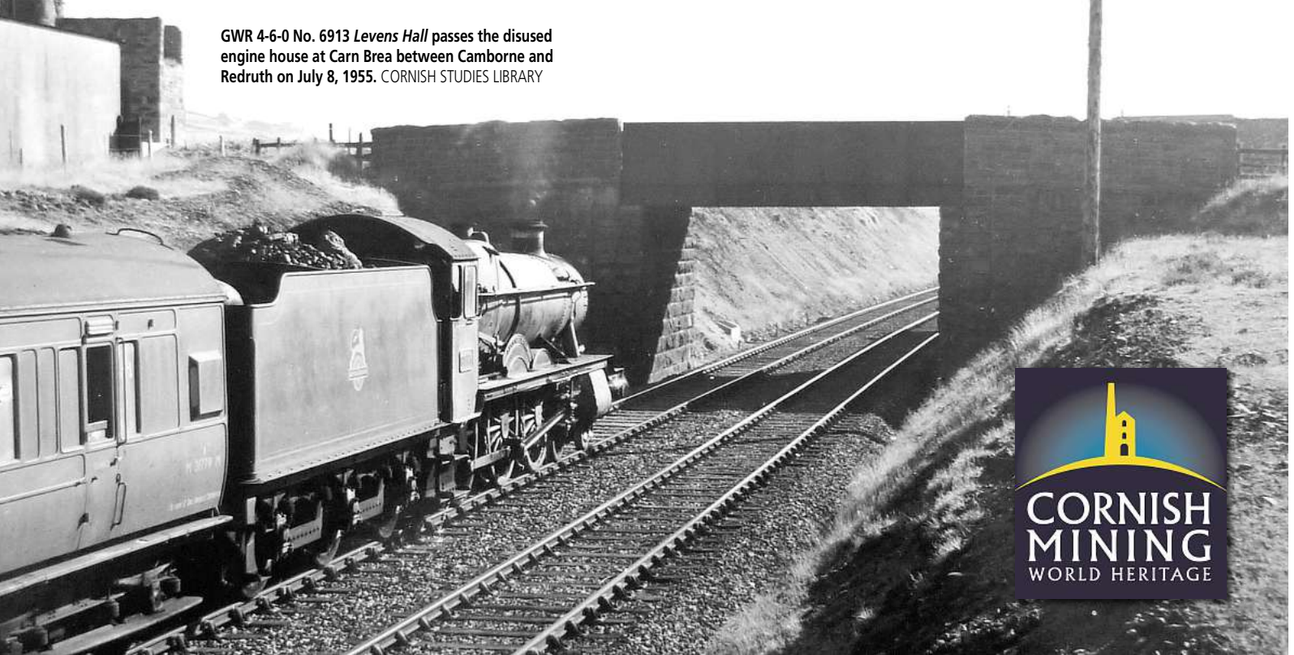
A Trevithick railway locomotive was built at Ironbridge in 1802, and the first public demonstration of one was given on the Penydarren Tramroad at Merthyr Tydfil two years later.

By our standards the concept was slow to catch on, and never made Trevithick any money, yet around a quarter of a century later the world's first inter-city railway, the Liverpool & Manchester was opened, using locomotives that had their roots in Trevithick's design. The rest is history... which includes the likes of Churchward, Stanier and Gresley.

We know how stream railways shrank the globe, and paved the way for the development of electric and diesel locomotives, as well as the motor car and aircraft.

You would have thought that Trevithick would, like Shakespeare, be widely feted as one of Britain's greatest national heroes, afforded the status bestowed on the likes of 'the Bard', and closer to our field of interest, Isambard Kingdom Brunel. What would the Americans have made of him if *Catch-me-who-can* had been built in New York or New England, not England?

Discouraged by initial lukewarm reaction to his 'novelty' locomotives, it appears that Trevithick had given up on the idea by 1810. However, it transpired that Trevithick's locomotives had by then already left an indelible mark in the minds of other inventors. History records, quite rightly, that the industrial North East became the 'Cradle of the railways'. Yet it was a Cornish baby that was placed into it.



GWR 4-6-0 No. 6913 *Levens Hall* passes the disused engine house at Carn Brea between Camborne and Redruth on July 8, 1955. CORNISH STUDIES LIBRARY

Richard Trevithick, the Cornish engineering genius whose historical significance was downplayed in favour of that of James Watt and George Stephenson.

Trevithick's cottage at Penponds is in the care of the National Trust. ROBIN JONES

Cornwall's World Heritage Site

Back in *Heritage Railway* issue 42, we reported on the bid to acquire UNESCO World Heritage Site status for the mining landscapes of Cornwall and West Devon. The move was successful: the coveted status was granted four years later.

Yet achieving the same status as the Taj Mahal or the Acropolis of Athens does not bring a chequebook with it. Like the Olympics, winning the right to hold it is only the start. What happens afterwards depends on the size of your bank balance.

Restoring a set of buildings or a particular site has the benefit of giving a clear definable goal from the outset. However, there are thousands of remains of the rich mining legacy of Cornwall and West Devon scattered throughout.

Engine houses are a trademark of the Cornish landscape. The empty giant stone hulks have long since blended into the purple heather and yellow gorse-clad moors on which they stand, and thanks to a succession of writers such as Daphne du Maurier, have become part of the romance of the duchy.

In their day, tin mines were anything but romantic, and Cornwall was not a place where you would take a summer holiday – if they had been invented then. Much of the landscape in the 18th and 19th centuries was about as romantic as that of the South Wales valleys in the 20th century. The huge engine houses belched out clouds of black smoke above the mining villages with their tiny cottages in which miners' families lived on the meagre wages derived from some very inhospitable and precarious working conditions. Muscular women known as bal maidens (bal being Cornish for mine) would hammer the extracted ore prior to its refining. Average life expectancy for those who toiled underground was not great.

The Cornish mines have long been silent, the rich lodes they tapped having been worked out, or in most cases, deemed no longer economic because of cheaper imports from overseas.

The coming of the railway brought a new prosperity to Cornwall, but only in the height of the summer. Brunel's Cornwall and South Devon railways, which eventually became part of the GWR, became part of a trunk route between Paddington and Penzance, and little fishing ports which were linked to it by branch lines mushroomed into bustling holiday resorts.

Using the old mineral tramways is one of the best ways to explore the World Heritage Site mining landscapes around Camborne and Redruth. EXCESS ENERGY

The millions of annual visitors who make Cornwall Britain's most popular summer holiday destination are drawn by sand, sea and surf, and the hope of sun. Very few of them visit specifically for the mining heritage, despite the World Heritage Site status, of which many holidaymakers remain totally unaware.

Indeed, why should they care? They might consider industrial archaeology to be a niche interest, not for them, unless it is raining and they decide to visit an attraction such as Poldark Mine near Helston for the day, and in any case, you can find old mines anywhere, so why go all the way to Cornwall to look at them?

The answer is that Cornwall's mining landscape is truly different from the rest. Indeed, the duchy's rich mineral exploits may be deemed to have placed Britain on the global map. Centuries before Christ, the Phoenicians sailed to Cornwall to buy tin. Although we do not think that the Romans, who started out as a nation of traders, truly tamed Cornwall, it has been suggested that one of the main reasons why they invaded Britain was to grab the mineral deposits of the duchy and the Mendip Hills for themselves.

Fast forward to Trevithick's day, and the giant beam engines from the early days of steam technology and the age of Boulton & Watt had facilitated the production of tin, copper, arsenic and other matters on a modern industrial scale.

In those days, Cornwall was a world away from the capital, almost like a foreign colony. It was best reached by sea rather than land as the roads were either poor or all but non-existent. Indeed, as recently as the 1890s, the London & South Western Railway sent locomotives to its outlier of the Bodmin & Wadebridge Railway by ship because the North Cornwall Railway linking it to Waterloo had not been completed.

Once ships had braved the treacherous coasts to deliver their cargo, the rocks off Land's End being a notorious graveyard for mariners, then there was the problem of hauling it from the harbour and delivering it to its intended

A replica of Trevithick's first locomotive, the 1802 Coalbrookdale engine, at Ironbridge. IRONBRIDGE GORGE MUSEUMS

destination. Huge components for beam engines were one example. What if the machines could, in effect, be made to 'walk' there by themselves?

The black and often dismal mining landscapes were for Trevithick and his contemporaries a fertile breeding ground for ideas and solutions. Necessity was the mother of invention. Once those who followed in the footsteps of Trevithick, William Hedley, Timothy Hackett, George and Robert Stephenson, had advanced his concept of a locomotive based around a high-pressure cylindrical boiler towards the perfection that would ultimately be obtained by the likes of Chaperon, Stanier and Gresley, it could be said that this selfsame landscape had moulded the future patterns of civilisation. Cornwall, in effect, reshaped the globe. So why are we not shouting it from the rooftops?

In May, a new town sign for Camborne was erected outside the new Premier Inn at Treswithian on the outskirts of the town. It highlighted the town's most celebrated son, Richard Trevithick, and its twin towns, Saint Anne D'Auray in Brittany and Calumet, Michigan, US, where thousands of miners from Cornwall went in the mid-19th century after vast deposits of copper were discovered.

A reasonable start, but there again, big deal. Why, I am left asking, is Trevithick not highlighted on road signs at the boundary of Cornwall itself? Elsewhere, we have Captain Cook Country, Robin Hood Country and the like, so why are we not shouting from the rooftops with megaphones about a man whose invention paved the way to the modern world?

A fairweather friend too far

Local author Philip Hosken has just had a book, The Oblivion of Trevithick, published in which he explains why, when we talk about early steam locomotives, the public immediately thinks of Stephenson's Rocket and regards Trevithick's locomotives as 'primitive'. Of course they were: they were the only ones in existence at the time.

He argues, very convincingly, that in his day, Trevithick and his multiple achievements were deliberately played down, as others sought to boost their own egos. The finger of blame is pointed at Davies Gilbert of St Erth, a fellow of the Royal Society who has been described as the 'Cornish Philosopher' and Trevithick's lifelong friend, mentor and patron, and none other than Humphrey Davy, the Penzance-born chemist regarded as the inventor of the miners' safety lamp.

On February 21, 1804, the world's first locomotive-hauled public railway journey took place as Trevithick's unnamed steam locomotive hauled a rake of waggons along the Penydarren Tramway.

Word spread, and Trevithick's reputation spread far beyond the mines of Cornwall, where he had made a name for himself in the development of stationary beam engines.

However, in October that year, Davy wrote to Gilbert: "Whenever speculation leads to practical discovery, it ought to be well remembered and generally known. One of the most common arguments against the philosophical exercise of the understanding is 'cui bono' (who will benefit). It is an absurd and common placed argument: but much used: so that every fact against it ought to be carefully registered. Trevithick's engine will not be forgotten, but it ought to be known and remembered that your reasoning and mathematical enquiries led to the discovery."

Davy's words to another member of the Royal Society were nothing less than poison, and heavily influenced Gilbert to believe he was the brains behind the first railway locomotive, and played down Trevithick's genius. It was only in his later life that Gilbert admitted that Trevithick had come to him in around 1796 with the idea for a high-pressure steam engine.

By then the damage had been done. While Trevithick looked to Gilbert for support and influence in high places, the latter merely regarded him as the 'Cornish mechanic.' He failed to attribute the invention of the blast effect of steam in the chimney to Trevithick, paving the way for others including George Stephenson to claim it as their own.

Gilbert failed to even mention Trevithick in lectures that he gave on the steam locomotive, instead always referring to minor players in the story. Yet he had the ear of the high and mighty in the society, and could have done so much to benefit his 'friend'.

So the man who Trevithick considered to be a friend continued, as a result of Davy's advice, to downplay or ignore him outright.

Yet why should Davy have deliberately tried to take the glory away from Trevithick? Jealousy, perhaps, spite for reasons lost in the mists of time, or maybe indignation that a mere 'mechanic' should find himself in a position of universal greatness. The acrimonious later long-running dispute between Davy and George Stephenson over who really invented the safety lamp might well speak volumes here.

In 1827, Gilbert gave an address to the Royal Society and published a paper, Observations on the Steam Engine. This came at a time when Britain was lurching towards the steam railway – the Stockton & Darlington, the world's first public steam-operated line, having opened two years before, and plans rapidly progressing for the Liverpool & Manchester Railway, the world's first inter-city line.

Gilbert's paper looked at the operation and efficiency of various steam engines and the work of James Watt and Jonathan Hornblower of Penryn near Falmouth. Yet he omitted any reference to Trevithick.

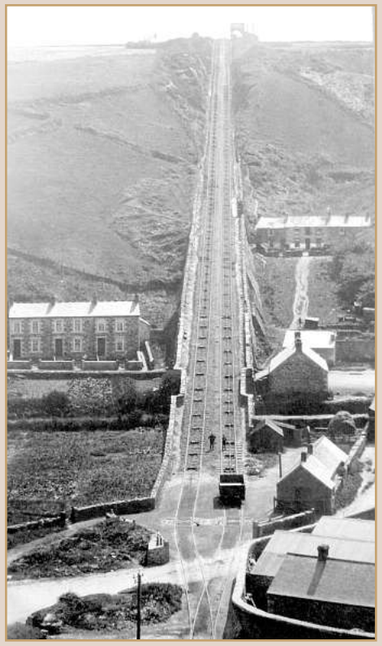
On December 20 that year, Trevithick asked his solicitor to petition Parliament to recognise the value of his inventions, hoping for support from Gilbert, then an MP and president of the Royal Society. Such support was not forthcoming, and in 1831, Trevithick placed a second petition in the hands of Gilbert, still trusting him in vain. Yes, you guessed: it again came to nothing.

As major strides were made year by year in the development of steam power technology, Watt was the figure that was universally and all but exclusively admired, to be joined later by George Stephenson. At this crucial stage, Trevithick had been deliberately turned into a non-entity, Philip argues.

After several unsuccessful ventures in Central America, Trevithick died from pneumonia in Dartford's Bull Hotel on April 22, 1833. Unlike both Stephensons, he had failed to make a fortune despite his brilliance; much had been made of his pennilessness. The following year, the Bodmin & Wadebridge, Cornwall's first steam railway, opened.

Old Liskeard & Caradon Railway stone sleepers remain at the entrance to disused Cheesewring Quarry. ROBIN JONES

The bargain-priced replica of *Catch-me-who-can* at the Severn Valley Railway's Bridgnorth works. ROBIN JONES



The great cable-worked incline leading down to Portreath harbour. CORNISH STUDIES LIBRARY

It is an often-overlooked fact that railways not only exported Cornwall's copper and tin but their miners too. Here, a GWR train arrives at Redruth station in 1903/4 to pick up the weekly contingent of miners and their families emigrating to South Africa. CORNISH STUDIES LIBRARY

Underground hand-pushed wagon tramway in Cook's Kitchen Mine, part of South Crofty Mine, in 1893. This scene was typical of the Cornish mines. J BURROW/CORNISH STUDIES LIBRARY

The northern connection

In the years that followed, there began a slow and piecemeal reappraisal of Trevithick.

An article in the March 1839 edition of The Civil Engineer & Architect's Journal credited him with being the inventor of the high-pressure steam engine and boiler. In 1888, a fund was set up to provide a memorial window in Westminster Abbey, but insufficient money for a statue alongside those of Watt and Stephenson was raised. It was not until 1932 that a statue of Trevithick was unveiled, by the Duke of York, in Camborne. It was the place where, on Christmas Eve 1801, he demonstrated his first steam-powered road carriage, carrying several men up Fore Street and then continuing on up Camborne Hill, from Camborne Cross, to the village of Beacon. The world could never be the same again, but history was to treat the inventor shabbily.

Few readers will not instantly recognise a depiction of Trevithick's Penydarren locomotive. Philip Hosking believes we have got it wrong: the image is, his research indicates, a locomotive built at Gateshead or Wylam near Newcastle-upon-Tyne, about which little is known. The argument is that track widths and tunnel heights indicate that the Coalbrookdale locomotive of 1802 may have been the one that ran at Penydarren, and the one we think is the Penydarren engine ran in the north of England.

Trevithick supplied Christopher Blackett, owner of Wylam Colliery, with drawings of a steam locomotive dated September 17, 1804. The locomotive was built by foundry owner John Winfield and was running in May 1805, Philip relates. As at Penydarren, it was too heavy for the rails on which it ran.

Blackett came back to Trevithick in 1808 having built a new iron tramway, but the Cornishman said he was too busy to help.

As highlighted in issue 164, engineer John Blenkinsop saw steam locomotives as the future and persuaded Matthew Murray to build several for Middleton Colliery, hence the June 23-24 gala at the Middleton Railway celebrating 200 years of commercial steam locomotive operation.

Murray, Philip points out, was one of the few locomotive manufacturers to pay Trevithick a royalty, in this case £30, for every engine he built. Meanwhile, early steam pioneers William Hedley, Timothy Hackworth and Jonathan Forster all worked at Wylam Colliery for Blackett and there produced *Puffing Billy* and *Wylam Dilly*.

Philip has therefore restitched together a binding thread between Cornish mining of the late 17th and early 18th centuries, Penydarren and the seeds of the steam railway revolution which gripped the North East. If, as it seems, he is correct, there can be no doubting Trevithick's rightful place on the 'A list' of history, rather than as a bit player as his contemporaries shamefully had him be.

So how do we right the ship two centuries on?

To readers, it is preaching to the converted, but how do you cut through the fog of generations of school pupils knowing all about Newcomen, Boulton and Watt, the Stephensons and little else?

Does it really matter? It certainly does.

Despite decades of neglect, Cornwall still has one of the richest industrial landscapes in Europe, if not the world. While most visitors head straight for the beach, there is another Cornwall waiting to be rediscovered, and with the World Heritage Status, placed firmly on the international stage, as a year-round destination. The economic benefits from such intellectual tourism could and should be huge, but first, Cornwall Council and grant funding bodies have to be convinced too. Resurrecting the profile of 'Captain Dick' as Trevithick was locally known would be a massive, and key, start.

It is not just about Cornwall, for renewed pride in Trevithick's world-changing achievements is restoring lost pride in Britain, something desperately needed. The crucial Trevithick connection between Cornwall and the railway revolution which gives the mining landscapes paramount importance.

Sadly it does not shout about it enough, but Cornwall and west Devon are like one great theme park with different pieces, from which the story can be subtly pieced together, scattered over its length and breadth, rather than to be found in a 'one-stop shop'.

The marvels of Minions Moor

Cornwall's old mine engine houses are well known, but so often overlooked are the wealth of old railway lines waiting to be rediscovered by the visitor. I'm not talking about the routes of Beeching closures, but the labyrinthine network of early mineral railways, both horse-drawn and steam, and in one case, electric.

In many ways, it is like 1970 all over again, with the enthusiast trudging miles and miles of newly-abandoned trackbed to see what still survives.

For long I have awaited the chance to explore at leisure Minions Moor on the south-eastern edge of Bodmin Moor, and its wealth of railway artefacts surrounding the Liskeard & Caradon Railway.

The first place to start has to be Liskeard Museum in Foresters Hall, a converted bank in Pike Street, which has many artefacts and archive photographs, with helpful staff available to answer the most detailed questions about the railway.

Built on granite blocks, it ran from Moorswater to South Caradon and opened on November 28, 1844, a separate branch to Cheesewring Quarry opening soon afterwards. It carried ore from the rich South and West Caradon copper mines and granite from the quarry to the Liskeard & Looe Union Canal which was, on December 27, 1860, superseded by the Liskeard & Looe Railway, today's Looe branch, on which passenger services began on September 11, 1879.

The Liskeard & Caradon began extending northwards to Launceston, but never got

there. Some unofficial passenger services such as Sunday school outings were run over it, but it was intended for freight only. The GWR worked both the Caradon and Looe lines on January 1, 1909, and acquired the mineral railway later that year, abandoning it on December 31, 1916, after the last of the Caradon mines closed.

Minions, an old mining village, is a wonderful place, where sheep roam freely through the centre and you can wander off over the surrounding moors to your heart's content.

The Hurlers, a unique Bronze Age monument dating from 1500BC and consisting of a set of three standing stone circles, was a major visitor attraction in Cornwall's earlier days as a holiday destination, as was the Cheesewring, a natural and spectacular outcrop of granite slabs formed by weathering and now perched on the edge of the gaping abandoned quarry. Both free to visit, it seems that their popularity waned as better-publicised paid-for attractions became the norm, and now well off the beaten tourist track, Minion is one of Cornwall's best-kept secrets.

With the aid of an Ordnance Survey map, you can follow much of the old railway route. Some bridges are still in place, and leading into the quarry, the granite blocks with the metal spikes that held the rails in place can still be trodden.

North of the village stands Houseman's Engine House, which became a private home after losing its beam engine, but has now been converted into a free museum of the surrounding landscape and its rich industrial archaeology.

The railway ran straight through the centre of the village – no level crossing, no health and safety in Victorian times! At 995ft above sea level, the much-to-be recommended Cheesewring Hotel, which offers superb competitively-priced accommodation and excellent food (01579 362321), boasts that it is the highest public house in Cornwall.

You will never get the money to do it, but if it could be restored, the Liskeard & Caradon with its sweeping views across the unspoiled moors would make a marvellous heritage railway.

Trevithick country today

Although mining was not exclusive to the Camborne and Redruth locality, it was there that it was most prolific, as evidenced by the amazing array of abandoned engine houses which populate the landscape today.

If you want to see one of them in working order, head straight to the National Trust's East Pool Mine between the two towns, and see its two great beam engines, originally powered by high-pressure steam boilers introduced by Trevithick. The pumping engine is one of the largest surviving Cornish beam engines in the world, and the restored winding engine can be seen in action daily. However, let's not mince words. Camborne and Redruth were products of the great age of mining, and when it died, their prosperity was lost. The net result of mass mine closures was widespread social deprivation and grinding poverty. Having nothing to offer the beach-bound tourist whose income is today vital to the duchy's economy, they found themselves literally bypassed, by the A30, and it clearly shows today.

At best they can be described as workaday towns, uninviting to the visitor. Redruth in particular smacks of low income and social expectations. Yet it does not need to be that way.

On April 21, hundreds of people turned out for the opening of a new £35 million free attraction open daily and based around the old Robinsons Shaft mine engine house in Pool, and developed with £33.5 million of funding under the Big Lottery Fund Living Landmarks scheme.

Heartlands is a visitor centre created on 19 acres on long-derelict land which has been turned into parkland and community space, based around a restored engine house. There are artists' workshops, apartments, outdoor performance spaces, the Red River Cafe (named after a local stream famously discoloured by residue from mine workings) and an adventure playground.

Inside the mine buildings, large pieces of original engine house equipment are displayed beyond glass screens, with information boards explaining their use. Staff are on hand to answer any questions and there is a shop selling books and souvenirs.

It is not always sunny in Cornwall in July and August, and a free attraction of this size with much educational value and children's amenities is to be welcomed, especially as it will give Camborne and Redruth a desperately needed stake in the tourist economy.

Yet from my perspective, I found the project somewhat sterile in comparison with others. Philip Hosken told me that despite the fact that Heartlands purported to tell the story of Cornish mining, he saw not a single mention of the word Trevithick inside it. Neither did I on my admittedly fleeting visit.

For me, a sharp contrast was King Edward Mine, a short drive away at Troon.

Comprising Grade II* listed buildings, this is the oldest complete mine site left in the duchy. Formerly part of South Condurrow Mine, which tapped into the Great Flat Lode, it was abandoned in 1890, but seven years later reopening as a fully operational training mine by Camborne School of Mines which used it until the mid-Seventies.

A volunteer group began restoring the mill using authentic equipment in 1987. That process is still ongoing, but in a guided tour of around an hour, in which I saw the mill equipment at work producing fine particles of tin, without effort my knowledge of the industry increased tenfold. Every process demonstrated was like a new wonder laid bare, and for me, if you are interested in learning about the Cornish mining landscape, this is the first place to start.

My expert guide was able to answer any question that I cared to throw at him. Few attractions anywhere offer such huge value for money at £6 per adult and just £1.50 for the over fives, and it cannot be recommended highly enough.

The Portreath incline today. ROBIN JONES

The new Heartlands mining attraction at Pool cost £35 million. ROBIN JONES

Fortescue's Shaft winding engine house at Wheal Grenville south of Camborne is part of the Mineral Tramways Trail. ROBIN JONES

The mineral tramways

Camborne and Redruth are packed with relics of the mining age, from Dolcoath, the greatest and longest-lived Cornish mine, which housed one of the earliest Newcomen engines by the 1750s and at 3030ft was the deepest metal mine in Britain, to Gwennap Pit, an open air amphitheatre created by mining subsidence in which John Wesley, the founder of Methodism, preached 18 times between 1762 and 1789.

It is also the centre of a substantial network of mineral tramway routes, many of which are now converted to cyclepaths and long-distance footpaths so you can follow the course of the trains which took refined ore down to the harbours for export to South Wales, and brought supplies of Welsh coal and heavy machinery in, and discover many more mining relics.

The Portreath to Devoran Coast-to-Coast route at 12 miles follows the course of the oldest of these lines, the Portreath Tramroad, from Portreath on the Atlantic coast to Scorrier, and then the Redruth & Chasewater Railway to Devoran on the Fal estuary.

The 4ft gauge horse-worked Portreath Tramroad was the first of the big Cornish mineral tramways, built between 1809 and 1812, and used until the 1860s. The 4ft gauge Redruth & Chasewater, originally horse and gravity-worked, introduced two 0-6-0Ts, *Miner* and *Smelter*, in 1854. *Miner* hauled the last train on September 25, 1915.

The growing importance of Hayle led to powers being obtained for a railway to replace the huge numbers of packhorses carrying ore to the harbour. The standard gauge Hayle Railway opened on December 23, 1837, running from Hayle Foundry to Pool and Portreath. It employed steam locomotives from the start and also ran passenger trains between Hayle and Redruth. The harbour at Portreath, now a holiday resort, was accessed by a spectacular rope-worked incline, the remains of which have listed building protection. Needless to say, the cyclepath does not run down the incline, the dominating feature of Portreath.

The Cornwall Centre in Alma Place, Redruth contains the Cornish Studies Library, a brilliant research facility with a wealth of archive documents and photographs about Cornwall's railway past, including the mineral tramways.

The colossal variety and amount of mining remains in Redruth and Camborne that have survived for several decades is astonishing, and if the World Heritage Site can ever be exploited to maximum benefit – that is still very much a long way off – the towns could be sitting not on tin and copper reserves but a metaphorical gold mine.

An even bigger surprise in a locality where you might not expect any accommodation even remotely described as luxurious is Redruth's Penventon Park Hotel (01209 203000). With its health spa, heated indoor swimming pool, sauna, tanning salon, 64 bedrooms, 64 bedrooms, restaurant cocktail bar and porter service, this wonderfully atmospheric and beautifully converted Georgian mansion should rightly be in London's Mayfair or Chelsea, rather than near the heart of a workday town such as Redruth. It is by far the most luxurious West Country hotel I have ever stayed in, yet the prices were eminently affordable.

The far west

The westernmost extremity of Cornwall, the area of the Penwith peninsula around St Just, is also rich in mining remains. Two sites must be visited as part of any exploration of the World Heritage Site.

The first is Geevor Mine which, covering 67 acres, boasts that it is the biggest preserved mining history site in Britain. Closed as recently as 1990, it is possible to undertake an underground tour of this tin mine, view the equipment in situ and again, learn how tin concentrate was produced.

On the edge of the cliffs at nearby Pendeen is the National Trust's Levant Mine, which has the world's only Cornish beam engine still operated by steam on its original site. There is also a visitor centre, expanding on the history of the 'mine under the sea', where passage extended for around 1½ miles beneath the waves. Opened in 1820, it closed in 1930.

Where now for world heritage?

As stated earlier, UNESCO status sadly does not bring a cash windfall with it. While there is now a far greater impetus to protect the wealth of Cornwall and West Devon's mining remains, there is no guarantee that left unattended, most of them will survive in perpetuity.

In the six years since the status has been obtained, efforts have been made to heighten awareness of the importance of the mining landscapes, and many of the attractions are now badged with a Cornish Mining World Heritage logo.

For me, however, the state of affairs remains frustrating: my main reason for regularly visiting Cornwall is for the beaches and coastal scenery, and it would be a hard and potentially very expensive slog to mount a major marketing campaign for the duchy's 'alter ego' of its mining past.

Yet therein are untold riches lying idle: Redruth and Camborne would be boom towns if they had a touch of the Stratford effect and their greatest son was given the international prominence that he richly merits.

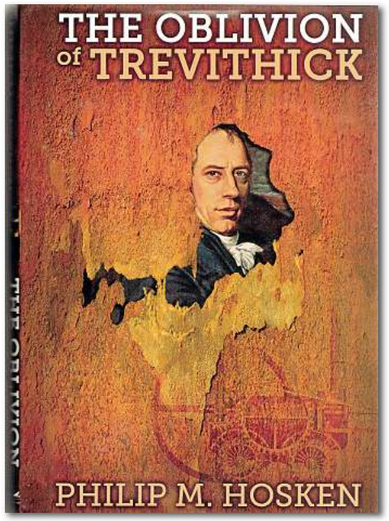
What is surely needed is a Cornish version of Beamish Museum in County Durham, a world leader in the recreation of early railways. Historic mining landscapes are all well and good, but are 10 a penny. What makes this one special and standout from the rest, anywhere in the world, however, is the single concept that it spawned – the high-pressure boiler/railway locomotive.

At the end of every April, Camborne holds its annual Trevithick Day, celebrating the town's industrial heritage, with an afternoon parade of steam vehicles including the Trevithick Society's replica of the inventor's road vehicle ascending Camborne Hill.

Richard Trevithick should be celebrated 365 days a year in Cornwall.

I would be interested to know what part of the £35 million it cost to build Heartlands was spent on consultants, a breed that *Heritage Railway* readers know have long left me nonplussed.

A stretch of narrow gauge track set into concrete outside the National Trust's Levant Mine. Is this the westernmost section of conventional railway on the British railway (a private funicular line exists at Sennen Cove to the south)? ROBIN JONES



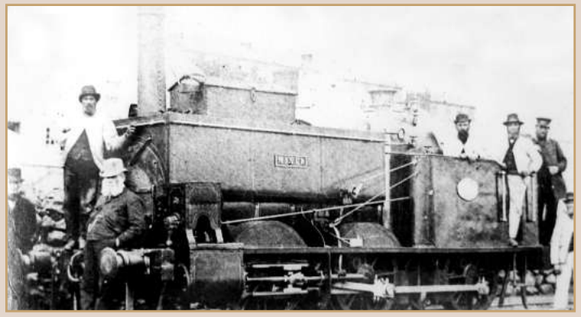
It seems clear to me that the key ingredient missing from what should be a showpiece site and mining heritage hub is a steam railway.

The Bodmin & Wenford Railway has built up a splendid representation of locomotives, both steam and diesel, that worked in Cornwall in the very late 19th and 20th centuries. As statistics show, heritage railways draw in crowds, arguably more so than most other historic technology.

At Bridgnorth, a local group has created an impressive working full-size replica of the world's first passenger train-hauling locomotive, Trevithick's *Catch-me-who-can*, for around £50,000, without a paid consultant in sight.

Surely a cost-effective scheme to build new working replicas of all Trevithick's early locomotives and offer 4mph passenger rides behind them in facsimile tramway wagons on a mile-long stretch of recreated early tramway would give the World Heritage Site the vital kickstart it desperately deserves, and place Trevithick's achievements firmly in the public gaze. It would be best placed at Heartlands or elsewhere in Camborne/Redruth, as an attention-grabbing focal point for the mining landscapes, backed up by a renewed county-wide sound and steady marketing campaign over a long period.

Us Brits so often doesn't realise it let alone care, but we all have so much to be proud of about Trevithick, his world-shaping inventions and the landscape that inspired them. Let's not leave them buried in the undergrowth. ■



Redruth & Chasewater Railway steam locomotive *Miner* and its crew. CORNISH STUDIES LIBRARY

Battery-electric locomotive and 1ft 10in gauge stock from South Croft Mine now preserved outside King Edward Mine. ROBIN JONES